

UNIVERSITY OF EDUCATION, WINNEBA

**ADULT STUDENTS AND KEYBOARD PLAYING: A CASE STUDY OF
MUSIC STUDENTS AT THE UNIVERSITY OF EDUCATION, WINNEBA**

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(9171750001)

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**A thesis in the Department of Music Education, School of Creative Arts,
submitted to the School of Graduate Studies in partial fulfilment
of the requirements for the award of the degree of
Doctor of Philosophy
(Arts and Culture)
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STUDENT'S DECLARATION

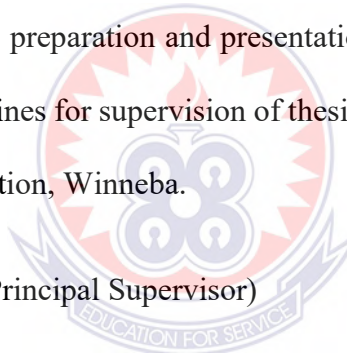
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We hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis/dissertation/project as laid down by the University of Education, Winneba.



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Date:

DEDICATION

I dedicate this work to my parents, Rev. F. K. Anani & Mrs. Mercy Anani.

Also, I dedicate it to my dear wife, Vida, and children, Mercy and Joseph.



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GLOSSARY

Adult: Adult can be defined as (i) The point at which an individual is able to reproduce; (ii) The point at which an individual is able to vote; (iii) The point at which an individual can work and marry; (iv) The point at which an individual begins to feel responsible for his/her own life (Caruth, 2014, p.3).

Adult student (learner): Adult student is a matured person who is acquiring new knowledge, new skills, and developing new attitudes. Or, an adult who is involved in a systematic learning process, whether it is a formal education, informal learning, fulltime learning, or part-time learning (Kapur, 2015, p. 114). In the study, adult students/learners refer to all University students whose age groups are eighteen years (18 years) and above.

Andragogy: (self-directed learning): It is a process in which individuals take the initiative, with or without the help of other people, by diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, evaluating learning outcomes (Knowles, 1975, p.18).

Heutagogy: (self-determined learning): Heutagogy is a process from pedagogy to andragogy to heutagogy which learners progress into maturity and autonomy. With heutagogy, more mature students/learners do not require lecturers or instructors' control (Blaschke, 2012, p.60).

Pedagogy: Pedagogy is the art and science of teaching children. In pedagogy, the teacher is in control and he/she is regarded as accountable for all learning. Thus, what should be taught, how it should be taught, when it should be taught, how it should be measured, etc. (Caruth, 2014, p.3).

ABBREVIATIONS

BMus	Bachelor in Music
BMus Ed	Bachelor in Music Education
DMus	Diploma in Music
IPA	Interpretative Phenomenological Analysis
Lec	Lecturer
LH	Left-Hand
MIDI	Musical Instrument Digital Interface
PAH	Pedagogy-Andragogy-Heutagogy
RH	Right-Hand
UEW	University of Education, Winneba



ABSTRACT

The purpose of this phenomenological case study is to describe the participants' experience of adult students' keyboard practice habits and playing skills among level 100 students in the BMus Ed, BMus, and DMus programmes at the UEW, Music Education Department in Winneba. The case study was conducted during 2018-2019 academic year in the Department's Piano Laboratory One. As a Graduate Assistant who worked at the Piano Laboratory One, a preliminary investigation I conducted revealed that some adult students in level 100 in all the three programmes (BMus Ed, BMus, and DMus) did not do well in *keyboard skills*, and this ignited the study. The study employed phenomenological research design under qualitative research paradigm. Out of a total population of 11 lecturers who teach *keyboard skills* and 165 level 100 music students, a sample of 5 lecturers and 30 music students were selected for the study, making a total sample size of 35. Data was collected with semi-structured interview guides, conducted face-to-face, and by mobile phone interactions, and also by observation. Field notes were taken, and sessions of students' practice depicting their keyboard playing abilities were recorded using a multipurpose mobile phone (TECNO SPARK 5, 64 GB + 3 GB) for transcription and analysis of results. Student respondents were examined on three types of test items, viz., (i) technical exercises in key C, G, and F major scales for one octave; (ii) classical pieces from the Hours with the Masters by Dorothy Bradley vol. 1. Primary to Elementary; and (iii) hymn tunes from the Methodist Hymn Book (MHB). The study came up with the following findings: A lot of level 100 students had no keyboard playing experiences before their entry into the UEW which reflected their ability levels, and decided the difficulty levels of the pieces (music) they chose for the three types of tests administered. To enhance the overall improvement of *keyboard skills* in the Music Education Department, the study has developed and proposed the following models: (i) Keyboard Weekly Assignment Report Form [KWARF] to be used for monitoring students' practice and evaluation; (ii) Model of Sight-Reading and Performance in Society; and (iii) A Monograph of Piano Teaching and Learning to Adult African Students. Four recommendations were also made, namely (i) encouraging lecturers to use the Keyboard Weekly Assignment Report Form [KWARF]; (ii) encouraging students to practice the Sight-Reading drill [SR drill]; (iii) encouraging students to purchase their own keyboards for practice and performance; and (iv) encouraging students to listen to multimedia recordings on piano/keyboard performances.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The Music Education Department at the University of Education, Winneba has its ultimate goal to train proficient teachers for our Secondary Schools and Colleges of Education in Ghana. Music teachers have enormous task outside the normal teaching hours in their schools. Since our educational system still remains Eurocentric phenomenon, the role of music teachers need not be overemphasized. All the prestigious schools maintain a very high level of musical culture. The very old traditional second cycle institutions such as Mfantsipim, Wesley Girls, Achimota, Accra Academy, Prempeh College, Winneba Senior High, just to mention a few, will never compromise their school musical culture. As usual, all the other second cycle and tertiary institutions continue to promote this musical culture of morning devotion, Sunday service, speech day, school concerts as entertainment, etc. (Mereku, 2014). To become a successful music teacher in these situations, your proficiency in keyboard playing is very fundamental.

Consequently, what this demands of the pre-service preparation of music teachers at the UEW Music Education Department is a herculean task. This task is summarized in the 1994 Music Educators National Conference document that gives the definition of a music educator as:

A music educator is a musician/teacher who is certified to teach music, has extensive specialized knowledge and training, and is fully qualified for students' instructional assignments in music. S/he provides leadership, guidance, and musical expertise, because s/he possesses the skills and knowledge to teach the structure of music, the performance of vocal and instrumental music, the appropriate use of the voice, accurate pitch discrimination, and creativity in

music (in both western and traditional musical cultures). S/he is a teacher whose knowledge is current and whose teaching embodies the best current practices in music (MENC, 1994).

To train a teacher to have all the above qualities in four years, where most students admitted into the music programmes do not have any prior knowledge of the music subject is not an easy task. To be able to achieve this feat, there is the need for music education students to acquire an overwhelming amount of musical information and keyboard instrumental and pedagogical skills during their pre-service training.

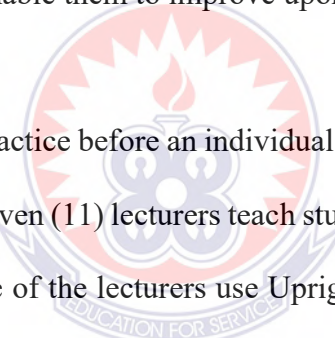
Objectives and Philosophy of the UEW, Music Education Department

Objectives of the Music Education Department: The Music Education Department of the University of Education, Winneba, seeks to: (i) equip individuals with relevant knowledge and skills in both theory and practice of Music, and Music Education to teach music, dance and drama in the pre-tertiary levels; (ii) train students to promote cultural activities in schools and communities, take up leadership roles in organizations that deal with music, and take up various careers in the music profession outside the classroom.

Philosophy: The Music Education Department shall be a centre of excellence for the training of music educators as well as professional musicians, and be internationally recognized as a centre of excellence for research and the promotion of African Music and Dance in schools.

Mission/Mandate: To train and inculcate in its products the requisite knowledge and practical skills in music teaching at all pre-tertiary and tertiary levels of education in Ghana, train professional musicians in various areas of the music industry, conduct cutting-edge research and provide administrative leadership in the arts.

Students in the UEW Music Education Department specialize in two different musical instruments (i.e., wood winds, brass winds, strings, African instruments, and piano). Those who choose Western orchestral instruments or African instruments as their major are required to add piano as their minor instrument. On the other hand, those who choose piano as their major are also required to add a Western orchestral instrument, or African instruments as their minor instrument. Beside each student's major instrument, the *keyboard skills* is a Departmental requirement for every student offering music. Fundamentally, the essence of the course is to guide music students, and train them individually to read musical scores fluently, and to acquire keyboard playing skills, and performance proficiency. When students' interest in piano/keyboard playing is sustained in the long term, it would enable them to improve upon their musical potential.



It requires regular practice before an individual (student) can attain proficiency in piano/keyboard playing. Eleven (11) lecturers teach students *keyboard skills* in the Music Education Department. Five of the lecturers use Upright Pianos at their offices to teach students *keyboard skills*, whilst six lecturers use Keyboard Synthesizers (YAMAHA Digital Piano, P-105, with 88 keys) at their offices to teach *keyboard skills*. The UEW Music Education Department has built two Piano Laboratories, and equipped them with keyboard synthesizers. The Piano Laboratory One contains sixteen (16) keyboard synthesizers with 88 keys (7 & ¼ octaves), whilst Piano Laboratory Two has fifteen (15) keyboard synthesizers with 88 keys (7 & ¼ octaves).

Therefore, the UEW Music Education Department has a total of five (5) Upright Pianos and thirty seven (37) keyboard synthesizers (YAMAHA Digital Piano, P-105, with 88 keys) for teaching students keyboard skills.

Apart from the instructional time table that lecturers in charge go to the Piano Laboratories to give students tutorials, majority of the music students most often go to the Piano Laboratories at their leisure to practice on their own.

During each end of semester examinations, students are assessed on the ability to play the keyboard. The test items involve (i) technical exercises; (ii) two Western pieces; (iii) one African piece; and (iv) sight-reading exercise. Assessment is based on correct rendering of notes, tempo, meter, rhythm, dynamics, fluency, and dexterity.

As a young boy, my father entrusted me into the hands of a music teacher in the community by name Mr. S. Kwame Adjei who taught me how to play the piano. Therefore, unlike many prospective students who enroll onto the UEW music programmes, I was privileged to have taken some basic musical lessons and had started playing the keyboard before my admission to the Diploma in Music programme in 2004 here at Winneba. For the advantage I had in my childhood days in undertaking rudimentary music lessons, it had been a concern to me how some of my colleagues over the years in the Music Education Department were not performing satisfactorily in *keyboard skills*. For this reason, it has been my desire to research into this non-performance problem and look at how adult students who enroll onto the UEW music programmes could be assisted to improve their performance in *keyboard skills*.

The chance came when I enrolled onto the doctoral programme in 2017 and had the opportunity to assist lecturers in teaching *keyboard skills* to these adult students. What ignited the study was the daunting performance of some level 100 students (BMus Ed, BMus, and DMus) in *keyboard skills* during the end of the 2nd Semester Examination of 2017-2018 that I also was occasioned to analyse.

1.2 Statement of the Problem

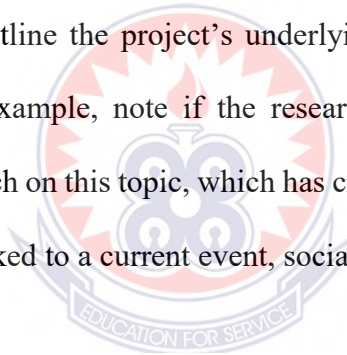
One of the objectives of the UEW Music Education Department is to seek to equip individual students with relevant knowledge and skills in both theory and practice of Music. So, if some individual students in the Department do not do well in a practical Examination, it becomes worrisome. *Keyboard skills* is one of the practical courses in the Music Education Department, and my study was focused on level 100 students.

During the end of the 2nd Semester Examination in 2017-2018 academic year, it showed that some level 100 students in the three programmes (BMus Ed, BMus, and DMus) did not do well in *keyboard skills*. A year later, (i.e., 2018-2019 academic year), it became my concern to conduct a *case study* at the UEW, Music Education Department to find out the problems or challenges that level 100 students' encounter in *keyboard skills* during end of the Semester Examinations.

1.3 Purpose of the Study

The purpose of this phenomenological case study is to describe the participants' experience of 2018-2019 academic year level 100 students (BMus Ed, BMus, and DMus) keyboard practice habits and playing skills, as well as lecturers practice approaches they recommended for level 100 students at the Music Education Department.

Leavy (2017) suggested that the purpose of the study should be stated by focusing on the *primary goals*. For example, the problem or phenomenon, the participants and setting, and the primary reason for conducting the research (p.128). She added that the value, or worth, is an opportunity to consider the social or political value of conducting the proposed research. Outline the project's underlying values system and any social justice imperatives. For example, note if the research focuses on a group currently underrepresented in research on this topic, which has created a gap in the literature. If the rationale for the study is linked to a current event, social problem, or policy issue (p.127).



1.4 Research Objectives

The objectives below were formulated to guide the study:

- 1) To find out the type of readiness and experiences of students who enroll onto the music programmes at the UEW Music Education Department bring along for their studies.
- 2) To find out the teaching and learning approaches that lecturers use to engage music students in the study of *keyboard skills* at the UEW Music Education Department.
- 3) To find out the practice methods and self-development strategies that students engage themselves in with regard to *keyboard skills* development at the UEW Music Education Department.
- 4) To find out how students' *keyboard skills* are monitored and evaluated at the UEW Music Education Department.
- 5) To examine the type of self-concept that students cultivate on the music programmes, and hold towards the development of *keyboard skills* at the UEW Music Education Department.
- 6) To explore measures that can be put in place to enhance the overall improvement of *keyboard skills* at the UEW Music Education Department.

1.5 Research Questions

The following set of questions were designed to guide the study.

- 1) What type of readiness and experiences do students who enroll onto the music programmes at the UEW Music Education Department bring along for their studies?
- 2) What teaching and learning approaches do lecturers use to engage students in the study of *keyboard skills* at the UEW Music Education Department?
- 3) What practice methods, and self-development strategies do students engage themselves in with regard to *keyboard skills* performance at the UEW Music Education Department?
- 4) How are students *keyboard skills* monitored, and evaluated at the UEW Music Education Department?
- 5) What type of self-concepts do students cultivate on the music programmes, and hold towards *keyboard skills* development at the UEW Music Education Department?
- 6) What measures can be put in place to enhance the overall improvement of *keyboard skills* at the UEW Music Education Department?

Yin (2011) suggested that a good set of research questions can help to define the upcoming activities to conduct the study. Such as the development of fieldwork, other data collection instruments, and prospective study's niche in the larger literature (p.68).

Leavy agreed with Yin (2011) when she pointed out that research questions are the central questions that guide a research project. They are questions you seek to answer or explore. Once you have developed your research purpose statement, which details your objectives, you can develop questions that will help you to achieve those objectives. The research questions must be researchable. In other words, they are questions that can be answered directly through research (Leavy, 2017, p.71). O’Leary observed that research questions are crucial, because it gives focus, provides direction, and sets boundaries. They distinguish what the researcher wants to know and be able to articulate them as well-formed questions. If they pass this test, the research questions can then be used as the *‘project’s blueprint’* (O’Leary, 2004, p.28).

Vanderstoep & Johnston (2009) suggested that theories are tied closely to a research question, which is clearly articulated statement about the topic of interest. Some research questions come from theories, some come from observation, and some come from intuition. In terms of specificity, a research question rest in the middle; between a theory which is very broad, and a hypothesis which is very precise (p.4). Research questions can relate to issues that the participants’ find salient, problematic, or significant. It can also relate to certain theoretical, or research area (Tracy, 2013, p.17). Research questions designate what researchers want to understand about the research problem that led to their study. Research question further specify the stated purpose of the study, which in turn addresses the stated research problem (Given, 2008, p.786).

Yin suggested other option by which researchers could use to write-up qualitative research questions. Yin was of the view that even if you begin your study with a ‘*fieldwork*’ first option, you will need to develop a set of research questions. However, your research questions can be revisited, and revisited as your research proceeds. Therefore, you should not think that the first set of questions will necessarily be the final research questions (Yin, 2011, p.67). Given agreed with Yin (2011) concerning the option for writing research questions. She pointed out that; (i) The questions that researchers give to participants to answer; and (ii) The constant questioning process that defines qualitative data collection and analysis are all in the service for answering research questions (Given, 2008, p.787).

1.6 Significance of the Study

The outcome of the study will enable readers to know the challenges that confront some level 100 students (BMus Ed, BMus, and DMus) in terms of keyboard playing.

The study will benefit level 100 students (BMus Ed, BMus, and DMus), as well as students in levels 200, 300, and 400, who are determined to use self-tuition to develop keyboard playing skills. Especially, during weekends, holidays, and vacations, where music students would not be on campus to continue their tuition in *keyboard skills*. Also, the outcome of the study will be used as a reference material for researchers who want to conduct related research work at the UEW, Music Education Department.

1.7 Delimitation (Scope)

Even though, the University of Ghana, University of Cape Coast, and the Methodist University teach piano (keyboard) playing as a course, I decided to concentrate the study at the University of Education, Winneba. This is due to time constraints, and because the UEW has three category of students (i.e., Bachelor in Music Education, Bachelor in Music, and Diploma in Music). Also, the UEW has the largest students' population in the Music Education Department as compared to the other Universities mentioned above. Moreover, students who major in piano as well as those who minor in piano are considerably higher at UEW than the other Universities.

The study was concentrated on level 100 students (BMus Ed, BMus, and DMus) in 2018-2019 academic year with the following characteristics: (i) beginner musicians and (ii) adult students (matured students). However, the study did not include other music students in levels 200, 300, and 400.

Delimitations detail all aspects of the study. This process is exactly one of '*Walling Out*' those segments that are beyond the scope and purpose of the study (Miles, 2019, p.8). Calabrese (2009) defined delimitation that the researcher most often indicates how he or she narrows the specific focus of the study by identifying a precise type of research methodology, participant, context or research site, or phenomenon studied during the research (as cited in Miles, 2019, p.7). Delimitations are concerned with the definitions that researchers decide to set as the boundaries, or limits of their work so that the study's '*aims and objectives*' become possible to achieve (Theofanidis & Fountouki, 2018, p.157).

1.8 Organization of the Study

The general layout of the study is grouped into five chapters.

Chapter One (*introduction*): This chapter deals with background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, delimitation (scope), and organization of the study.

Chapter Two (*related literature*): This chapter talks about; (i) the theoretical framework; (ii) pyramid model of distribution of musical skills; (iii) Maslow's hierarchy of needs in human environment; (iv) pedagogy-andragogy-heutagogy (PAH) continuum, and their approaches. The other subheadings are; sight-reading, motivation for playing piano, piano techniques, piano and its effects, buy yourself a keyboard, Bloom's taxonomy, Howard Gardner's multiple intelligences (MI), the hands and fingers for playing piano, characteristics of adults and adult students, and piano teachers share their experiences.

Chapter Three (*methodology*): This chapter focuses on research approach and design, researcher's role, research assistants, area of the study, and population. It also provides information on sampling technique, sample size, research instruments, pilot study, validity and ethical issues, data analysis procedure, and limitation.

Chapter Four (*findings of the study*): This chapter presents the demographics, data analysis process, and findings.

Chapter Five (*final chapter*): This chapter presents the summary of the findings, conclusions, recommendations, and suggestion for further research work.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.0 Overview

This chapter presents the related literature review. Thus; (1) theoretical framework ; (2) pyramid model of distribution of musical skills in society; (3) Abraham Maslow's hierarchy of needs in human environment in society; (4) pedagogy-andragogy-heutagogy continuum; (5) pedagogy approaches; (6) andragogy approaches; (7) heutagogy approaches; (8) sight-reading musical scores; (9) personal motivation for playing piano; (10) piano practice techniques; (11) piano and its effects; (12) buy yourself a keyboard; (13) Benjamin Bloom's taxonomy; (14) Howard Gardner's multiple intelligences; (15) the hands and fingers for playing piano; (16) characteristics of adults; (17) characteristics of adult students; and (18) piano teachers share their experiences.

The production of new knowledge is fundamentally reliant on past knowledge. Therefore, working with related literature is an essential part of the research process, because it inspires, informs, educates, and enlightens. Also, related literature generates ideas, helps to form significant questions, and is instrumental in the process of research design (O'Leary, 2004, p.66). *Literature review*, also known as the *conceptual framework* is usually the lengthiest part of a research work. The literature review tells the story of the primary concepts, and theories that frame the study, and how these ideas have evolved over time (Tracy, 2013, p.99).

Given (2008) suggested that reviewing literature is a complex, but enjoyable part of qualitative research. There are many different aspects of literature; from general subjects to the specific, through theoretical approaches, into method and methodological literature, and finally into data collection, presentation, and analysis (p.489).

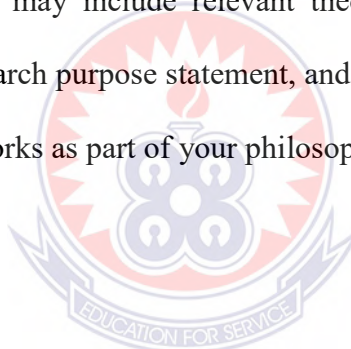
Ridley (2012) was clear in pointing out the multiple purposes of the literature review which appears in thesis and dissertation. They are categorized as follows:

- i) Literature review provides a historical background for your research.
- ii) Literature review gives an overview of the current context in which your research is situated by referring to contemporary debates, issues and questions in the field.
- iii) Literature review includes a discussion of relevant theories and concepts which underpin your research.
- iv) Literature review introduces relevant terminology and provides definitions to clarify how terms are being used in the content of your own work.
- v) Literature review describes related research work in the field, and shows how your work extends or challenges this, or *addresses a gap* in work in the field.
- vi) Literature review provides supporting evidence for a practical problem, or issue which your research is addressing (p.24).

Galvan (2017) suggested two main goals for writing literature review. Thus; (i) Attempt to provide a comprehensive and up-to-date review of the topic; and (ii) Try to demonstrate that you have a thorough command on the field you are studying. Keep in mind that the literature review will provide the basic rationale for your study (p.13).

Yin (2011) identified the usefulness of literature reviews. He said; (i) Literature review serves as an initial foray to build a study bank of previously completed qualitative studies, and to help you to consider the topic, method, and source of evidence for a new study; (ii) The selective literature review targets other studies that appear to cover a similar ground, and helps you to define your new study in a more nuances manner; and (iii) A comprehensive literature review conducted out of a desire to summarize what is known on a given topic (p.64).

Leavy (2017) suggested that a qualitative literature review provides a ‘*solid base*’ which readers gain an understanding of what is already known about the topic. She added that; the literature review may include relevant theories, or conceptual frameworks (which may shape the research purpose statement, and research questions), or you could review theoretical frameworks as part of your philosophical statement (p.128).



2.1 Theoretical Framework

2.1.0 Overview

The Theoretical framework: *model of piano playing and performance in society* was created by the researcher. It was created as an approach to guide adult students/learners for playing piano from the *basic level, high level, and to expert level.*

2.1.1 Model of Piano Playing and Performance in Society

The *model of piano playing and performance in society* explains individual people musical background in society. The *society* is key to the upbringing of individuals. (i) society raises the academic standard of individuals in a lot of disciplines by providing them with information, knowledge, and requisite skills; (ii) society enhance individuals with critical thinking, creativity, and innovation; (iii) society connect individuals to various social life, economic issues, different cultures, and recreational activities such as sport events; (iv) individuals get motivation from peers in the *society*, and they see the need to develop their hidden potentials, talents, and requisite skills. All these benefits in the *society* come into play to define an individual's aptitudes, relevant information, knowledge, cognitive, attitude, innovation, creative work, and skills. Individuals' length of study (i.e., academic), the quality of study, early exposure in a discipline, and enriching activities in the society also contributes.

Before an individual is committed to a life-long piano or keyboard playing, some factors have to be considered first. (i) The learner should get a competent piano teacher or instructor; (ii) the piano/keyboard should be available for the learner to use for regular practice; (iii) the learner should be able to manipulate the right fingers as well as the left fingers with ease; (iv) the learner should be able to read and identify lines and spaces, and identify symbols (e.g. minim, crotchet, quaver, dotted notes, rests); (v) the learner should be able to differentiate between several melodies, several rhythms, and pitches (i.e., low, medium, and high). All these factors merge together to make piano/keyboard playing very progressive. Below show the levels of piano playing and performance.

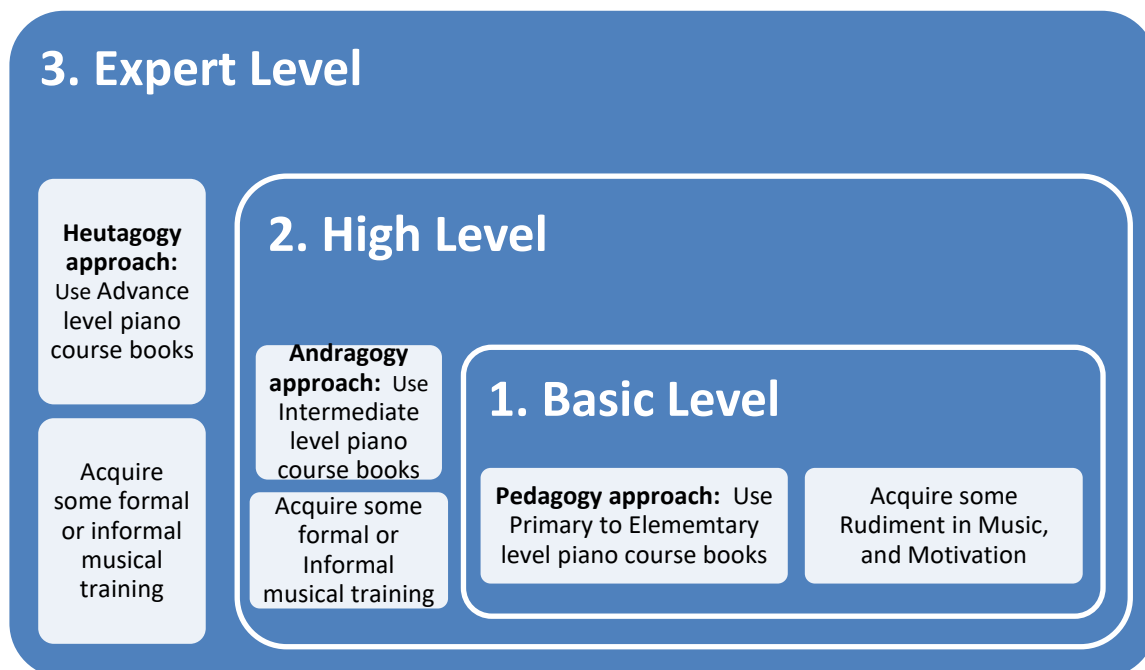


Figure 1: Model of Piano Playing and Performance in Society

(Francis Anani, 2021)

- i) Basic level:* (i) example of individuals at the *basic level* are some music students at the Universities, amateurs, adults, and children; (ii) individuals should be able to sing some familiar tunes, or sing indigenous songs and be able to clap some simple rhythms. At the basic level, some individuals may have joined choral groups (i.e., church choir, junior choir, singing band, gospel band, or a cappella group) or other musical groups (brass band, African drum ensemble, or cultural dance ensemble); (iii) piano teachers or instructors should guide individuals (beginners) to explore the geography (structure) of the piano keys, and introduce them to some rudiments in music. Piano teachers or instructors should also guide individuals (beginners) to play piano music (pieces) from the *Hours with the Masters Vol. 1-2*, and other related *primary to elementary level piano course books*; (iv) *Pedagogy approach* is

appropriate for teaching individuals who cannot play any piano music, and have little or no skills in sight-reading, irrespective of their age.

- ii) High level:** (i) example of individuals at the **high level** are professional musicians, composers, music students, amateurs, adults, and children; (ii) piano teachers or instructors should guide individuals to play piano pieces from the *Hours with the Masters Vol. 3-4*, and play other related *intermediate level piano course books*, and several music compositions; (iii) *Andragogic approach* is appropriate for individuals who are skilled in sight-reading, and have acquired skills for playing several musical compositions, and are able to analyse music, transpose music to several keys, and are able to do some memory work and some public performances, irrespective of their age.
- iii) Expert level:** (i) example of individuals at the **expert level** are professional musicians who have completed formal musical training, composers, pianists, music students, amateurs, and adults; (ii) at this level, individuals do not need much guide from piano teachers or instructors. Individuals are able to play piano pieces from the *Hours with the Masters Vol. 5-6*, and play other related *advance level piano course books*, and several difficult music compositions; (iii) *Heutagogy approach* is appropriate for individuals, because at this level individuals are skilled in sight-reading, and have acquired a lot of techniques for playing several musical compositions. Individuals are able to analyse musical compositions, transpose music to several keys without difficulty, and are able to do a lot of memory work and regular public performances within the shortest possible notices, irrespective of their age.

Given (2008) expounded that a theoretical framework has the ability to:

- i) Focus a study: By acting as a ‘*sieve*’ or a ‘*lens*,’ the theoretical framework assists the researcher in the process of sorting through these data (e.g., interview transcripts, documents, observation notes, and field notes). It also frames every aspect of a study, and it forces the researcher to be accountable to ensure that the methodology, data, and analysis are consistent with the theory (p.872).
- ii) Reveal and conceal meaning and understanding: The choice of a theoretical framework clearly delimits a study. Recognition of this fact is found in thesis, dissertations, or in journal articles (p.872).
- iii) Situate the study in a scholarly conversation: The theoretical framework allows researchers to situate their research and knowledge contributions in a scholarly conversation. It also provides convenient labels and categories that help in explaining and developing thick descriptions and a coherent analysis (p.872).
- iv) Reveals strengths and weaknesses: No theoretical framework can completely and adequately describe or explain any phenomena. Strengths and weaknesses provide sufficient reasons to employ multiple frameworks in one study (p.872).

2.2 First Theory

2.2.0 Overview

The *pyramid model of distribution of musical skills in society* was created by Lehmann et al. (2007). It suggests four aptitudes. Thus; (i) *average population*; (ii) *novice*, or *beginner musicians*; (iii) *music experts*; and (iv) *elite experts*.

2.2.1 The Distribution of Musical Skills in Society

The first theory: *pyramid model of distribution of musical skills in society* describes four levels of musical skills and performances, and it coincides with individual's musical life. In the society, a person's engagement in musical activities will determine his/her level of proficiency (Lehmann et al., 2007, pp.15-17).



Figure 2: Pyramid Model of Distribution of Musical Skills in Society

(Lehmann, et al., 2007, p.16).

- i) The first level of proficiency is the *average population without formal musical training*: People at this level are capable of performing basic musical tasks, such as singing a limited repertoire of familiar songs, tapping along to a beat, or listening to music of their culture and understanding its basic messages.

- ii) The second level is the ***novice, or beginner musicians***: It includes the beginning string students, as well as the semi-professional rock guitarists, or the decade-long member of a church choir. They all have some type of formal or informal training, but they do not earn their living in music. It is difficult to set a clear demarcation at this point, because many amateurs perform at *expert levels*.
- iii) The third level encompasses the ***music experts***: People at this level have sought and received extensive training with the goal of making music their professional careers, such as *music teachers, composers, performers*, and so forth. *Classical musicians* typically have gone through formal musical training and examinations. Whereas other types of musicians have successfully completed non institutional means to be professionals. *University music students* are in this level, because they are clearly on the way to professionalism. Some people make a living as listening experts (e.g., *music critics, recording engineers, sound designers*).
- iv) The fourth level is the ***elite experts***: In music, the *elite experts* are the big-time international performers we know from recordings, or the performers and composers included in the encyclopedias (e.g., Clara Schumann, Ravi Shankar, the Beatles, Dizzy Gillespie, and David Bowie). They made an impact in their domains, either by perfecting the Art as Wolfgang Amadeus Mozart (1756-1791) perfected music of the ***classical style***; or as Franz Liszt (1811-1886) did to achieve as a ***virtuoso pianist***; or as Dizzy Gillespie (1917-1993) did by inventing the ***bebop***. The attainment of genius is a composite of the *biological, cognitive, motivational, cultural, and historical factors* (Lehmann et al., 2007, pp.15-17).

Students at the UEW, Music Education Department specialize in different musical instruments (i.e., wood winds, brass winds, strings, African instruments, and piano). *The pyramid model of distribution of musical skills in society* created above explains how individuals exhibit different types of musical skills in the community or society.

The first level (i) (i.e., *average population* without formal musical training) did not specify the types of music that people use to perform in the community; (ii) the second level (i.e., *novice, or beginner musicians*) specified the types of music in that category. They are people such as beginning string students, semi-professional rock guitarists, or a decade-long members of a church choir with formal or informal training; (iii) the third level (i.e., *music experts*) are people with professional careers such as music teachers, composers, performers, classical musicians, as well as University students; and (iv) the fourth level (i.e., *elite experts*) are composers and performers with specific aspects of music, such as W. A. Mozart (*classical music*) and Dizzy Gillespie (*bebop*).

Specifically, I used the *pyramid model of distribution of musical skills in society* to support level 100 students' *entry keyboard playing experience factor*. Because the study was about *adult students keyboard playing skills*. In chapter four, Table 8 indicated that twenty level 100 students (BMus Ed, BMus, and DMus) had played the keyboard for less than 1 year (12 months). Thus; fourteen students played the keyboard for 8 months, whilst six students played for 7 months. As far as keyboard playing and performance is concern, the twenty level 100 students (BMus Ed, BMus, and DMus) fit perfectly well in the second level (i.e., *novice, or beginner musicians*).

The data also indicated that ten level 100 students formerly played the keyboard for various churches, and musical groups. They had **1-6** years of playing experiences. With regards to keyboard playing skills, the ten students fit well in the *third level*.

2.3 Second Theory

2.3.0 Overview

The second theory: *Abraham Maslow's hierarchy of needs in human environment in the society* suggests seven human needs. Thus; (i) *physiological*; (ii) *safety*; (iii) *social*; (iv) *esteem and prestige*; (v) *self-actualization*; (vi) *understanding*; and (vii) *aesthetic*.

2.3.1 Maslow's Hierarchy of Needs in Human Environment in the Society

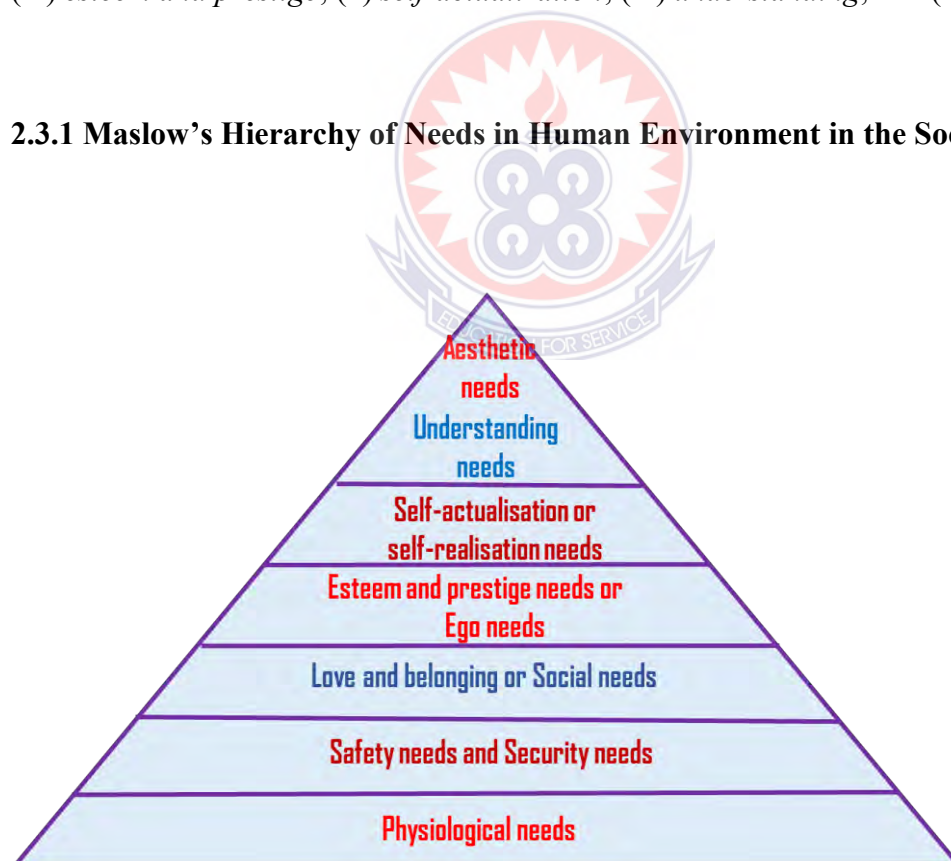


Figure 3: Abraham Maslow's Hierarchy of Needs in Human Environment in the Society (Aruma & Hanachor, 2017, p.28).

- i) Physiological needs: The physiological needs are food, water, clothing, shelter (i.e., housing, or accommodation), rest or sleep, as well as procreation. The basic needs are for the survival and sustainability of human race in the society.
- ii) Safety or security needs: The safety needs deal with protection and survival from chaotic situations such as; conflicts, wars, clashes, riots, militancy, kidnapping, armed robbery, and terrorism in human environments.
- iii) Love and belonging needs or social needs: When people feel safe and secured in an environment, they identify and belong to a social organization or group. Love and belonging help people to have the confidence to contribute reasonably in decision making process, and to promote community developments.
- iv) Esteem and prestige needs or ego needs: When people are able to achieve their social needs or belonging needs, they tend to seek for self-respect, recognition, reputation, and status in social groups, or communities in the society.
- v) Self-actualization or self-realization needs: Self-actualization needs is the desire for people to develop their talents and potentials that are hidden in them in the society. It help people to discover all their hidden talents. It also encourages people to be innovative and more efficient in the society.
- vi) Understanding needs: Understanding needs is the acquisition of information, relevant knowledge, skills, and attitude. This enables people to function very efficient and effective in their environment in the society.
- vii) Aesthetic needs: Aesthetic needs refer to the desire for human beings to enjoy and promote the beauty of the human environment. People are encouraged to love, understand, appreciate, and promote the efficacy of beauty such as artworks, music, and painting in human environment (Aruma & Hanachor 2017, pp.20-25).

Abraham Maslow's hierarchy of needs 1-4; also called *deficient needs* talk about the basic needs of the human population. This extends to needs of 5-7; (i.e., self-actualization, understanding, and aesthetic). The needs of 5-7; also called *growth needs* are very useful for the growth of musical skills, and human development. People who obtain the *growth needs* usually tend to have a sense of satisfactory in the society.

Abraham Maslow's hierarchy of needs in human environment in the society is appropriate in the study. I used it to support Table 12, in chapter four which indicated that a lot of level 100 students (BMus Ed, BMus, and DMus) showed commitment to lifelong keyboard playing. Therefore, I used needs of 5-7, also called *growth needs* to support the students' commitment to lifelong keyboard playing.

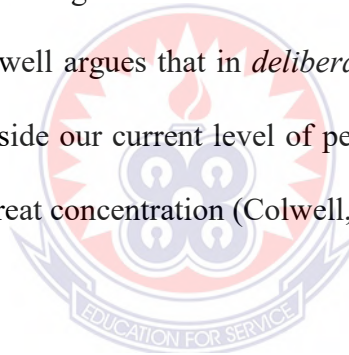
Thus; (i) at the 5th level (i.e., self-actualization needs), students would get intrinsic motivation to discover the hidden talents and potentials in them; (ii) at the 6th level (i.e., understanding needs), students would be able to acquire relevant knowledge and skills to play piano/keyboard; and (ii) at the 7th level (i.e., aesthetic needs) students would be able to acquire keyboard playing proficiency, and appreciate the aesthetics of music, as well as keyboard performance in the society.

When adult students (BMus Ed, BMus, and DMus) interest in piano/keyboard playing is sustained in the long term, it will enable them to improve upon their playing skills. The second theory: *Abraham Maslow's hierarchy of needs in human environment in the society* is appropriate in the study.

Thelen & Smith suggested that human development refers to changes over time, and time is typically characterized as *chronological age*. In other words;

The development consists of interactions among various levels of functioning; from the genetic, physiological, and neurological to the behavioral, social, and environmental. Human development is a permanent exchange among these levels. The more mature the person, the more influence and control the person has over the organization of these interactions (Thelen & Smith, 1998, p.258).

Snitkin (1997) suggested that practice is a type of commitment to oneself to improve the developing skills from lesson to lesson (p.11). Colwell (2006) agreed with Snitkin (1997), and wrote that practice involves motivating oneself to do it, even if the process itself is not always enjoyable. He distinguished between formal practice (*deliberate practice*), and informal practice. Colwell argues that in *deliberate practice*, we set specific goals that lie to some extent outside our current level of performance, and we try to achieve those specific goals with great concentration (Colwell, 2006, p.65).



2.4 Third Theory

2.4.0 Overview

The third theory: *pedagogy-andragogy-heutagogy (PAH) continuum* was created by Lisa Marie Blaschke (2012) as approaches for teaching students/learners from the fundamental level (children), to intermediate level (adults), and to advance level (fully-fledged adults). The three approaches are (i) *pedagogy*; (ii) *andragogy* or *self-directed learning*; and (iii) *heutagogy* or *self-determined learning*.

2. 4 1 Pedagogy-Andragogy-Heutagogy (PAH) Continuum

Heutagogy occurs within the Pedagogy-Andragogy-Heutagogy (PAH).

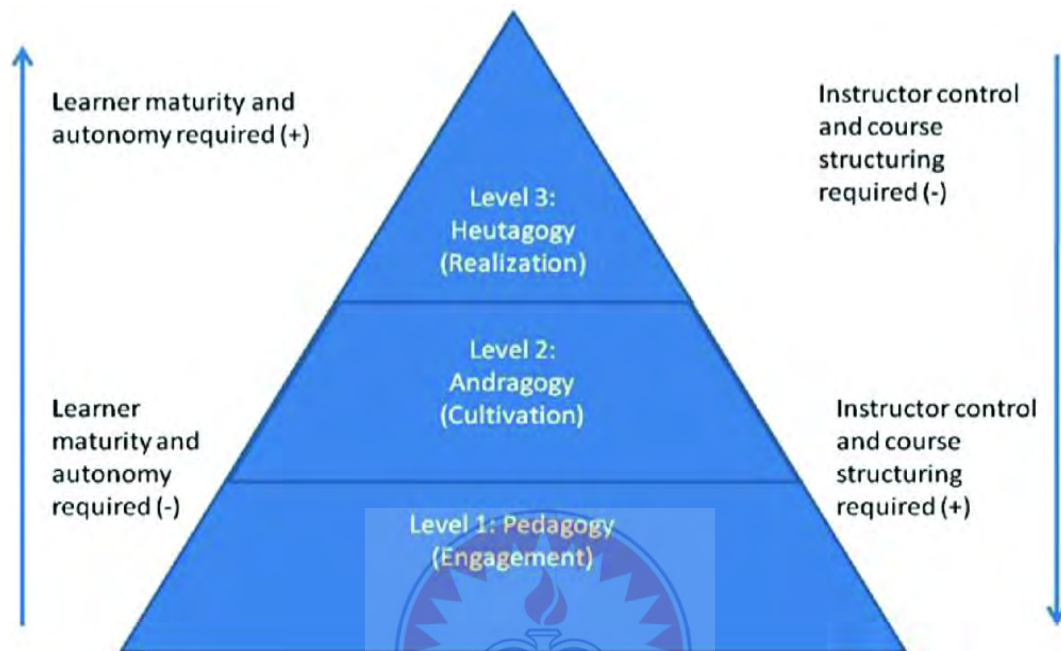


Figure 4: Pedagogy-Andragogy-Heutagogy (PAH) Continuum and Technology Supported Personal Learning Environment

(Blaschke, 2012)

- i) **Pedagogy:** Pedagogy is a teaching theory rather than a learning theory, and it is usually based on transmission. The teacher/instructor determines curriculum content and structure, the sequential order, and means of content delivery. For example, pedagogy teaching could also be done by lecturing, or reading books (McAuliffe et al., 2009, p.14).
- ii) **Andragogy (*self-directed learning*):** Andragogy is a process in which individuals take the initiative, with or without the help of other people to diagnose their learning needs, formulate their learning goals, identify human and material resources for learning, choose and implement learning strategies, and evaluate

learning outcomes (Knowles, 1975, p.18). The course content is less structured, and students take increased control in organizing and directing learning. As students' progress through the continuum, they become more autonomous. Thus, they are able to make all learning-related decisions (*structure, contents, and knowledge sources*). In this way, the *pedagogy-andragogy-heutagogy* continuum is considered a progression toward further learner autonomy.

- iii) **Heutagogy (*self-determined learning*)**: Heutagogy approach can be viewed as a progression from *pedagogy* to *andragogy* to *heutagogy* which learners progress into maturity and autonomy. With heutagogy, more mature students/learners do not require lecturer/instructor control, because they are more self-directed in their learning. The cognitive development progress is parallel with learner maturity and autonomy (Blaschke, 2012, p.60).

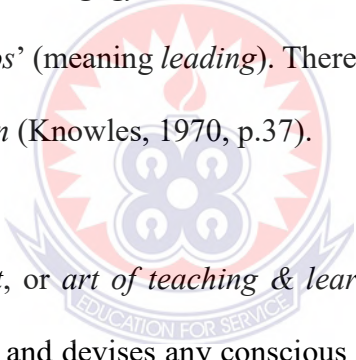
Schleuter expounded that students' motivation is a critical component of the teaching & learning process. The study of why students pursue certain interests and goals with energy and persistence is helpful for teachers, because it is an area that teachers and instructors can influence students' learning to some extent (Schleuter, 1997, p.166).

Lehmann et al. (2007) suggested that the strong self-efficacy is the core that motivates musicians to have the confidence to continue in higher levels of musical training and performances, because they feel it equip them to handle challenges as they move on. Self-efficacy enables a good musician to be proficient about the essential sub-skills and strategies for performances (p.54).

2.5 Pedagogy Approaches

2.5.1 Pedagogy Defined

Shah (2021) expounded that the word '*pedagogy*' has its roots in Ancient Greece. Rich families in Ancient Greece had many servants, often slaves, one of whom was specifically tasked to look after the children. Often, these slaves would lead or escort the children to the place of education (p.6). Schools for children were established in Europe to groom young boys for the priesthood. At that time, teachers (educators) were accountable for teaching the values and ways of the church. This teaching became known as *pedagogy*, a word that was derived from the Greek word *paeda*, which means '*child*' (Knowles, 1968, p.351; Caruth, 2014, p.2). *Pedagogy* is a term derived from the Greek stem '*paid*' (meaning *child*) and '*agogos*' (meaning *leading*). Therefore, pedagogy means *the art and science of teaching children* (Knowles, 1970, p.37).

The logo of the University of Education, Winneba, is a circular emblem. It features a central sun-like symbol with rays, surrounded by a wreath. Below the wreath, the text 'EDUCATION FOR SERVICE' is written in a semi-circle. The entire logo is rendered in a light, semi-transparent style.

Pedagogy as an *act*, or *art of teaching & learning* in which the teacher is the person who designs, plans, and devises any conscious activity to implement learning in another person (learner) who is central to the learning process. Pedagogy is the '*conscious activity*' devised by the teacher (or any other person responsible) that determines how learning is organized and implemented for learning to take place (Shah, 2021, p.361). Ozuah (2005) also defines pedagogy as *the art and science of teaching children* (p.83). In pedagogy, the teacher is in control, and he/she is regarded as accountable for all learning. Thus, what should be taught; how it should be taught; when it should be taught; how it should be measured, etc. (Caruth, 2014, p.3).

Literally, *pedagogy is the art or science of teaching children*. In modern day usage, Shah suggested that pedagogy is for teaching or education, particularly in scholarly writings;

Successful education for all depends on teachers being able to embrace both the art and science of pedagogy, acting as parents who understand the needs, abilities, and experiences of their students, while also being trained in the best methods of communication and presentation of appropriate materials (Shah, 2021, p.8).

Alexander (2008b) argues that teaching is an '*art*' whereas pedagogy is both '*art and discourse*'. In this perspective, pedagogy is a broad term which includes the performance of teaching, the theories, beliefs, policies and controversies that under lay, influence and explain reaching (p.3). At the end of the 19th Century, the development of scientific fields, such as *sociology* and *psychology* was accompanied by the emergence of pedagogy as an *applied science*. That is to say, pedagogy started to be viewed as a true science. Pedagogy is now treated as a science. It is to guide the process of teaching & learning. That is to say, pedagogy is a field of science (Shah, 2021, p.15).

Shah expounded that pedagogy theories are connected with beliefs and value systems, concepts of man and society, philosophies of knowledge, and political interest. Pedagogy theory is a systematic conceptualization of the process of education and conditions of human development in both the individual and the societal life sphere. Pedagogy deals with the processes of upbringing, teaching & learning, social and cultural development. It extends to include aims and means, values and norms, objectives, and methods of education are systematically reflected therein (Shah, 2021, p.8-9).

Shah described the difference between *Pedagogues* and *Teachers*. He suggested that;

Within the Ancient Greek society, there was a strong distinction between the activities of *pedagogues* (*paidagogus*), and subject teachers (*didaskalos*). Moral supervision by the *pedagogue* (*paidagogos*) was significant in terms of status. He was more important than the schoolmaster, because the latter only taught a boy his letters, but the '*paidagogos*' taught him how to behave, a more important matter in the eyes of his parents (Shah, 2021. p.8).

Shah (2021) explained the '*role of the teacher*': That a teacher is considered as a *bona fide pedagogue* when he/she is capable of making a perfect match, and succeeding in the act of knowledge transfer inside and outside the classroom. In the best-case scenario, Shah says that learners/students who are actively partaking and advancing in the learning experience are the end result of a successful instructor's pedagogy (p.356). Yet, if learners are having trouble to understand the lesson, this does not automatically mean that the '*pedagogue*' is a terrible pedagogue. There may be other factors involved, such as a learner who is ill (sick), or tired, or learners who are distracted, or not able to hear the teacher, or see the blackboard properly (Shah, 2021, p.356).

The first '*pedagogues*' were slaves, often foreigners and '*spoils of war*.' They were trusted and sometimes learned members of rich households who accompanied the sons of their '*masters*' in the streets, oversaw their meals, and sat beside them when being schooled. Pedagogues were generally seen as representatives of their *wards* father, and literally as '*tenders*' of children. Children were often put in their charge at around seven years, and they remained with them until late adolescence (Shah, 2021, pp.6-7).

Knowles said it is well accepted in our culture now that children learn best those things that are necessary for them to know in order to advance from one phase of development to the next phase of development. These have been dubbed '*developmental tasks*' by developmental psychologists. That;

A developmental task is a task which arises at, or about a certain period in the life of the individual...of which leads to his happiness and to success with later task. While failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks (Knowles, 1970, p.45).

Shah confirmed that the '*pedagogues*' were responsible for every aspect of the child's upbringing. Thus, from correcting the child's grammar and diction, to controlling the child's sexual morals. Employing a pedagogue was a custom that went far beyond Greek society. The well-to-do Romans and some Jews placed their children in the care and oversight of some trusted slaves (Shah, 2021, p.7).

Pedagogue was originally a term for a '*slave*' who was responsible for the care of children in his masters' household. But later, the meaning of the word expanded to mean educator or teacher. On the contrary, Knowles defined a child by saying;

As the child's self-identity begins to take shape, he begins to see himself as having the capacity to start making decisions for himself. At first experimentally, and in small matters that do not impinge on the adult world. But increasingly, as he matures, the child's self-concept moves in the direction of greater self-direction, and during adolescence his need to take significant responsibility for managing his own life becomes so strong that it often puts him in open rebellion against control by the adult world. The tragedy is that in our culture, the adult world tends to hold on to its concept of the child as a dependent personality until the last possible moment (Knowles, 1970, p.39).

McCombs & Whisler (1997) stressed that decision-making in the classroom is informed and developed by the individual learners and their learning (as cited in Shah, 2021, p.8).

Learner-centered perspective is one that couples a focus on individual learners their heredity, experiences, perspectives, backgrounds, talents, interest, capacities, and needs with a focus on learning the best available knowledge about learning, and how it occurs, and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners (McCombs & Whisler, 1997, p.9).

Pedagogy is defined as pedagogical practices that facilitate for diverse children and their access to knowledge, activities, and opportunities to advance their skills in ways that build on previous learning. Pedagogy also assists learners how to learn, and provide them with a strong foundation for further learning in relation to the goals of the early childhood curriculum, cultural and community, and family values (Farquhar, 2003, p.5).

Shah (2021) suggested that a '*pedagogue*' refers to someone who is capable of making a perfect match, and succeeding in the act of knowledge transfer. A natural pedagogue will use every opportunity to share his/her knowledge and education to aid, assist, or enlighten other people (p.356). Shah explains *the role of learners in the traditional setting*, when the teacher uses pedagogical approach to teach learners in the classroom. He said:

Learners tend to obey the teacher and conform to prescribed types of behaviour in the classroom. The learners are largely dependent on the teacher for obtaining information related to the subject taught and regurgitate the content learned through direct instruction by repetition and rote memorization. Learners in traditional settings experience limited amount of teacher-student, or student-student interactions under the teacher's control (Shah, 2021, p.370).

The first image a child gets of himself as a separate entity is that of a dependent personality whose life is managed for him by the adult world. At home, at play, in church, in the community, and in the school, he expects the will of adults to be imposed on him. That is what life is like when you are a kid (Knowles, 1970, p.39). The distinction between teachers and pedagogues, instruction and guidance, education for schools, or life was a feature of discussion concerning education for many Centuries. It was still around that time when Kant explored education. In an article called ‘*on pedagogy*’ (*uber padogogik*) that was published in 1803, Kant talked on education (as cited in Shah, 2021, p.8). He explained that;

Education includes the ‘*nurture of the child,*’ and as it grows, its ‘*Culture.*’ The latter is firstly negative, consisting of discipline: That is merely the correcting of faults. Secondly, *culture* is positive, consisting of instruction and guidance (i.e., forming part of education). Guidance means directing the pupil in putting into practice what he has been taught. Hence, the difference between a private teacher who merely instruct, and a tutor or governor who guides and directs his pupils. The one trains for school only, the other for life (Kant, 1900, pp.23-24).

Shah explains the *traditional teacher-centered pedagogy*: one typical approach used by teachers for teaching pupils (children) in the basic schools in the classrooms. That:

The traditional teacher-centered pedagogy refers to the conventional methods of teaching and learning where the teacher is the direct, or sole authority responsible for educating a learner in a teaching and learning situation. In traditional settings, the teacher is deemed respectable as well as knowledgeable, the giver of knowledge, and the learner is considered the receiver of knowledge. Pedagogy in traditional locales is mostly ‘teacher-centered’ where the teacher orchestrates all learning, telling learners what to do, whiles the learner follows the instructions, memorizes information, and facts in a ‘*do-as-directed approach*’ (Shah, 2021, 369).

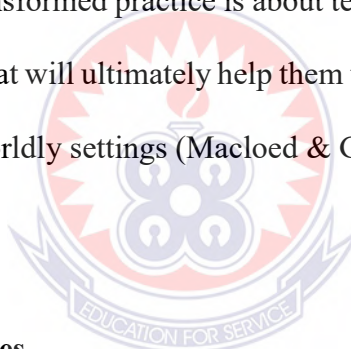
From the New London Group (1996) refers to *an international consortium of academics researching literature pedagogies*. They identified four major components of pedagogy (as cited in Rutto, 2017). Thus; (i) situated practice; (ii) overt instruction; (iii) critical framing; and (iv) transformed practice. These aspects of teaching are interdependent, non-hierarchical, and non-sequential in nature.

Elements of each aspect may be presented in any one episode of teaching, and one or another may be dominant at any time. New London Group (1996) explained;

- i) Situated practice: Didactic methods of teaching conveys results, products or facts of inquiry to learners without engaging them in the processes through which they were achieved, or even the impact it will have on their lives. *Situated practice* takes learners through the processes that yield the desired knowledge. Basically, it involves *tangible activities* (e.g., projects, practical), *and social contexts of learning* (learner interactions) (Rutto, 2017, p.2026). Traditionally, didactic teaching conveys the results of human inquiry, its products, proposition or ‘facts’ without initiating learners into the contexts and processes through which that learning has been achieved (Macleod & Golby, 2003, p.353).
- ii) Overt instruction: Overt instruction involves the construction of knowledge from what the learners already know, and also identifying learner’s specific needs for future attention (Rutto, 2017, p.2026). Overt instruction has a legitimate place in any pedagogy. To be efficient, it must make the essential structures of its subject matter, ideas, and their relation inside a coherent way of understanding and acting in the world (Macleod & Golby, 2003, p.354).
- iii) Critical framing: It is an aspect of pedagogy where learners stand back from what they have learnt, and view it critically in relation to its context. Learners are

guided to critically analyse and question the ideologies at hand and their relevance (Rutto, 2017, p.2026). *Critical framing* involves pupils standing back from what they are studying, and viewing it critically in relation to its context. They ask questions about the components of learning; whether achieved through ‘*situated learning*’ or ‘*overt instruction*’ (Macloed & Golby, 2003, p.355).

- iv) Transformed practice: Transformed practice as an authentic learning experience where learners are both product and transmitters of literacy learning, and student-teacher role reversal. It helps learners to develop an *ability to act*, based on their understanding and apply knowledge acquired to solve problems. It also helps learners to apply the learned knowledge beyond the *classroom setting* (Rutto, 2017, p.2026). Transformed practice is about teachers providing pupils (learners) the opportunities that will ultimately help them to put knowledge gained in school to work in more worldly settings (Macloed & Golby, 2003, p.356).



2.6 Andragogy Approaches

2.6.1 Andragogy Defined

Henschke expounded that the term ‘*andragogy*’ as far as scholars know, was first authored by Alexander Kapp (1833), a German High School teacher. In the book entitled *Plato’s Erziehungslehre (Plato’s Educational Ideas)* he described the lifelong necessity to learn. In his book (*Plato’s Erziehungslehre*), he started discussion on *childhood*. However, between pages 241 to 300, of the same book, he talked on *adulthood*. Thus, *Andragogy* or Education in man’s age (Henschke, 2016, p.2).

In andragogy, course content is less structured, and learners take increased control in organizing and directing learning, and adopting a more autonomous role. They said;

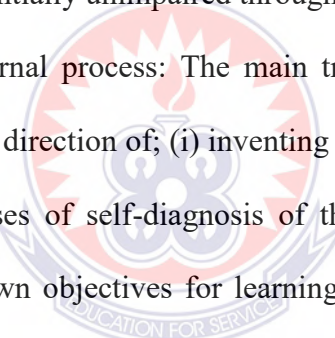
As students/learners progress through the continuum, they become more autonomous, able to make all learning related decisions (e.g., structure, content, knowledge source, ways of learning), including whether or not learning goals have been achieved, and to the degree their goals have been achieved (e.g., self-assessment). In this way, the PAH Continuum is considered a progress towards further learner autonomy (Blaschke & Marin, 2020, p.5).

Knowles (1975) defines andragogy as a process that individuals take the initiative, with or without the help of others, by diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing learning strategies, and evaluating learning outcomes (p.18). The concept of *andragogy* (*self-directed learning*) was made popular by Knowles (1975) and stems from the belief that pedagogical approaches for teaching adults should be fundamentally different from those for teaching children. These ideas are based on the view that the more a learner becomes mature, the more self-directed the learner will be in his/her own learning. A key attribute of andragogy is *self-directed learning*.

Knowles (1975) advocated flexibility, choice, and autonomy for adult learners, and he encouraged various kinds of learner supports (tutoring, advising, counselling) to personalize or give individuals uniform system of education. In andragogy, learners are motivated by internal incentives, such as the need for self-esteem, the urge to grow, the satisfaction of accomplishment, desire to know something specific, and curiosity (p.21).

Merriam suggested that the goals of self-directed learning (*andragogy*) include helping learners to develop their capacity for self-direction, supporting transformational learning, and promoting emancipatory learning, and social action (Merriam, 2001, p.9).

Knowles (1970) described some '*andragogic assumptions about teaching & learning*'. He wrote that the critical element in any adult-education programme is what happens when a teacher comes face-to-face with a group of learners. The andragogical approach for the teaching & learning transaction is premised on these assumptions. The central proposition on which the entire adult-education movement is based is that *adults can learn*. The research up-to-date regarding adult learning clearly indicates that the basic ability to learn remains essentially unimpaired through the life span (p.49).

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- i) Learning is an internal process: The main thrust of modern adult educational technology is in the direction of; (i) inventing techniques for involving adults in ever-deeper processes of self-diagnosis of their own needs for learning; (ii) formulating their own objectives for learning; (iii) sharing responsibilities for designing and carrying out their learning activities; and (iv) evaluating their progress towards their objectives (Knowles, 1970, p.50).
 - ii) There are superior conditions of learning, and principles of teaching: There are certain conditions of learning that are more conducive to the growth and development of learners than others. These conditions seem to be produced by practices in the teaching & learning transaction that adhere to certain superior principles of teaching (Knowles, 1970, p.52).

Knowles identified some superior conditions, and principles of teaching & learning that he termed as '*superior conditions of learning*' and '*principles of teaching.*' Thus;

- i) The learners feel a need to learn: (i) the teacher exposes the learners to new possibilities for self-fulfillment; (ii) the teacher helps the learners to clarify their own aspirations for improved behaviour; (iii) the teacher helps the learners to diagnose the gap between their present level of performance (1970, p.52).
- ii) The learning environment is characterized by physical comfort, mutual trust and respect, and freedom of expression: (i) the teacher accepts the learners as persons of worth, and respects their feelings and ideas; (ii) the teacher seeks to build relationships of mutual trust, and helps the learners by encouraging cooperative activities, and refraining from making competitiveness (Knowles, 1970, p.52).
- iii) The learners perceive the goals of a learning experience to be their goals: The teacher involves the learners in a mutual process of formulating learning objectives in which the needs of the learners, institution, teacher, subject matter, and the society are taken into account (Knowles, 1970, p.53).
- iv) The learners accept a shared responsibility for planning and operating a learning experience: The teacher shares his/her experience about options available in the designing of experiences, selecting materials and methods, and involving learners in decision making (Knowles, 1970, p.53).
- v) The learners participate actively in the learning process: The teacher helps the learners to organize themselves (e.g., project groups, teaching & learning teams, independent study, etc.) to share responsibilities (Knowles, 1970, p.53).
- vi) The learning process makes use of the experience of the learners: The teacher helps the learners to explore their own experiences as resources for learning through techniques (e.g., discussions, role playing, case methods) (p.53).

vii) The learners have a sense of progress towards their goals: (i) the teacher involves the learners in developing mutual acceptable criteria, and methods for measuring progress towards the learning objectives; (ii) the teacher helps the learners to develop and apply procedure for self-evaluation (Knowles, 1970, p.53).

Malcolm Knowles further identified *andragogic assumptions and their implications*. That *andragogy* is premised on at least four crucial assumptions about the characteristics of adult learners that are different from the assumptions of children.

As the person matures; (i) the person's self-concept moves from one of being a dependent personality towards one of being a self-directed human being; (ii) the person accumulates a growing reservoir of experience that becomes an increasing resource for learning; (iii) the person's readiness to learn becomes oriented increasingly to the developmental tasks of his/her social roles; and (iv) the person's time perspective changes from one of postponed application of knowledge to immediacy of application, and his/her orientation towards learning shifts from one of '*subject-centeredness*' to one of '*problem-centeredness*' (Knowles, 1970, p.39).

Knowles identified some '*dimensions of maturity*.' He suggested that the psychological literature comes the notion that there are several dimensions of the maturing process, and each of them with its own unique cycle of development. Thus;

- i) From dependence towards autonomy: Every experience we have in life tends to affect our movement from dependence towards autonomy; and to the extent that a given experience helps us to move away from dependence. This can be said to be educational (Knowles, 1970, p.26).
- ii) From passive towards activity: Throughout childhood, the individual who is maturing becomes increasingly active in exploring the world around him, and tends to engage in an expanding number of its activities (Knowles, 1970, p.26).

- iii) From subjectivity towards objectivity: One of the most difficult adjustments a person has to make in life is to move himself out of the center of the universe (world), and to discover where he really fits into it (Knowles, 1970, p.26).
- iv) From ignorance towards enlightenment: Every individual should be perceived as being both a specialist and a generalist; (i) as a specialist, the individual needs to master deeply the knowledge and skills of his/her vocation; (ii) as a generalist, the individual needs to master and keep up-to-date of a core of knowledge from all those specialists that bear on the practical problem of life (1970, p.26).
- v) From small abilities towards large abilities: A skillful facilitator of learning helps each individual to perceive higher possible levels of performances, and to develop continually larger abilities (Knowles, 1970, p.26-27).
- vi) From few responsibilities towards several responsibilities: Parents, teachers, and supervisors should not underestimate the number of responsibilities a child, student, or subordinate can carry (Knowles, 1970, p.27).
- vii) From narrow interest towards broad interest: The child's world starts with a field of interest that is bounded by his crib. One significant sign of his continuing maturation is the extension of this field in ever-widening circles.
- viii) From selfishness towards altruism: Conditions that induce a spirit of rivalry towards others, rather than helpfulness. For instance, competition for grades, promotion by school authorities, and so forth (Knowles, 1970, p.27).
- ix) From self-rejection towards self-acceptance: A mature person is one who accepts himself as a person of worth, which incidentally is a prerequisite for being able to accept other people (Knowles, 1970, p.27).
- x) From self-identity towards integrated self-identity: If a person's development in a given stage is mostly frustrated, he is likely to remain fixated at that stage.

- xi) From focus on particulars towards focus on principles: The discovery of principles which enable a person to group objects, and connect events is the essence of the process of inquiry (Knowles, 1970, p.28).
- xii) From superficial concerns towards deep concerns: Often, this process is retarded by society's that impose its deep concerns on the individual, before the individual discovers his own (Knowles, 1970, p.28)
- xiii) From imitation towards originality: The adult world has long tended to accept this method of learning as not only natural, but best (Knowles, 1970, p.28).
- xiv) From the need for certainty towards tolerance for ambiguity: The basic insecurity of the child's world impose on him is a deep need for certainty (Knowles, 1970, p.28).
- xv) From impulsiveness towards rationality: True maturity towards rationality requires self-understanding and self-control of one's impulse (1970, p.28).

Knowles suggested that '*adults*' too, have their phases of growth and resulting developmental tasks, readiness to learn, and teachable moments. Robert J. Havighurst (1952), one of the pioneers in this area of research divided the adult years into three phases. Thus, early adulthood, middle age, and later maturity. Havighurst (1952) identified the social roles of adulthood (as cited in Knowles, 1970); (i) worker; (ii) mate; (iii) parent; (iv) homemaker; (v) son or daughter of aging parents; (vi) citizen; (vii) friend; (viii) organization member; (ix) religious affiliation; and (x) user of leisure time.

The requirements for performing each of these social roles changes according to Havighurst (1952), thereby setting up changing developmental tasks, and changing readiness to learn. The changes in developmental tasks during the three periods of the adult life are stated below;

- i) Early adulthood (18-30 years): (i) selecting a mate; (ii) learning to live with a marriage partner; (iii) starting a family; (iv) rearing children; (v) managing a home; (vi) getting starting in an occupation; (vii) taking civic responsibility; and (viii) finding a congenial social group (Knowles, 1970, p.46).
- ii) Middle age (30-55 years): (i) achieving adult civic and social responsibility; (ii) establishing and maintaining an economic standard of living; (iii) assisting teenage children to become responsible; (iv) developing leisure time activities; (v) relating to one's spouse; (vi) adjusting to the physiological changes of middle age; and (vii) adjusting to aging parents (Knowles, 1970, p.47).
- iii) Later maturity (55 years and over): (i) adjusting to decreasing physical strength and health; (ii) adjusting to retirement and reduced income; (iii) establishing affiliation with one's age group; (iv) meeting social and civic obligations; (v) establishing satisfactory physical living arrangements (Knowles, 1970, p.47).

Once an adult makes the discovery that he can take responsibility for his learning, as he does for other facets of his life, he experiences a sense of release and exhilaration. He then enters into learning with deep ego-involvement, with results that are frequently startling both to himself and to his teachers. Teachers who have helped their adult learners to achieve this breakthrough report repeatedly that it is one of the most rewarding experiences of their lives (Knowles, 1970, p.40).

The concept of adult learners involve the normal aspect of the process of maturation for a person to move from dependency towards increase self-directedness, but at different rates for different people, and in different dimensions of life (Knowles, 1980, p.43). Zmeyov (1998) stated that the main goals of education today are to provide individuals with a multifaceted training, and principally with knowledge and skills for creative activities for adapting to the changes in the natural social environment ... and for lifelong learning (p.104). Blaschke & Hase (2019) agreed with Zmeyov (1998), and they wrote that the rising popularity of student-centered for teaching & learning has created renewed interest, and established educational pedagogies that focus on supporting learner agency. These pedagogies include theories such as *self-efficacy*; (*andragogy*) self-directed learning; (*heutagogy*) self-determined learning, and self-regulated learning (p.3).

Zmeyov suggested that the andragogical principles might be successfully applicable; (i) when learners have a good amount of practical and social experiences; (ii) when learners are aware of a life goal and the application of their knowledge and skills; (iii) when learners have adequate background of the selected field of study; and (iv) when learners are trying to attain short-term educational goals (Zmeyov, 1998, p.107). The concept of *self-directed learning* is the key to *andragogy*. It means the learner takes initiative, with or without the help of other people to diagnose the learning needs, formulates learning goals, identify resources both human as well as non-human material resources, chooses and implements learning strategies, and evaluates the learning outcomes. Self-directed denotes that the adult should be allowed to participate fully in planning, implementing, and evaluating his own learning needs (Kapur, 2015, p.57).

2.6.2 Six Learning Principles of Andragogy

Malcolm Knowles' created a Model that focused on six learning principles of andragogy.

- i) Adults need to know: Before learning can occur, adult learners should have the desire to know why they need to acquire a particular skill, ability, knowledge, etc. This conscience awareness of the value of learning guides learners to realize for themselves the disparity between what they know and what they should know.
- ii) Self-concept: Adult learners are self-directed, autonomous, and independent. Once they accept the accountability for their decisions and actions, they have an internal emotional need to be viewed and acknowledge as self-directed. This self-concept of being independent can introduce challenges for educators.
- iii) Prior learning experience: Adults tend to learn by drawing from their previous experiences. Teachers (educators) should remember that adult learners develop their identities from past experiences. To devalue their experiences would be akin to devaluing them. Collaborative activities such as group discussions, problem solving assignments, simulation exercises, and case studies where peers help each other are effective teaching methods.
- iv) Readiness to learn: Adult learners tend to be ready to learn what they need to know, and do as the need arises in their personal lives. Timing is critical, and as a result, learning is more effective if it relates with a need to know.
- v) Orientation to learn: Adults learn for immediate applications rather than for future uses. The focus on problem-centered learning is to facilitate effective problem-solving skills, self-directed learning, collaboration skills, flexibility, and intrinsic motivation. Through collaborative activities and discussions, adult learners can recognize what they already know, what they need to know, where to access new information, how to resolve problems, etc.

- vi) Motivation to learn: Adult learners are more motivated internally than externally. More effective learning occurs when adults' personal goals, interests, attitudes, and beliefs come from themselves rather than their lecturers/instructors. Thus, the adult learner is a self-motivator or internal teacher (Knowles, 1975; Caruth, 2014, pp.4-5; Chan, 2010, pp.27-28).

2.6.3 Andragogy Process Design Steps

Knowles created eight process design steps as approaches for teaching & learning:

- i) Prepare students by providing them with information, encouraging participation, developing realistic results, and thinking about course contents.
- ii) Create a climate for students to learn by demonstrating trust, collaboration, ability to relax, respect for one another, and pertinent information.
- iii) Involve students in planning by shared planning between students and educator.
- iv) Involve students to identify the learning requirements and assessments.
- v) Involve students to develop learning objectives between students and educator.
- vi) Involve students to establish learning plans by joint planning between students and educator through learning contracts and learning activities.
- vii) Help students to complete learning plans through experiential opportunities, inquiry projects, independent study, and knowledge to investigate an issue.
- viii) Involve students in the evaluation of their learning experiences by mutual planning after assessment information is collected (Caruth, 2014, p.5).

2.7 Heutagogy Approaches

2.7.1 Heutagogy Defined

Heutagogy is considered as a theory of learning where the student/learner is allowed to independently learn through a process of discovery. Heutagogy has emerged from earlier learner-centered learning theories and concepts across psychological, organizational, and educational disciplines. The theory of heutagogy is on self-determination, complexity, reflective practice, constructivism, self-regulated learning, self-efficacy, capability and transformative learning (Blaschke, 2012; Blaschke & Marín, 2020, p.3). Hase & Kenyon ((2013) stated that in the heutagogical approach the ‘*learned person*’ (teacher, educator, tutor, lecturer) takes on more of a role as a facilitator, or guide as to how the desired learning might take place. If formal assessment of the learning is required, then the ‘*learned person*’ (lecturer, teacher, educator, and tutor) assists in determining what will be an appropriate means of assessment (pp.7-8).

Blaschke & Hase (2019) suggested that within heutagogy, self-efficacy plays an important role in influencing learner behavior and development. When students or learners are given agency and autonomy in their learning, it enables them to make independent choices, reinforce and develop their perception of self-efficacy due to individual mastery of activities through success, and failure (p.3). Hase & Kenyon (2007) also defined heutagogy as the study of self-determined learning, which applies a holistic approach to the development of learner capabilities, with the learner serving as the major agent in his/her own learning, which occurs as a result of personal experience/s (p.112).

Since its inception, *heutagogy* has been found to be applicable in many contexts: from informal learning environments, vocational training, to secondary education, and higher learning (Blaschke & Marín, 2020, p.4). The figure 4 below shows Pedagogy-Andragogy-Heutagogy, and its Comparison.

	Pedagogy	Andragogy	Heutagogy
Dependence	Learner is dependent	Adults are independent	Learners are interdependent
Learning Resources	Teacher-driven and controlled	Adult and Teacher controlled	Teacher and learner provided. Learner negotiates path
Learning Reasons	Gaining next level	Drive to increase performance	Learning potential, unplanned, non-linear
Learning Focus	Subject-centred, prescribed	Task- or problem-centred	Proactive and problem-oriented
Motivation	External motivation	Internal motivation	Self-efficacy driven
Teaching Role	Process-designer, imposer, knowledge-holder & director	Enabler, collaborator	Capability-builder

Figure 5: Pedagogy, Andragogy, and Heutagogy Continuum and Comparison (Uday 2019, pp.1229-1234).

Hase & Kenyon suggested the parameters in education set-up where heutagogy approach is applicable. They said;

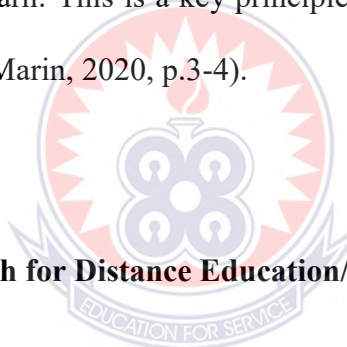
Although the theory and practice of *Heutagogy* was first developed for working with students/learners at postgraduate level, it is clear from the enthusiastic response to the approach that *Heutagogy* has a far more widespread application. It is being used in primary and secondary education, and in commercial organizations where the focus is on learning and development. It is being used online, and it is being used in situations where no assessment is needed, and people learn simply for the joy of learning (Hase & Kenyon, 2013, p.11).

2.7. 2 Principles of Heutagogy

Blaschke & Marin (2020); and Hase & Blaschke (2021) identified five main principles underpinning heutagogy. These are;

- i) Learner agency: Agency is central to heutagogy. The fundamental central principle of heutagogy is *learner agency*, where the student/learner is the primary agent of his/her own learning. The learner makes decision about learning from what will be learned (*content*); and how it will be learned (*methods*); to whether the learning has been achieved and to what degree (e.g., *self-assessment*).
- ii) Self-efficacy and capability: Self-efficacy is the student/learner's own belief in his/her abilities, and capability is the ability of the learner to demonstrate an acquired competency or skills in a new and different environment. Through a process experimentation and exploration, students/learners develop a sense of achievement (*self-efficacy*) with each learning success, thus triggering an intrinsic motivation to learn and the ongoing development of competency. *Capability* develops over time with each learning achievement, and it requires competency. The resultant experience of self-efficacy and capability have the potential to create *transformational learning*.
- iii) Reflection and metacognition: With this principle, students/learners undergo a process of *double-loop learning*; reflecting upon what they have learned (new knowledge); how they have learned it (learning process); as well as how new knowledge and skills influence their values and beliefs. This process of reflection supports development of metacognitive skills. As students learn to critically evaluate their own knowledge and thinking through the process of reflection, it eventually leads to transformative learning experiences. Reflecting upon what has been learned is in the form of *double-loop learning (metacognition)*.

- iv) Non-linear learning: The learning path is directed by the learner, and it is not pre-defined or sequential as the learner is responsible for identifying what will be learned and how it will be learned. This principle creates the framework for an open learning environment defined by the learner. The elements of a learning environment designed for heutagogy include exploration, creation, collaboration, sharing, connection, and reflection. In a heutagogic learning environment, the adult learner is in control of the learning journey, which is sometimes defined as the learning path. However, the role of the lecturer/instructor is not diminished, but rather, it focuses on guiding the student/learner by shifting control and responsibility to the student/learner.
- v) Learning how to learn: This is a key principle of heutagogy (Hase & Blaschke, 2021; Blaschke & Marin, 2020, p.3-4).



2.7.3 Heutagogy Approach for Distance Education/Learning

Relevance of *heutagogy* to distance education (distance learning): Blaschke expounded that the distance education is in a unique position for creating learning environments for supporting a *heutagogical* teaching and learning approach, as well as for contributing to further research into *heutagogy*. Specific characteristics of distance education that align themselves with heutagogy include:

- i) Technology: Technology's symbiotic relationship with distance education requires that with each emerging technology, distance educators should consider the implications of the technology on distance education theory and practice. Heutagogy has been identified as a potential theory for applying to emerging technologies in distance education (Blaschke, 2012, p.61).

- ii) Profile of distance education learner: Traditionally, distance education has been designed, developed, delivered, and targeted for the ‘*adult learner*’. It is mainly appropriate for the ‘*working adults*’ (adult workers) with extensive life experiences and more maturity than campus-based students. Distance education practice has been influenced by Malcolm Knowles’ andragogical theory of teaching & learning. Therefore, heutagogy could be considered as a relevant theory for adult distance education, or distance learning (Blaschke, 2012, p.61).
- iii) Learner autonomy: Distance education is a distinct form of education that promotes adult students/learners’ autonomy. Learner autonomy is a characteristic of distance learning environment, and it is central to a heutagogical teaching and learning approach (Blaschke, 2012, p.62).



2.7.4 Heutagogy and Self-Determined Learning

Hase & Blaschke said that *heutagogy* approach (*self-determined learning*) is foremost characterized by ‘*learner-centeredness*’ in terms of contexts and content (Blaschke, 2012, p.64). Course design elements that support heutagogy are;

- i) Learner defined learning contracts: The learning contracts support students in defining and determining their individual learning paths. These individualized contracts define what will be learned (e.g., *Scope*); how it will be learned (e.g., teaching & learning approaches, learning activities); and what will be assessed and how it will be assessed (Hase, 2009, p.47; Blaschke, 2012, p.64).
- ii) Flexible curriculum: In a self-determined learning environment, the learner is the driver who creates a flexible curriculum; Flexible curriculum in this sense is

negotiated *action learning*, which adapts and evolves according to learner needs. Learners create the *learning map*, and teachers (instructors) serve as the *compass*. Learners negotiate; how, when, where, and to what upper level they want to take their learning (Hase, 2009, p. 47; Blaschke, 2012, p.64).

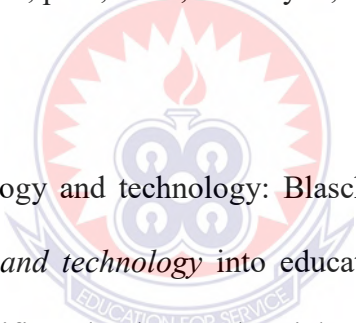
- iii) Flexible and negotiated assessment: In heutagogy, the learner is involved in designing his/her own assessment. Negotiated and learner-defined assessment has been realized to improve the motivation of learners, and their involvement in the learning process. The assessment should include measurable forms of assessing content/s, and whether the learner has achieved the competencies desired. Rubrics can also be used effectively in guiding learners in their self-assessment process (e.g., by assessing skills, quality of work, outcomes, collaboration, and academic soundness) (Hase & Kenyon, 2007, p.115; Blaschke, 2021, p.65).

Reflective practice is a critical learning skill of heutagogy (Hase, 2009, p.49). Schön is of the view that reflective practice support learners to become lifelong learners, or a practitioner to become a researcher into his/her own area of profession. Heutagogical reflective practice takes into account the learner's prior learning experiences and the way in which these experiences influence their learning (Schön, 1983, p.299).

Heutagogy approach takes into account the students/learners' prior learning experiences, and the way in which this approach influence how they learn. Reflecting upon learners' past experiences and current experiences, the learner moves into a development that has the potential to deal, or lead to *transformative learning*.

Blaschke (2012); and Hase & Kenyon (2007) suggested course design elements that can be incorporated to support reflective practice. These are;

- i)* Action research: Action research gives students/learners an opportunity to experiment with real-world scenarios, which can prepare them for the professional workplace.
- ii)* Formative and summative assessment: Personalized assessment and feedback support learners in developing their reflective practice.
- iii)* Learning journal: Learners' can use *reflective learning journals* to document their learning journey, reflect upon the course content, and explore new ideas. Learning journals have also been found to support students' in developing their *cognitive skills* (Blaschke, 2012, p.65; Hase, & Kenyon, 2007, p.113).



The intersection of heutagogy and technology: Blaschke & Marin suggested that the intersection of *heutagogy and technology* into education is to improve teaching and learning. They said the specific technology and social media (e.g., blogs, wikis, and social networks) allow heutagogy to thrive as it capitalizes on these technological affordances: the ability to create and co-create content; connect and collaborate with other people inside and outside the classroom; share the results of the learning experience and give students the opportunity to learn from each other; and to reflect upon what has been learned and how it has been learned (Blaschke & Marin, 2020, p.6).

The e-portfolio as a platform for heutagogy: Blaschke & Marin are of the view that the *e-portfolio* is one of the tools that could be used as a medium for realizing heutagogy, and as a means for documenting and showcasing learner competencies, both inside and outside the higher education classroom. They said;

The E-Portfolio has been described as a powerful pedagogical tool used for the purpose of tracking the learning process, displaying evidence of acquired competencies, and developing specific skills as self-regulation, reflection, critical thinking, and monitoring of cognitive development (Blaschke & Marin, 2020, p.7).

Hase & Blaschke outlined *methodologies* that support the use of *heutagogy approach*.

- i) Negotiated learning: Learners should be able to negotiate the learning process and content. This depends on what learners want to explore, and how they want to reach learning outcomes (Hase & Blaschke, 2021, p.18).
- ii) Learning resources: Heutagogic approach encourage learners to discover their own resources as part of their learning journey. A key in this information is critical thinking and evaluation, where learners are able to '*sort the wheat from the chaff*' or '*facts from fiction*' (Hase & Blaschke, 2021, p.19).
- iii) Collaborative learning: When learners meet to study in a group, they learn from each other. Therefore, the group leader should be able to establish effective communication skills amongst the learners. This should be done either face-to-face, or by using mobile technology, or both (Hase & Blaschke, 2021, p.19).
- iv) Negotiated assessment: The design of assessment provides the learner with the freedom to assign context, explore beyond the outcomes, and to be creative and innovative (Hase & Blaschke, 2021, p.20).
- v) Project-based learning: It can range from simple to complex. This depends upon the study group, and the group leader (Hase & Blaschke, 2021, p.20).
- vi) Portfolios and learning journals: Portfolios and journals can be used as part of assessment, or learning strategy. The learners are encouraged to manage their own learning, and explore other areas (Hase & Blaschke, 2021, p.20).

- vii) Action research/action learning: Action learning and action research are related ideas that fit well within a *heutagogical framework*. They are both *emergent activity* and *reflective agency*. Action learning provides a process for planning, acting, and reflecting (Hase & Blaschke, 2021, p.21).
- viii) Reflection: This is central to heutagogy as a way of learning. Reflection provides an opportunity for *double loop learning* and *metacognitive*. It can be done in a study group or by individuals (Hase & Blaschke, 2021, p.21).

2.8 Sight-Reading Musical Scores (Notation)

Fourie gave emphasis to the teaching & learning of sight-reading skills as a requirement for piano students at their early stages of development. He said:

The teaching of sight-reading should become a component of piano teaching in its own right, as much as the teaching of verbal reading skills is a component of early learning in general. Teaching methods and exercises that are designed to stimulate the relevant brain areas and facilitate the creation of appropriate brain maps for sight-reading should be developed and introduced at an early age (Fourie, 2004, p.17).

Hoffer suggested that when a person reads, the eyes does not read letter by letter or word by word, but by group of words. The better the reader, the larger the group of words encompassed in a single fixation of the eyes. The same principle applies to music reading (Hoffer, 2001, p.161).

Sloboda (1984) argued that music reading is a form of perception. His reasoning was that if particular features of musical structure affect reading performance in a task such as transcription from memory, then the cognitive processes underlying this task must come into play to perform it (as cited in Madell & Hébert, 2008). The logical result is that music reading is a real species of music perception (Madell & Hébert, 2008, p.160). Hurford is of the view that mastery of any musical instrument requires a high degree of mental and physical coordination. For a keyboard player, he suggested that the understanding and subsequent projection of several lines and spaces (staves) for score reading, with its own articulation and phrasing adds to the coordination problems that are unknown to other performers (Hurford, 1990, p.40).

Furneaux & Land (1999), as cited in Wristen (2005) are of the view that expert sight-readers look ahead on the musical score as they play the piano, and they scan their eyes forward to read in detail the score ahead. Expert sight-readers at the piano tend to employ progressive and intermittent regressive eye movements (left to right) to clarify notational and musical details, and fixations (stopping points) that allow them to visually process both the bass clef and treble clef. The zigzag eye movement (left to right) observed in pianists may be idiomatic to piano reading in light of the necessity for pianists to scan both *vertically* and *horizontally* across two staves to discern melodic and harmonic details (Wristen, 2005, p.48). This demonstrates that expert sight-readers have a greater eye-hand span than novices; (i) they fixate their eyes on a specific location on the score for a shorter length of time; and (ii) they use progressive and regressive fixations in a zigzag pattern to cognitively process what they have visually scanned previously.

Wristen (2005) is of the view that sight-reading may consist of tapping rhythmic patterns or playing single-line melodies with either the right hand or the left hand. As a result, it will establish the basic motor patterns, such as finger control, and improves familiarity with the '*geography of the keyboard*' (structure of the keyboard) which is the prerequisites to sight-reading (p.45). Reading musical notation (score reading) is an essential skill for every music student of Western Classical music, and a useful skill even for those involved in non-score reading musical styles such as blues (Madell & Hébert, 2008, p.159).

Wristen suggested that '*four basic elements of music*' must be present during sight-reading performance. Thus; (i) rhythm (duration, patterns, accentuation); (ii) melody (pitch, stepwise, leap); (iii) harmony (chord structure, chord progressions); and (iv) context (expressive markings, musical structure, form). The way in which these basic elements combine and interacts within a musical score contributes to the complexity of the sight-reading task. For effective sight-reading, Wristen suggested that:

Successful sight-readers employ certain patterns of eye movements to efficiently decode scores. The need to look at the musical score must be balanced with the need to look at one's hands and fingers to accurately place them on various parts of the keyboard so that correct pitches can be played (Wristen, 2005, p.46).

Pianists often find themselves confronted with situations that necessitate sight-reading skills. Wristen (2005) observed that there is a real difference in sight-reading ability between (i) pianists who primarily practice repertoire; and (ii) pianists who specialize in collaborative performance. One reason for the widespread of sight-reading at the piano may be due to pianists' widespread participation in collaborative music making.

The aspect of sight-reading applies to reading musical notation in general, and it does not only relate to sight-reading musical score/s for the first time (*prima vista*). Fourie (2004) in her article on the *processing of music notation*, she suggested that a successful sight-reader can read the music score and mentally hear the sounds represented by the symbols. The processing thus involves recognition, understanding and mental transformation into inaudible sounds, or auditory images. Therefore, the ability to hear in the ‘*inner ear*’ is very important (Fourie, 2004, p.13).

Lehmann et al. (2007) suggested that the stave notation (*musical scores*) are not random arrangements of notes, but rather they are coherent entities that we identify as being in a certain style, or by a certain composer, and containing a fair amount of recurrence of thematic materials. This fact allows us to build up certain expectations about upcoming sections, which cuts down on the amount of information we have to process at one time and helps us to direct our attention to the relevant places in the stave notation (*musical scores*). For example, if we observe the beginning of a scale in a music score, we will not search around for notes anywhere on the music score. But rather, we will search for notes in close proximity to the previous note/s on the same diagonal. This is where experts can take advantage of blurry information as a basis for inferences or guesses (Lehmann et al., 2007, p.116).

Skilled sight-readers frequently glance around on musical scores and search for information, and backtracking to places where they did not identify at first, and also scanned for expressive and dynamic markings.

If sight-reading is dependent on development of the ability to form aural representations, then providing students with aural training and application opportunities may contribute to sight-reading expertise. This implies that, (i) students should be exposed to diverse musical styles and musical sounds; (ii) students should engage in sight-singing; and (iii) students should be trained to hear and identify various chord progressions so that they predict how melodies and harmonies should sound (Wristen, 2005, p.52). Wristen (2005) stated that '*collaborative pianists*' tend to be more successful sight-readers, because they tend to play a large volume of '*piano literature*', and out of necessity, they tend to sight-read more than *performance majors*. This is due to the fact that the size of *piano literature* is so voluminous that no single player can be familiar with all of the solo pieces and other pieces written for the piano (p.53).

2.9 Personal Motivation for Playing Piano

Multiple sources of '*motivation*' exist in developing the lives of musicians. These are (i) *intrinsic motivation*: this comes from the activity itself, and the enjoyment for engaging in it; and (ii) *extrinsic motivation*: this is seen when young musicians respond to the supports and encouragements from people who are close to them. Motivation includes the supports individuals (learners) get from parents, teachers, and peers. At any point in time, musicians' development may be drawing on several *intrinsic* and *extrinsic* sources of motivation. The pleasure of group music making is intrinsically rewarding, and additional extrinsic motivation is gained through the applause students (performers) get from an audience (Lehmann et al., 2007, p.44-45).

Students' motivation is a critical component in the learning process. The study of why students pursue certain interests and goals with energy and persistence is helpful for teachers, because it is an area that teachers (instructors) can influence students' learning to some extent (Schleuter, 1997, p.166). One of the remarkable child prodigies who became famous during the Classical Era was Wolfgang Amadeus Mozart (1756-1791). Henley & Lihoreau stated that there were two things that Mozart's father (Leopold) did to develop the creativity and giftedness of his young son. First of all, Leopold was devoted to impart his musical knowledge to his son (Mozart). Secondly, at the age of three years (3 years), Wolfgang Amadeus Mozart spent a lot of time at the keyboard, picking out small chords. According to his elder sister (Maria Anna) who was nicknamed Nannerl, Mozart was always doing this at the piano, and he would beam with pride when his embryonic music making sounded good (Henley & Lihoreau, 2005, p.29).

Mr. Leopold was committed to his son's (W. A. Mozart) musical development. His devotion and encouragement to Mozart demonstrated that if parents are able to identify some musical talents in their children at an early stage, and are committed to its growth, they can help to develop them. Bloom (1985) suggested that not only teachers (educators) contribute to the acquisition of individual's skills, but the home environment also plays a major role in the development of expertise. He explained that a truly supportive environment encompasses parents who monitor practice at home by making sure that their children practice the piano/keyboard regularly, or even assist and supervise their practice more closely, and create a general positive value system concerning their music learning (as cited in Colwell, 2006, p.238).

A further reliable case of prodigy is from the biography of Sergey Prokofiev (1891-1953). McPherson (2016) stated that Prokofiev started composing and playing the piano at the age of 5. At age 9, Prokofiev began to write his first opera, and at the age of 11, he started to write his first symphony. Sergey Prokofiev wanted to become a renowned musician, and expert in composition. Therefore, in 1904, he became a student of Alexander Glazunov, who was a musician and composer in Russia (McPherson, 2016, p.181). Sergey Prokofiev's ambition to become a renowned musician and composer motivated him to travel at far distances and eventually studied under Alexander Glazunov.

One of the young female prodigy pianists is Tiffany Poon. McPherson & Lehmann (2012) stated that, at the age of four and a half (4½ years), Tiffany began to take her formal piano lessons. Then after three years of learning, she was able to practice the piano up to three hours or even four hours per day. Also, she was able to perform Piano Grade 8 lessons of the Associate Board repertoire. During the early stages of Tiffany Poon's musical development, it is documented that her mother used to sit at the piano with her and task her by saying:

Can you play that scale again five times correctly? Can you play it 10 times correctly? Now, can you play it 50 times correctly? These types of activities provided the basis for a playful learning environment in which Tiffany was encouraged to feel special by her mother who would clap and make comments such as Bravo! each time she mastered a new task. The loving connection between mother and child also created an emotional climate that helped Tiffany develop the motivation to achieve at a continually higher level (McPherson & Lehmann, 2012, p.12). (see www.tiffanypoon.com).

Undertaking long practice sections was therefore easier for Tiffany Poon, because the emphasis was on playful activities, fun, and mastery of playing techniques. Tiffany displayed a superb self-regulatory skill for her age. Over many weeks, she listened extensively to CD recordings of piano repertoire, before she chose from the recordings those works that she wanted to learn. She used various recordings to typically acquire a clear mental image of the pieces through repeated hearing of the music (McPherson & Lehmann, 2012, p.12).

Tiffany's choice of mastering a piano piece was not related to the technique of playing the piano. But rather, what needed to be done in order to master the desired piano piece/s that she already knew from recordings. Although, Tiffany's parents neither had formal musical training, but they supported and encouraged her learning at each stage of her development (McPherson & Lehmann, 2012, p.13).

Another young prodigy who also started to play the piano at an early age was Ervin Nyiregyhazi (1903-1987). At the age of six (6), he improvised with ease on some musical themes and performed chromatic modulations from one key to any other given key (Revesz, 2007, p.141). Revesz (2007) stated that Ervin Nyiregyhazi could play from memory after a few repetitions, and he showed a very reliable long-term storage of learned scores with close to perfect recall in re-tests after two to three years (2-3 years). On one occasion, Ervin Nyiregyhazi learned to play Robert Schumann's *Piano Concerto in A minor No.1; Op.54* from memory in only ten days. Although, he played through the piece only once a day.

Revesz suggested that Ervin Nyiregyhazi's memory was practically equal to that of an adult musician with a good musical ear (Revesz, 2007, p.105). It is pleasing to note that the constant progress that Ervin Nyiregyhazi made at the piano motivated him to even play challenging pieces with ease.

Lehmann et al. (2007) suggested that a parent/s verbal praise and encouragement is an important reward for young children as they demonstrate their developing musical abilities and express their interest in learning more about music. Once a child begins formal musical study, the support of parents is especially important (p.49). Parent's motivation to their children's musical development can provide a foundation for their children's lifelong musical involvement.

Throughout the musical activities of the prodigies mentioned above (Wolfgang Amadeus Mozart, Sergey Prokofiev, Ervin Nyiregyhazi, and Tiffany Poon), it is worthwhile to suggest that they had some characteristics in common. (i) Parents or teachers motivated them to continue playing the piano; (ii) they persevered to overcome challenges at the piano; and (iii) they had the ambition to become *expect elites*.

Kelly & Sutton-Smith (1987) stated that large developmental differences in musical abilities already exist at an early age and in adolescence. They are caused by differences in giftedness and talents, and the sociocultural background, as well as motivation and practice (as cited in Colwell, 2006, p.129). During adulthood, these individual differences become more pronounced due to commitment and practice.

Although, Gagné (2009) agreed with the notion of Kelly & Sutton-Smith (1987) that some children and certain adults were born with special gifts or talents, he is of the opinion that *Chance (environment)* may have a role to play in talent development as a qualifier of any contributing influence. To Gagne, '*chance*' refers to the accidents by birth, and the background over which we have no control. Consequently, our family that nurtured us, and the sociocultural environment in which we were raised are the two most important ways in which chance impacts our development (Gagné, 2009, p.70).

As young musicians (students/learners) develop, they begin to internalize extrinsic sources of motivation. The values of parents and teachers become part of the musicians themselves, therefore becoming intrinsic motivation. Eventually, the young musicians (learners) come to work on their music primarily because, it is important to them, and their musical activities define their identity (Lehmann et al., 2007, p.53).

This assertion of Lehmann et al. (2007) is supported by Mach (1980), when he identified Andre Watts (a concert pianist) who had inspiration from his mother to practice regularly at the piano, so that he becomes a great pianist. In an autobiographical comment, André Watts once said:

I wouldn't be a pianist today if my mother hadn't made me practice... On days when I wasn't exactly moved to practice, my mother saw to it that I did. Sometimes she tried coaxing me to the piano by relating the careers of famous musicians, hoping perhaps to inspire me to practice. At thirteen, however, I realized the necessity of practice. I still don't really like it all the time, but by now it has become second nature (Mach, 1980, p.182).

It is good to hear that Andre Watts's mother devoted her time and encouraged her son to practice, even when he was sometimes filling reluctance.

Lehmann et al. (2007) agreed with Mach (1980) when they wrote that usually, music students enjoy the support and encouragement from their peers, and they recognize the value to joint together in music-making. The social recognition within these peer groups is linked to the members' musical abilities. It is obvious that peer relationships also help to sustain interest in musical activities. A lot of teenage music students build their social peer groups with other musicians. Therefore, proficient young musicians are often motivated to practice in order to maintain high performance standard among their peers and other musicians (Lehmann et al., 2007, p.52).

Although, playing the piano/keyboard for pleasure is always at the core, young adults may have several reasons for beginning piano or keyboard study. Uzsler et al. (2000) suggested that:

The teenager may regard playing a keyboard as a social asset, and may look forward to participating with peers in performing groups. Desire to study may be stimulated by the wish to perform current favorites, to learn something about reading music, and using chords in order to create...or accompany original songs, to be able to accompany a church choir, or to enjoy a means of self-expression (Uzsler, et al., 2000, p.56).

The support of parents seems to be a basic condition for their children continuous music making or music training. Axelrod (1976) suggested that primarily, the major role of parents is to encourage or motivate their children to carry out the music practice activities assigned by instructors (teachers). Jascha Heifetz (a violinist) once said 'although, I do not remember being made to practice, I think there were times when I would have preferred something more playful. Let us say that my father persuaded me to practice, and I am glad that he did' (Axelrod, 1976, p.138).

It is good that Jascha Heifetz's father persuaded him to practice. Lack of parental support in terms of motivation can be a cause of children's failure to develop their musical abilities and interest. On the contrary, parents should not force their children into musical activities, since that may decline their intrinsic enjoyment when they are not in good mood at that very instant to do so.

Hargreaves identified two aspects of approaches used for individual student's or learner's musical developments. The first is *normative development* which naturally happens to children as they grow up in a given culture, regardless of any specialized attention or guidance. While the second is *specialist development (specialist education)* that consciously applies to the development of students' musical skills at higher levels or expertise (Hargreaves, 1996, p.150).

On the contrary, Gagné (2009) proposed the process that are used for individual talent development, or acquisition of skills and expertise in any area of learning, such as music. The three processes focus on individuals are;

- i) Activities: The opportunities to learn, which an individual has access to '*content*' and '*structure*'.
- ii) Investment: The duration of time, money, and energy that are allocated to the developmental process.
- iii) Progress: The speed of learning (Gagné, 2009, p.35).

McPherson & Lehmann made some suggestions that would guide parents and teachers on how to give support to gifted and talented children's rapid musical learning. Thus;

- i) Support sensitive periods: Cooperation between parents, child, and teacher is important when a sensitive period emerges or when the child confronts difficulties.
- ii) Self-regulation and goal setting: Parents and teacher should collaborate with the child to set appropriate short-term and long-term goals.
- iii) Celebrate the child's uniqueness: General education should be incorporated alongside with the child's specialized interests.
- iv) Seek help: Parents should entrust their children to experienced teachers.
- v) Find balance: Encourage children to find a balance between work and rest, adopt to a healthy balanced lifestyle (McPherson & Lehmann, 2012, pp.15-16).

Papageorgi, Hallam & Welch suggest that the motivation of an individual to participate in musical activities is determined by complex interactions. These are: (i) *individuals*: the self-concept and goals; (ii) *environment*: this includes cultural and historical factors; (iii) *educational environment*; and (iv) *support*: this includes support from family member/s and peers (Papageorgi et al., 2007, p.90).

Children who participate in musical activities in everyday lives develop musical skills and abilities faster than those whose main experience is a passive type. This is because the most predominant aspect of their everyday life is the home, and the level of musical activities encouraged by parents is likely to be a major influence on their musical development (Lehmann et al., 2007, p. 41).

Epstein (1987) suggested that freedom and choice of music are conditions that maintain and enhance intrinsic motivation. The development of music students can improve greatly when they are given the opportunity to choose the music (piano pieces) they want to work on. The great pianist Vladimir Horowitz once confessed that:

When I was a child, I was bringing to my professor the music I liked and not the music which I had to play. My mother went to him and asked, what are you doing? Instead of Bach, he's playing Rachmaninoff...I went to the stores and bought the new music. I took it home and I played it. (Epstein, 1987, p.8).

Sometimes, students' motivation to play the piano are derived from the familiar pieces they play. Snitkin is of the view that practice is a type of commitment to oneself to improve the developing skills from lesson to lesson (Snitkin, 1997, p.11). Colwell (2006) agrees with Snitkin (1997) when he writes that practice involves motivating oneself to do it, even if the process itself is not always enjoyable. He distinguished between formal practice (*deliberate practice*) and informal practice. Colwell argues that in deliberate practice, we set specific goals that lie to some extent outside our level of performance, and we try to attain those sessions with great concentration (Colwell, 2006, p.65).

On the contrary, Lehmann et al. (2007) argued that motivation is related to the extent to which musicians embrace challenges. Those with a mastery orientation are willing to devote time and effort to practice, and they tend to set specific goals for themselves, which makes practice activities more efficient, productive, and rewarding (p.46). In general speaking, making and liking music are intrinsically motivating activities. People are naturally attracted to them, because the activities themselves are rewarding experiences.

Vandervert (2009a) suggested that through higher level of training and education, this effect can also apply to open symbol systems such as learning to play musical instrument. Here, Vandervert stated that mental and physical skills development combine with the motivational pleasure, and produce a self-propelling to higher self-directed control, competence, and discovery (p.26).

On the contrary, Colwell is of the view that there are individual differences in personality, and speed of development as well as motivation. He explained that even the most gifted individuals require large amounts of musical training and practicing to develop and attain significant levels of performance skills. It is gratifying that the acquisition of performance skills is of interest, because it exceeds the average adult level of performances (Colwell, 2006, p.237).

If an individual exhibits self-inspiration to carry out a specific task twine with challenges, the self-inspiration enables the individual to obtain specific concrete goals or results. For instance, a musician or a pianist who has the intention of *mastery orientation* will display perseverance, in spite of the challenges he/she encounters along the way.

Lehmann et al (2007) observed this and suggested that:

Music students with a task-involved orientation are primarily focused on improving their performance according to self-set standards. They might for instance, identify a performance technique that is part of a favorite type of music, and reserve time in their practicing to work on it (Lehmann et al., 2007, p.59).

Most often, early success in music performance/s, or piano/keyboard playing motivate students to persist in greater commitment in music. This is obvious, because success in performance breeds more successes. Bandura (1986) observed the inner self-motivation used to accomplish task. He stated that:

It is important to remember that self-efficacy is inextricably linked to a musician's competence. It is not built by simply getting students to believe that they are good at music when, in fact, they are not. Self-efficacy is also understood to include the ability to organize and execute courses of action required to achieve competent performance (Bandura, 1986, p.391).

The strong *self-efficacy* is the core that motivates musicians to have the confidence to continue in higher levels of musical training and performances, because they feel it equip them to handle challenges as they move on. *Self-efficacy* enables a good musician to be knowledgeable about the essential sub-skills and strategies for successful performances (Lehmann et al., 2007, p.54).

Uszler et al. (2000) suggested that the piano or keyboard teacher may capitalize on a number of positive ways of the adult's cognitive tendencies, and at the same time, provide or encourage experiences that will counterbalance those tendencies deterrent to learning or of good playing skills or listening habits. A typical adult thinking patterns include: (i) long concentration span, especially if the activities are interesting and varied; (ii) capable of independent study; (iii) responds to verbal communication; (iv) desire to put things in context and arrive at a synthesis; (v) eager to understand relationships; and (vi) often ask questions that indicate area of confusion (pp.58-59).

On the contrary, Papageorgi, Hallam & Welch are of the view that vulnerability and the degree of sensitivity to anxiety are attributed to a performer's characteristics which may include intrinsic, extrinsic, and cognitive features. Intrinsic characteristics of the performer include the gender, age of the performer, personality of the performer, trait and anxiety, sensitivity to evaluation by others, self-efficacy, beliefs and self-concept of the performer (Papageorgi et al., 2007, p.84).

Uszler, Gordon & Smith suggested that an adult, or adult student can be motivated to play the piano/keyboard; (i) as an antidote to loneliness; (ii) as a means of increasing self-esteem; (iii) as a satisfying hands-on arts experience; (iv) as a therapeutic support; or (v) as an enriching use of leisure time, adults' active participation in civic and religious organizations may motivate them to learn the keyboard to accompany singing or dancing groups (Uszler et al., 2000, p.57). Adult students/learners and mature students hope that playing the keyboard is personally rewarding.

Colwell (2006) observed that famous piano virtuoso such as Artur Rubinstein (1887-1982), and Vladimir Horowitz (1904-1989) who was a Russian-American piano virtuoso in the 20th Century, still played *piano concerts* and *produced records* when they were more than eighty years old (80 years). Rubinstein and Horowitz dedication to the *Piano* clearly demonstrated that even very old people (individuals) with zeal can produce outstanding instrumental performance and achievements (p.150).

In the same manner, Baltes, Lindenberger & Staudinger stated that the 80-year-old Artur Rubinstein once had a television interview, and interpretation of his response was that; (i) firstly, I play fewer piano pieces (*selection*); (ii) secondly, I now practice these pieces more often (*optimization*); and (iii) thirdly, to counteract my loss in mechanical speed (*tempo*), I now used a kind of impression management such as introducing *slower play before fast segments*, so to make the later appear faster (*Compensation*) (Baltes et al., 1998, p.1055). The two concert pianists mentioned above (Artur Rubinstein and Vladimir Horowitz) can be recognized as exceptional, and their experiences imply that continuous practice at the piano can counteract the decline of musical performances at old age.

Colwell (2006) is of the view that adults who want to learn music have; (i) different motivations; (ii) learning styles; and (iii) learning difficulties that are different from those of children. Therefore, taking into account adults' cognition as well as their motivation to learn musical instruments, Colwell (2006) suggested that it is important to design appropriate educational goals and methods for them (p.152).

2.10 Piano Techniques

Ericsson defined expert performance as consistently superior performance on a range of relevant tasks. In case of musicians, this refers to exceptionally gifted and outstanding performers. Expert musicians demonstrate superior performance in both technical and expressive dimensions of their playing (Ericsson, 1996, p.4)

Piano playing requires the movement and work of the whole limb, and sometimes even of the torso. Different manners of attack are made possible by the coordinated work of the various parts of our playing apparatus. The individual parts of the limb work together during playing. We thus speak of arm playing, forearm playing, from-the-wrist, and finger playing technique (Tworko, 2020, p.239).

Tworko, (2020) expounded that piano technique is an extremely complex issue, dependent on *individual anatomical and morphological constitution*, the influence of *teachers, pianists' own explorations, observations, and experiences* are the factors. Technique facilitates attaining mastery over the sound, which helps to obtain the desired musical result with minimum physical effort. Tworko explained three factors that lead to piano technique;

- i) Insufficient musical intuition and reinforced by practice.
- ii) The teacher's oversights or negligence, especially in the early stages of piano training may hinder the performer.
- iii) Unfavourable *anatomical and morphological* constitution may also prove a disadvantage. This concerns the size and span of the hand, length of fingers, work efficacy, as well as the muscular and tendon tissues' ability to regenerate. This is directly related to the functioning of the nervous system (which triggers muscle contractions), and the vascular system (which supplies the organism with oxygen and nutrients as well as eliminating harmful metabolites) (Tworko, 2020, p.230).

One of the most consummate masters of the piano is Ignace Jan Paderewski. He was a thoroughly trained master in technic and interpretation; one who knew his Bach, Beethoven, Chopin, Schumann, and Liszt. In an interview, he was particular on *fingering*;

One point Paderewski is very particular about is *fingering*. He often carefully *marks the fingering* for a whole piano piece; once this is decided upon it must be kept too. He believes in employing a *fingering* which is most comfortable to the hand, as well as one which in the long run, will render the passage most effective. He is most sensitive to the choice of *fingering* the player makes, and believes that each finger can produce a different quality of tone (Brower, 1915, p.8).

During *piano practice*, the most taboo is to start over and over again. Practice with goals, key points and difficulties in a planned way can get twice the result with half the effort. First, one can play the whole music once or twice to get a general idea of the music, and then practice it paragraph by paragraph, and find out the difficult points, and exercise with musical sentences or even bars as a unit, and then carry out the overall practice. Different methods of key touching can also be applied to practice. In this way, *score memorizing* is a breeze, especially by sections (Jiang, 2019, p.286).

A primary goal of piano performance is for the pianist to convey musical images (i.e., musical notation, and other expressions) to produce the appropriate tempo, dynamic, tone, and timbre. It embraces a very complex skill, taking years of training for the achievement of proficiency (James, 2012, p.92). *Practice* is a major activity in score development, because it becomes more prolific and concentrated at the tertiary level. It is important that individual students/learners are given instructions on how to organise their own practice-time. This means planning the duration of active and rest periods, and the order in which the skills are practiced, so that there is a warm-up period.

Research has shown that it is not necessary always to practice in an active way. Other methods can lead to the same increases in neuronal development. *Mental rehearsal* is a cognitive process that complements physical rehearsal, and leads to the development of performance expertise (James, 2012, pp.98-99).

It is true that we may to some extent influence our fingers' stretch ability by means of training. But this is only possible at a younger age, when the hand's internal structures are still developing and can be moulded. This element is one of beginning piano education in childhood (Tworko, 2020, p.248). *Playing technique* must be physiologically efficient, so that piano playing looks unforced, and the pianist's concentration can be dedicated to the *aural effect* and *intelligent phrasing* (James, 2012, p.97).

Musical *phrasing* is indicated through the use of specific signs, such as *slurs*, *fermatas* (pauses), and *commas* (,). They all conceived as a means of breaking, marking the start and finish of phrases, being distinguished through dynamical shading (Giesecking & Leimer, 1972, p.120).

Franz Liszt (1811-1886) learned music from his father at the Hungarian Estate of Prince Esterhazy, whom Joseph Haydn had once served. At the age of eleven years (11 years), Franz Liszt gave his first piano concert in Vienna. Apart from his father, Carl Czerny (1791-1857) taught him piano playing, and he (Liszt) worked with his teacher for fourteen months (14 months). According to Walker (1987), Carl Czerny forced Franz Liszt to abandon all normal repertory and focus only on technical exercises.

Franz Liszt was irritated by dropping all standard repertory for some time, but he thanked Carl Czerny throughout his career for the technical exercises he instilled in him as a foundation (Walker, 1987, p.72). Franz Liszt once stated that ‘I practice four to five hours of exercises (thirds, sixths, octaves, tremolos, repetition of notes, cadenzas, etc.) Ah! Provided I don’t go mad you will find in me an artist! Yes, an artist such as is required today’ (Walker, 1987, p.174). Liszt dedicated a number of his works, most notably the *transcendental etudes* to (Czerny) his teacher (Kerman et al., 2000, p.257).

Gerig (1985) presented a paper titled ‘*observations of Franz Liszt’s piano technique*’ for a conference in Baltimore. The paper highlighted some of the comments made by Franz Liszt pupils. It described how Liszt practiced, or how he asked his pupils to practice. Ludwig Deppe explains that:

As Liszt is a great experimentalist, he probably does all these things by instinct, and without reasoning it out, but that is why nobody else’s playing sounds like his. Some of his scholars had the most dazzling techniques, and I used to rack my brains to find out how it was, that no matter how perfectly anybody else played, the minute Liszt sat down and played the same thing, the previous playing seemed rough in comparison (Gerig, 1985, p.9).

Cooke described Josef Lhevinne as one of the Russian pianists of the early 20th Century who eventually went to America to give concerts and teach piano. He gave an idea of how Russian Conservatories use technical exercises as prerequisite for teaching piano. In an interview, Lhevinne explains that:

The Russian pianists have earned fame for their technical grasp... All techniques revert to these simple materials and the student is made to understand this from his very entrance to the Conservatory. For instance, in the Conservatory examinations, the student is examined first upon technique... If he fails to pass the technical examination, he is not even

asked to perform his pieces. Lack of proficiency in technique is taken as an indication of lack of the right preparation and study, just as the lack of the ability to speak simple phrases correctly would be taken as a lack of preparation in the case of the actor (Cooke 1999, p.176).

Josef Lhevinne's statement means that in the Russian Conservatories, particular attention is given to mechanical techniques, which consist of exercises such as, thirds, sixths, octaves, scales, and arpeggios. Since most standard repertory are full of mechanical techniques, it is important for piano students to acquire a firm foundation on the techniques, so that it enable them to play standard piano pieces with ease.

Sergei Rachmaninoff (a concert pianist) also discussed and endorsed the structure of the mechanical technique demanded by Russians in their Conservatories. Rachmaninoff was of the view that technical proficiency should be one of the first acquisitions of the student who would become a fine pianist. He explained that it is impossible to conceive of fine playing that is not marked by clean, fluent, distinct and elastic technique. The technical ability of the pianist or performer should apply to all the artistic demands of the compositions to be played or interpreted (Cooke, 1999, p.210).

On the contrary, the mere ability to play a few piano pieces does not constitute musical proficiency. Rachmaninoff's endorsement simply means that it is necessary for a student to develop and become a fine pianist or concert pianist if that student has a firm technical background or proficiency. Because the technical proficiency is the basis upon which one can use to play standard piano repertoire or other compositions flawless.

Mach (1980) described how Misha Dichter (a concert pianist) practice. Misha Dichter's practice is related to the technique that was endorsed by Rachmaninoff. Mach explained that initially when Misha Dichter started to play the piano, he did not play formal repertoire by Carl Czerny (1791-1857) or Clementi. Instead, he spent one solid year practicing various standard exercises such as scales, arpeggios, trills, and so forth, just to develop his technique. (p.63).

However, Sandor (a concert pianist) eschews the practice etudes and exercises of some piano experts. Sandor argues that there are many piano repertoires to be studied, and it is a waste of time for someone to use much time to practice piano technique (Sandor, 1981). He said that:

Since I do not believe in mechanical practicing, I recommend eliminating most studies that feature technique, and not music. Exercises and technical studies that employ certain technical patterns repetitiously tend to lead us to mechanical practicing. It is much more productive to assimilate a technical formula in its purest form, and when it is learned correctly, to employ it at once in a musical composition by adapting it to the specific demands of the piece. The piano repertoire is so immense...there are so much to learn that it is foolish to spend time with inferior music when the same technical development can be achieved by working on great music (Sandor, 1981, p.189).

Sandor's statement simply means that pianists and other keyboard performers must not be committed to mechanical techniques (technical exercises) as a way of playing actual music. But rather, they must observe mechanical techniques as the method or patterns that must be practice and applied to play piano pieces or repertory where applicable, and as a result, enables the player to play fluently with ease.

Ferruccio Busoni was a pianist and composer. He spent many years teaching piano in Finland, Russia, and America. His opinion concerning piano practice concurs with Sandor (1981). He suggested that the person who practice the piano must focus on playing repertoire than mechanical technique (technical exercises) (Cooke, 1999, p.102). Mr. Ernest Schelling (a concert pianist) practice regularly at the piano. He mentioned *scales, trills, octave, and metronome* as his practice techniques. He said as for technical routine;

Of course I play *scales* a good deal and in various ways. When I go into training, I find the best means to attain velocity. Thus, to work with the *metronome*. One can't jump at once into the necessary agility, and the *metronome* is a great help in bringing one up to the right pitch. Then I practice *trills of all kinds*, and *octaves*. Yes, I agree that *octaves* are a most necessary and important factor in the player's technical equipment (Brower, 1915, p.14).

Ignace Jan Paderewski gives much time daily to pure technic practice. He has been known to play *scales* and *arpeggios* in a single key for three quarters of an hour at a stretch. These were played with every variety of touch, velocity, dynamic shading and so on. (Brower, 1915, p.282).

Thuel Burnham (a pianist) says, for my practice hours, at least one is given to technic; *scales, arpeggios, octaves, chords, and Bach*. He (Thuel Burnham) continued that I believe in taking one selection of Bach, and perfecting it by transposing it in all keys, and polishing it to the highest point possible. So with *études*, it is better to perfect a few than to play at so many (Brower, 1915, p.281).

It is seen from the instances quoted that many great pianists believe in daily technic practice. In other words, the study of pure technic, apart from playing piano pieces. Many more testify that *scales, chords, arpeggios* and *octaves* constitute their daily practice. Ferruccio Busoni suggested that the indiscriminate playing of technical exercises may impede the progress of students rather than advancing them. He continued that a pianist own difficulty is the difficulty that he/she should look for and practice most. Why should the pianist waste much time to practice passages which he/she can play perfectly well?' (Cooke, 1999, p.102).

An English pianist who also had a similar understanding of the role of piano technique was Clifford Curzon. He wrote an article '*Bring Music into Your Practice*', which was in contrast to the typical Russian approach of piano technique (Curzon, 1951). Describing how he first approach a new piece (piano music), Curzon suggested that every pianist or keyboardist has his/her own way of approaching a piano piece that he/she has never played before.

Clifford Curzon begins to practice by; (i) studying the music away from the piano, followed by; (ii) studying the form, phrases, accents, transpositions, developments, and so forth; (iii) after surveying the piece, he sits at the piano and plays the piece through without thinking about the technique, but only for pleasure. *Clifford Curzon never plays a phrase in public without rehearsing it at different speeds, with other dynamics & stressing different voices* (Curzon, 1951, p.14).

Rudolf Firkusny (a concert pianist) frequently adhered to ‘*slow tempo*’ when he sits at the piano to play a new music (piece). When Rudolf Firkusny plays at a *slow tempo*;

(i) It enables him to overcome bad playing habits; and (ii) It enables him to concentrate better. Rudolf Firkusny stated that:

I do advice practicing in a slower tempo. I think it’s a good idea, because in the first place, you can overcome some bad habits which can creep into your playing. Secondly, when playing slowly, you can concentrate more on the function of the fingers and on the quality of tones than you do at a faster pace (Uszler et al., 2000, p.356).

Van Cliburn is a singer as well as a pianist. His first approach to piano music is by *Sight-Singing*. Cliburn recognizes the voice as a natural musical instrument imbedded in him that can be carried along to any place at a point in time. Consequently, the human voice becomes a useful natural instrument when he wants to practice a musical piece/s away from the piano. Van Cliburn stated that:

My first approach to the instrument was not digital, but it was vocal. I learned by sight-singing. My mother made me sing everything first before I played it on the piano. This is a method we applied even to J.S. Bach’s Two-Part Invention (Uszler et al., 2000, p.356).

The above information proofs that Van Cliburn’s initial approach to new piano music (piece/s) was by *Sight-Singing*. But on the contrary, Radu Lupu’s approach to the instrument (piano) was by *Singing to the Inner Ear*. Radu Lupu stated that:

There is a sense of intensity in producing the sounds as the phrase goes to the highest note or high point. I have to sing it in my inner ear and produce what I hear. Singing is the most natural way to achieve what I want. Only by going over a phrase many times in this way do I feel comfortable with it. My fingers have to know every weight within a sequence of notes (Uszler et al., 2000, p.356).

Radu Lupu's statement implies that he does not play piano pieces (piano music) *isolated from himself*. But instead, he makes the *music glue to himself* by playing the piano and simultaneously singing the music along to his *inner ear*. As a result, the music becomes part of himself.

Jorge Bolet mentioned two practice techniques. The first practice technique he normally adhered to, especially for playing new piano pieces is (i) *Slow Practice*. (Mach, 1988). Jorge Bolet stated that:

The first job is to learn the notes and whatever else is written down about the music on the score; the minimum here is getting the fingers to play the correct notes and play them in tempo. So, you can't start out at top speed; you must first do everything slowly. In fact, I play very slowly at first; I practice very slowly, because I think it is the only way of impressing myself. During practice I have to make sure that every finger movement is well fixed; that's impressing myself... I must have that mechanical accuracy, and for mechanical accuracy the only way to practice is slowly, so as not to miss any of the nuances in the score; after all, the piece is written in many ways (Mach, 1988, p.28).

The second practice technique that he (Jorge Bolet) adhered at the piano is (ii) *Mental Practice* (Mach, 1988). Jorge Bolet stated that:

When it comes to memorizing, I look at the score, study it, go through it in my mind, and piece it all together... I like to practice for a time at the keyboard, then go away from it for a spell because now I have that music spinning around in my head, and I want to play it mentally. Then, when I get to a point where I'm stuck and I'm not sure what comes next or how the phrase would be rendered, I go back through my memory and begin the section again. Most of the time when I arrive at the spot at which I was stuck before, I sail through it without a hitch... I have never solved a major mechanical or interpretive problem at the keyboard. But I have always solved it in my mind (Mach, 1988, p.29).

A concert pianist, Youri Egorov talked about the two practice techniques he recommends. They are (i) *slow practice*; and (ii) *pianissimo practice* (Mach, 1988). Egorov stated that he likes practicing slowly, even much more slowly than he would play at the concert. He keeps the same movement that he uses in the regular tempo. (Mach, 1988, p.48). Youri Egorov explained his second practice technique (*Pianissimo*). That:

I like to practice *pianissimo*. This forces more concentration, and you pay more attention to what you are doing. I think, because you have to listen more carefully. Consequently, I keep everything *pianissimo*...When you are playing a lot of the same notes, the *pianissimo* is helpful, because the sameness of the tone comes through (Uszler et al., 2000, p.357).

To Egorov, (i) *slow practice* enables him to play every note ‘*carefully and precisely*’; and (ii) *pianissimo practice* enables him to improve upon his *concentration*.

In a long conversation with Ernesto Consolo (an eminent pianist and instructor), he advised that at the very bottom and heart of this subject of mastery lies *concentration*.

Ernesto Consolo said;

Without *concentration*, little of value can be accomplished. Students think if they sit at the piano and ‘practice’ a certain number of hours daily, it is sufficient. A small portion of that time, if used with *intense concentration*, will accomplish more. One player will take hours to learn a page or a passage, which another will master in a fraction of the time (Brower, 1915, p.18).

Most of the artists (pianists) agree that *memorizing* must be done phrase by phrase, after the composition has been thoroughly analyzed as to *keys, chords, and construction*. This is Katharine Goodson’s way, and also Eleanor Spencer’s, and Ethel Leginska’s, three of Leschetizky’s pupils (students) now before the public.

‘I really know the composition so thoroughly that I can play it in another key, just as well as the one in which it is written. Though, I do not always *memorize* it each hand alone’, says Miss Goodson (a pianist). I first play the composition over a few times to become somewhat familiar with its form and shape. Eleanor Spencer (a pianist) says, I begin to analyse and study it, committing it by phrases, or ideas; one or two bars/measures at a time. I do not always take the hands alone, unless the passage is very intricate. For sometimes, it is easier to learn both hands together. Germaine Schnitzer avers that, she keeps at a difficult passage until she really knows it perfectly. No matter how long it takes. ‘What is the use of going on’ she says, ‘until you are absolutely sure of the work in hand’ (Brower, 1915, p.290).

Uszler, Gordon & Smith talked about the practice technique that Evgeny Kissin (concert pianist) adhered to, especially when he sits at the piano to practice pieces. Kissin uses (i) the *right-hand* to practice notes in the treble staff for some time; then he uses (ii) the *left-hand* also to practice notes in the bass staff. Evgeny Kissin states that:

When I am learning a new piece of music, I find it helpful in developing a better understanding of what each hand is supposed to be doing as well as developing a sense of coordination between the two hands by practicing the following way: play the right-hand part at the keyboard, while playing the left-hand part away from the keyboard, like on the upper portion of the left leg (Uszler et al., 2000, p.357).

Ian Hobson (a concert pianist) does not stick to a particular piano technique (practice approach) per se. But in his opinion, a lot of Western Art Music compositions that were composed during the Baroque Period, Classical Period, Romantic Period, 20th Century, and so forth follow some particular trends and developments.

For that reason, Ian Hobson said supposing an adult student/learner is learning a new piano piece (music), but the learner observes some *difficult passages* in the piece, he suggests that the learner should put the new piano piece (music) aside and listen to other similar repertory by other composers before going to take the former to practice.

Ian Hobson suggests that:

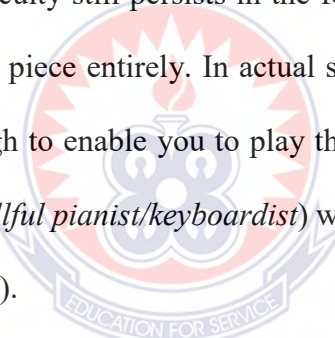
Pianists should study time periods and compositional styles that differ widely from the piano piece at hand, then return to the piece refreshed. For instance, the Poignancy of J.S. Bach in his Chromatic Fantasy is clearer after a study of the Romantic Period. After hearing some chromatic passages of Chopin, Liszt, or Wagner, then return to the Chromatic Fantasy of Bach, it will sound surprisingly rich (Uszler et al., 2000, p.357).

Ian Hobson's suggestion on how to attempt a difficult passage is related to that of Yefim Bronfman (a concert pianist). Yefim Bronfman suggested that 'It is easier to perfect *technical difficulties* when you think of them musically'. Dealing with difficult passages is personal. If you practice a *difficult passage* and it still does not come out, or if you notice no development, Yefim Bronfman suggests that it is best to leave (stop practice) that difficult passage alone for a while. Do not worry about it. Practice what you can do and not what you cannot do. You should force yourself to grow to a certain extent, but you should not drive yourself crazy doing it (Uszler et al., 2000, p.358).

Yefim Bronfman's statement means that adult students or learners should not be upset, or dismayed when a new piano piece becomes so difficult to play. It is better to put the new piano piece (piano music) that disturbs or irritates you away for some few weeks. You must make an effort to get other piano pieces or organ music that was composed during the same period (Era) either on CDs, internet, or other means. Play over the pieces for several times until you are soaked (saturated) with details in the pieces (music).

Do well to play and listen to several music that was composed during the same period (Era). I suggest that you should make conscious efforts to observe details such as; (i) modulations to related and remote keys; (ii) major scales, minor scales, and arpeggios; (iii) form/s of the music; (iv) counterpoints (fugue); (v) chord progressions; (vi) difficult sessions and easy sessions; (vii) themes or melodies of the music; and (viii) tempo/s, dynamics, trills, mordents, and other relevant expressions.

When you are very sure that you have been able to analyse similar pieces (music) that was composed during that Era, the next step is to take the former challenging piano piece and practice it again, and again; It will seem so much easier that before. However, if you observe that the difficulty still persists in the former piano piece, then you must abandon that difficult piano piece entirely. In actual sense, it is very possible that your skill level is not high enough to enable you to play that particular piano piece (music). You need someone (i.e., *skillful pianist/keyboardist*) with higher skill level than yours to play that piano piece (music).

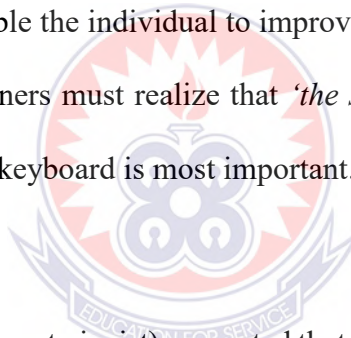
The logo of the University of Education, Winneba, is a circular emblem. It features a central shield with a book and a torch, surrounded by a wreath. The text 'UNIVERSITY OF EDUCATION, WINNEBA' is written around the top inner edge of the circle, and 'EDUCATION FOR SERVICE' is written around the bottom inner edge.

In contrast to the suggestions made by Ian Hobson and Yefim Bronfman on how to play difficult passages, André-Michel Schub (a concert pianist) did not comment on their opinions. Instead, André-Michel Schub is of the view that the amount of time (e.g. 1 hour, or more) that a pianist devote regularly at the piano or keyboard will enable him/her to become a successful fine pianist (Noyle, 1987).

In other words, André-Michel advocated that regular time devoted at the piano must be proportional to the acquisition of skills. André-Michel Schub stated that:

The more time you spend at the piano, the more control you have. Practicing has a lot to do with quality, but there has to be a certain number of hours of playing just to maintain a level. At present, there is no set amount of time. It varies with your state of mind, and it varies with the pieces you are playing. But if you fall below the maintenance level for too many days, even though you have a lot in reserve, it will ultimately show in your playing. For me, the way it shows most rapidly is through control of sound. The sound is not as controlled as it could be. My practicing is very pragmatic. When you are a concertizing pianist, you have to use your time efficiently (Noyle, 1987, p.108).

It is obvious that regular practice periods (i.e., practice hours, practice sessions) at the piano/keyboard would enable the individual to improve playing skills more rapidly. The beginner musicians or learners must realize that *'the state of the mind at the piano'* or *concentration* at the piano/keyboard is most important.



Stephen Hough (concert pianist) suggested that if he has real problems for playing a new piano piece (music), he uses two practice techniques (practice approaches). Thus; (i) the *weak fingers technique* (i.e., fifth finger, fourth finger, and third finger); and (ii) *cross-handed technique* (Mach, 1988). Stephen Hough argues that, at times when almost every passage he practiced had technical difficulties which involved the three weak fingers (i.e., fifth finger, fourth finger, and third finger), he will play over and over again to compensate for the discrepancy in the hand between the weak side and the strong side, and try various different ways of playing the same passages (Mach, 1988, p.134).

Uszler, Gordon & Smith explained how Stephen Hough (concert pianist) uses the *cross-handed technique*. Stephen Hough said:

If both hands are to play the same notes rapidly an octave apart, put them two octaves apart and practice them like that. Or practice them cross-handed, so that the left-hand plays the notes that the right-hand plays, and the right-hand plays the notes that the left-hand is supposed to play. Or change the key. If you can play a difficult passage in any key, you're pretty secure in the original one (Uszler et al., 2000, pp.357-358).

Sviatoslav Richter was a concert pianist during the 20th Century (Montsaingeon, 2001). Richter believes in *practice to perfection*. He has adopted the method of playing one page repeatedly until it is perfect. Sviatoslav Richter explains that he adopts a purely repetitive method whenever he has to learn a new piece; (i) firstly, he identifies all the fiddly bits and study them well; (ii) secondly, he practices them mechanically. He takes one page at a time and go over it as often as he wanted it. He does not move to the next page until the first page is practiced to perfection, and he has the required playing skill. No matter how a passage becomes difficult, if you devote much time to practice over and over again, it will become easier (Montsaingeon, 2001, p.45).

Fanny Bloomfield-Zeisler was a student of Leschetizky. She gave a practical suggestion concerning the importance of *Concentration* when someone sits at the piano to practice. Bloomfield-Zeisler suggested that:

Concentrate during every second of your practice. To concentrate means to bring all your thinking power to bear upon one central point with the greatest possible intensity. Without such concentration, nothing can be accomplished during the practice period. One hour of concentrated thinking is worth weeks of thoughtless practice...A famous thinker has said: 'The evidence of superior genius is the power of intellectual concentration' ...When studying, remember that practice is simply a means of cultivating habits. If you play correctly from the start, you will form good habits. If you play carelessly and faultily, your playing will grow continually worse (Cooke, 1999, pp.92-93).

Janina Fialkowska (concert pianist) talks on memorization. According to her, she has three different ways to memorize a piece (music). Thus, (i) *visual memory*; (ii) *harmonic memory*; and (iii) *digital memory*. Janina Fialkowska's argues that she knows the chords and notes involved in a particular piano piece, and the fingering that she would use to play the notes (Uszler et al., 2000, p.359).

Misha Dichter (concert pianist) stated that when he gets a new piano piece, he plays through the entire piece few times to get an idea of the overall shape of it. Then if it is a technically problematic piece, he singles out the places that have the most awkward play (Uszler et al. 2000). Misha Dichter said:

On a larger scale, I break down the form of the piece into its smaller structural sections. I memorize intervallic relationships and harmonic blocks that are common throughout the entire movement of the complete piece...Thus, I memorize harmonic structures which are related to intervallic structure so that when I come to fixed point of harmony, I am not memorizing senseless details, but rather blocks of harmonic sound along with all the secondary units surrounding that vital point. So even if I lose some details in that first couple of days of work, my mind remains fixed on those big blocks and I have a picture not only of the harmony, but the hand relative to these main blocks...Consequently, they become second nature to me as I look at the overall structure of the piano piece (Uszler et al., 2000, p.360).

Misha Dichter used this technique (practice approach) to work on awkward pieces (difficult pieces) intensely, so that they become as easy as any other piece.

In Mach (1980), Alicia De Larrocha (concert pianist) offered her opinion on (i) *fingering*; and (ii) *slow playing* as the two techniques (approaches) for practicing piano pieces. In an interview, she stated that she does not like to sit at the piano and play a score from the beginning to the end.

Initially, she studies the music carefully to ascertain an idea of what it is all about. Then she searches for passages or sections which offer the most difficulty, especially in regard to fingering. To Alicia De Larrocha, fingering is very important. She may decide to use a certain finger to produce a particular tone. But if it does not work, then she changes the fingering accordingly. De Larrocha explained that it is better to have practical fingering worked out ahead of time, because fingering is the basis for security (Mach, 1980, p.58; Uszler et al., 2000, p.356). In addition, De Larrocha said she sometimes has to play a piano piece *very slowly* to solidify the *memorization* of the parts. Playing slowly helps to check note accuracy and phrasing. Because when you play in slow motion just as you view a movie running slowly, you will be able to see every detail, and at the same time, reinforce the memory. The memorization of the phrases, cadences, and form are very important (Uszler et al., 2000, p.356).

Vladimir Horowitz (1904-1989) did not specifically address the way he practices at the piano, but he suggested a few philosophical ideas which guided his approach to practice and performance. Horowitz does not adhere to any specific piano method/s. But as an alternative, he suggested that individual pianists must develop their own playing style and stop imitating the way other people use to do (Mach, 1980). He said that:

There is that technique, the ability to play scales rapidly up and down the keyboard, which is necessary, but which becomes very boring after two or three minutes of listening. That instrument is capable of sounds which are loud and soft, but in between there are many, many degrees of sounds which may be played. To be able to produce many variety of sounds, that is what I call technique, and that is what I try to do...I think each pianist must ultimately carve his own way, technically and stylistically (Uszler et al., 2000, p.358).

2.11 Piano and its Effects

Kerman & Tomlinson (2000) said that during the 19th Century, *piano* became the solo instrument (p.37). During the last two Centuries, Kamien (2015) expounded that more great music has been written for the '*Piano*' than for any other solo instrument. Ferris (2008) also sees the piano as a wonderful versatile musical instrument. Because it is capable of producing connected singing tones or bright percussive sounds through the sensitive touch of the player. Kamien explained how a pianist could play many notes simultaneously including a melody and its accompaniment. He continued by saying that the pianist commands a wide range of pitches at the piano by using its 88 keys. This demonstration is possible because, the piano is exceptionally versatile instrument (Kamien, 1996, p.25).

Gordon (1996) suggested that in 1780, Broadwood initiated the use of *una corda* and *pedals* for sustaining. Ferris (2008) and Kamien (2015) expounded that there are usually three-foot pedals on the piano. Thus;

- i) Damper pedal: The damper pedal is located on the right, and it allows the pianist to sustain tones even after the keys are released.
- ii) Sostenuto pedal: The sostenuto pedal is fixed to grand pianos and sometimes to modern upright pianos. It is located in the middle, and it allows the pianist to sustain some tones without sustaining others.
- iii) Una corda pedal (*soft pedal*): The una corda pedal is located on the left, and it softens the dynamic level of sounds.

The explanations given by Gordon (1996); Ferris (2008); and Kamien (2015) concerning piano foot pedals accord with Taylor (1981). But in detailed description, Taylor identified a multi-purpose usage of the '*damper pedal*' and the '*una corda*'. He stated that the use of the *damper pedal* (sustaining pedal) has two primary functions; (i) the *practical*; and (ii) the *artistic*.

- i)* The first function enables the player to sustain notes when the fingers have been lifted from the keys: *Legato* can therefore take effect which would not otherwise be possible with the fingers alone.
- ii)* The second function comes about when the dampers are lifted from the strings; all the strings of the instrument are free to vibrate. Consequently, those that are in the same harmonic series as any chord that is struck will influence total quality very considerably with their sympathetic vibration.

There are three (3) kinds of piano pedals in general use: the *damper pedal* (i.e., loud pedal), the *una corda pedal* (i.e., soft pedal), and the *sostenuto pedal*. The *damper pedal*, when depressed, keeps the dampers lifted from the strings, all of which are consequently free to vibrate until their energy is spent, or a release of the pedal brings the dampers down upon the strings again. The *una corda pedal* shifts the entire action of the piano sidewise so that the surface of the hammer, instead of striking three or two strings, strikes two (2) or one (1). The *sostenuto pedal* keeps any damper or dampers raised which happen to be raised when the pedal is depressed. The pedals of the piano have two primary functions: (i) to *sustain tone* and (ii) to *colour tone* (Ortmann, 1925, p.10).

When the *una corda pedal* is depressed, the action of a grand piano is shifted laterally so that a different, naturally softer part of the felt hammer surface comes into contact with the string. The result is a tone of veiled quality similar to the *con sordino tone* of the violin group of instruments. This softness of tone is in part the result of the damping of the higher partials by the softer felt (Ortmann, 1925, p.122).

When a single piano key is depressed and a tone is produced, the sound heard is generally considered a simple unity, 'oneness'. The sound is physically very complex, and with a little training, which incidentally, is most desirable for the pianist, the ear can distinguish a number of the elements of this sound complex. It will be convenient to list these elements as *tonal elements*:

- i) Vibration of the string struck: Fundamental tone, partial tones, beats between 1 and 2; beats among partials.
- ii) Vibration of other Strings: Sympathetic resonance, forced resonance.
- iii) Vibrations of the sounding board: Natural frequencies, forced frequencies,
- iv) Sound propagation: Diffusion, reflection, interference, resonance.
- v) Noise elements: Hammer-string percussion B. Finger-key percussion, action noises (key-bed percussion, and friction noises).
- vi) Noise propagation: Diffusion, reflection, and interference

(Ortmann, 1925, pp.89-90).

The quality of a piano tone is further influenced by pitch. Thus the *treble region* of the piano differs in quality from the *middle region*, and both of these from the *bass region*. The explanation is simple. A short string cannot vibrate in as many parts as a long string. This means that the strings in the *treble region* do not produce as many upper partials as

do lower strings. Greater tension means less amplitude, and a quicker return of the string to its position of rest. Hence the duration of the tones in the treble region is much less than the duration of those in the bass region (Ortmann, 1925, p.105).

Sounds produced with pedaling: It is logical that a piece which is rendered with pedal will possess a different character of sound than the same piano music which is performed without pedal. Thus, the versatile artist will have to make the most of this difference. First of all, this difference exists in the increase of sound which occasions the predominance of individual tones, as well as a complete tone groups. The predominance of single tones, whether they are distinguished by a *forzato* (*sfz*) or by *fortepiano* (*fp*) is attained through the effects of the pedal treads. Simultaneous tone group and consecutive arpeggios (broken chords) can unfold great splendor by means of effective pedaling.

In fact, they can rise to rippling the roaring tone masses. Here, the pedal is a necessary aid. It makes extreme dynamic intensification possible. For instance, from *piano* (*p*) to *forte* (*f*), to *fortissimo* (*ff*) (Giesecking & Leimer, 1972, p.138). Pedal for chord progressions: In the playing of tones which belong to the same chord, prolonged pedaling will not produce dissonances. In other words, they will not be objectionable to the ear, regardless of whether we play simultaneous, or broken chords. If the composer proposes a massive sound effects by means of accumulating chords tones, the prolonged pedal is necessary. Here, the ear must decide whether or not an occasional dampening or checking may be of value in preventing too great an accumulation of the masses (Giesecking & Leimer, 1972, p.127).

Consequently, a pianist with an acute ear for total qualities would be making constant use of the right pedal to enrich the sounds which he is producing with his foot. Joseph Haydn (1732-1809) and Ludwig Van Beethoven (1770-1827) were the first two composers to realize the potentials of the right pedal to produce special effect. The older Rubinstein (Anton) describe the *pedal* as the ‘*soul of the piano*’ and its possibilities in adding warmth of tone where appropriate. There are several ways by which a pianist can use the right pedal for special effects. Thus;

- i)* Legato pedaling: The foot will go down well after a note or chord has been played. As the foot goes down between the playing of notes, it is sometimes called *syncopated pedaling*.
- ii)* Direct pedaling: The foot goes down as the note is played. *Direct pedaling* can only be used for chords which are separated by rest or staccato.
- iii)* Half pedaling: This is the same as in *legato pedaling*, but the operation of the foot pedal is much faster. Thus, the foot is lifted fully from the pedal, then it is re-depressed fully and promptly. The main purpose of the *half pedaling* is to sustain bass notes, taking advantage of the fact that the long bass strings of the piano take longer time to damp than the shorter strings of higher pitched notes.
- iv)* Half damping: The *dampers* touch the strings lightly without resting on them with weight. Therefore, the half damping produces a unique and curious tone quality.

Taylor (1981) is of the view that a pianist with a good control of touch should be able to produce a softness of sound (*pianissimo*) without the use of the *una corda*. Sometimes, other concert pianists prefer to use the *una corda* if they are confronted with bright tone pianos in a resonant auditorium.

Nevertheless, the *una corda* should be used sparingly, and primarily in order to give different tone colour to passages of different texture or in different key (Taylor, 1981, pp.24-27).

Gordon suggested that some pianists preserve the basic concept behind the piano production of sound, by simply enhancing or altering the resulting sonority through electronics (Gordon, 1996, p.14). Kamien also stated that electronic instruments produce or amplify sounds through electronic means. They were invented as early as 1904, and they have had a significant impact on music since 1950 (Kamien, 2015, p.27).

Ferris pointed out that synthesizers were introduced in Germany about 1950, but it was nearly a decade before the Americans had even limited access to keyboard synthesizers in their own country. Kamien gave an instance where the *tape studio* was the main tool for composers of electronic music during the 1950s. He expounded that the raw material in *tape studios* consisted of recorded sounds that might be electronic or from ‘*real life*’ such as sounds from flutes, birdcalls, percussion, church bells, people singing, and so forth. The composer manipulated these in various ways by speeding them up, or slowing down for some special effects.

Ferris continued that since that time, the technology has vastly improved, and keyboard synthesizers are now widely available for music compositions and performances of both ‘*popular*’ and ‘*art music*’ (Ferris, 2008, p.42).

Kerman & Tomlinson (2000) expounded that for many people, keyboard or organ means an electronic instrument. The synthesizers of today can stimulate the sound of organs, harpsichords, or pianos. Electronic pianos are made to sound like acoustic pianos, though the *'feel'* is different (p.38). Ferris (2008) stated that with the use of electronics, pitch, timber (the quality of sound or colour), and almost every other aspect of sounds may be electronically controlled on the synthesizer (p.42).

Kamien (2015) is of the view that synthesizers are systems of electronic components that generate, modify, and control sounds. In other words, they can generate a huge variety of musical sounds and notes which enables a composer to have complete control over pitches, tone colour, loudness, and duration. Most synthesizers can be played by means of a keyboard in addition to the mechanism of the tape studios (p.28).

Synthesizers vary in size and capacity. For many years, it was invented to aid musicians in their compositions. Kamien (2015) identified some types in past years;

- i)* During the 1960s and 1970s, transistorized synthesizers such as the Moog and Buchla were developed. These were installed in electronic music studios at Universities and Advertising agencies, played in live rock concerts and concerts of electronic music and used to create films and television scores.
- ii)* Digital frequency modulation (FM) synthesis came into use. It was invented by John Chowning and patented by Yamaha, and it had been associated with Yamaha Instruments (Kamien, 2015, p.28).

Ferris pointed out that currently, music composers use *computers* to help them in notating music, and the *computers* may be involved in nearly every aspect of music composition. He added that composers may record each step of their work for replay. This allows them to hear their own work immediately, and if necessary, make any changes and preserve satisfactory results. Recording their own compositions also enable composers to bypass the interpretation of their work by someone else, hence, eliminating the need for rehearsals and ensuring an accurate presentation (Ferris, 2008, p.42).

Ferris expounded that the resources for the *composition* and *performance* of electronic music have been broadened considerably through the use of the MIDI (*Musical Instrument Digital Interface*). This is a remarkable system that enables composers to manage quantities of complex information and allows synthesizers, computers and sound modules, drum machines, and other electronic devices from many manufactures to communicate with each other (p.42). Ferris continued that initially, *piano concert composers* were interested in MIDI-based systems. Nevertheless currently, they also used to write and perform film scores, teach music theory, create rhythm tracks for rap music, and provide music for computer games (Ferris, 2008, p.43).

Kamien (2015) shared the same thought with Ferris (2008), but he added that the MIDI is a standard adoption by manufactures for interfacing synthesizer equipment. Nowadays, there are many keyboards that look like a piano, or feel and play like a piano. Wind controllers play like wood wind instruments, and string controllers play like a violin, cello, or guitar (p.29). The MIDI afford today's composers even further resources for producing immeasurable array of variety of timbers (Ferris, 2008, p.44).

Besides the usefulness of the MIDI described by Kamien (2015) and Ferris (2008), Woodward (2015) added that the MIDI enables various musical instruments, sequencers, and computers to communicate with one another. For instance, the MIDI makes it possible to play one keyboard and reproduce the sounds from another when the two keyboards are connected together. Therefore, if you record something in MIDI on *keyboard 1*, and then plays it back on *keyboard 2*, it would use the sounds from *keyboard 2*. But if you record the information in audio on keyboard 1 and saves it as an *Mp3* or *War File*, it would sound the same when you play it back on keyboard 2. One advantage is that MDI information can be altered or manipulated before re-recording in audio (Woodward, 2015, p.27).

2.12 Buy Yourself a Piano/Keyboard

There are many types of pianos/keyboards, and they all have black keys and white keys. To beginner or novice, all the keyboards look the same. If you want to buy a keyboard for your personal use, you should be able to choose a suitable type for yourself.

Woodward (2015) suggested that basically, pianos/keyboards are grouped into seven categories, namely; (i) keyboard synthesizers; (ii) workstation keyboards; (iii) electronic pianos; (iv) arranger keyboards; (v) organs; (vi) controller keyboards with modules; and (viii) acoustic pianos. All these categories of keyboards can be purchased either new or second-hand (p.15).

- i) Keyboard synthesizers & workstation keyboards: Workstations are hi-tech keyboards. They are used by professionals, or home recording enthusiasts, or used for recordings.
- ii) Electronic pianos or digital pianos: A lot of electronic pianos have graduated hammer action keys which simulate the feel and action of a real acoustic piano. Many electronic digital pianos have a full 88 keys (7¼ octave), and they also produce numerous sounds. The low-tech home pianos tend to have their own amplification and built-in speakers, whereas the hi-tech pianos can be used with headsets. Some electronic digital pianos such as Korg, Roland, Yamaha, and Kurzweil have built-in auto-accompaniment and internal amplification. The electronic digital pianos are one of the best keyboards for pianists, keyboardists, and people who want to play classical pieces (music), or jazz music seriously. But absolute beginners/learners or amateurs should buy electronic pianos which have auto-accompaniment (Woodward, 2015, p.17).
- iii) Acoustic pianos: Acoustic pianos are very good, especially for professional use and performances. They do not need electricity, batteries, or any source of power to operate them. However, their major disadvantages are; (i) they need periodic tuning; (ii) they occupy more space in a room; (iii) they are not suitable for gigging; and (iv) they do not support the use of headsets (2015, p.18).
- iv) Organs: There are numerous modern organs available to suit all styles. There are two main distinctive features of the organ. Many of them have two manuals or three manuals with pedal boards. The pedal boards can even be added/connected to other digital keyboards if required. Likewise, the organ tones and some of its features can also be found on modern arranger keyboards, and digital pianos. A lot of keyboardists (pianists) prefer the modern arranger keyboards, and digital

pianos. Because, they are portable, light in weight, and they contain many features than the actual organ. As a result, this has made the organ less popular than they used to be in previous decades (Woodward, 2015, p.20).

- v) Arranger keyboards: Majority of arranger keyboards are made of 61 keys (5 octave), or 76 keys (6 octave). Some features are auto-accompaniment, built-in speakers and amplification, built-in sequencers, built-in samplers, and other specifications (Woodward, 2015, p.21).
- vi) Controller keyboards with modules: Controller keyboards are generally light in weight, and they are available with 61 keys (5 octave), 76 keys (6 octave), and 88 keys (7¼ octave), and with *un-weighted*, *semi-weighted*, and *fully weighted key options*. Their main use is in conjunction with computer-based recording system, DAW (*digital audio workstation*) such as Cakewalk, Albeton, Cubase, etc. use VST sounds downloaded to the computer. The sound modules can be used to enhance any keyboard via MIDI. These are mainly used if you need a particular sound that are not available on your keyboard. Some keyboards such as Roland have produced a good range of these (Woodward, 2015, p.23).

Woodward (2015) added that many keyboard manufacturers have included some features or specifications in their products. The features or specifications include;

- i) Auto-accompaniment: All arranger keyboards and some electronic pianos/organs have the facility to either use the instrument as a full keyboard/piano, or to split the keyboard at a chosen point. When the pianist (player) splits the keyboard; (i) the right-hand plays the melodic work at the upper half of the keyboard; and (ii) the left-hand plays the bass or auto-accompaniment at the lower part of the keyboard. When the keyboard is in auto-accompaniment mode, a particular

rhythm and style can be selected which will play the bass, drums, and other instrumentation as soon as a chord is played in the lower portion of the keyboard. When the chord is changed, the instrumentation will also follow automatically. In most cases, the intro, ending and fill-in can be activated by the touch of a button. This results in the player being in control of a complete multi-instrument band, or orchestra. The auto-accompaniment enables a beginner or learner (novice) to produce professional sounds easily (Woodward, 2015, p.22).

- ii) Sequencers: Many types of keyboards such as arranger keyboards, workstation keyboards, keyboard synthesizers, and some digital pianos have one or more built-in sequencers. This enables the organist or keyboardist to record music and playback chord sequences, styles, fill-in and variations, or even play complete songs easily (Woodward, 2015, p.24).
- iii) Samplers: Some arranger keyboards, workstation keyboards, and keyboard synthesizers have built-in sampling facility. This enables the player/user to record the sounds of anything, and then reproduce the sounds on the keyboard at different pitches. This can be useful if you need a particular sound/s that you cannot find the pitch (Woodward, 2015, p.24).
- iv) Harmonizers: If you want to sing along whilst you play the keyboard, some high-end arranger keyboards have built-in harmonizers which can create a harmony to your singing. Some types can even be helpful to correct your clap singing. This feature is on the Roland G70, Korg PA2X, and PA3X (Woodward, 2015, p.24).

2.13 Benjamin Bloom's Taxonomy

Benjamin Samuel Bloom (1913-1999) created a *taxonomy* to promote higher form of thinking in education, such as; analyzing and evaluating concepts, process procedures and principles, rather than remembering facts. The taxonomy is most often used by teachers (educators) when designing lesson objectives, learning goals, and instructional activities for students/learners.

Benjamin Samuel Bloom identified three domains of educational activities or learning: (i) *cognitive domain* (mental skills, or knowledge); (ii) *affective domain* (growth in feelings, or emotional areas); and (iii) *psychomotor domain* (manual, or physical skills) (Zhou & Brown, 2015, p.89).

Hoque (2016) suggested that learning is everywhere, and human beings are lifelong learners. We can learn mental skills to develop our attitudes, and acquire new physical skills as we perform activities of our daily living. Learning can be categorized into three domains (cognitive, affective, and psychomotor). Within each domain are multiple levels of learning that progress from more basic (surface-level learning), to more complex (deeper-level learning). Hoque stated that the cognitive taxonomy was first described by Benjamin Bloom in 1956, and the affective domain in 1964, and the psychomotor domain was not fully described until the 1970s (Hoque, 2016, p.45).

2.13.1 Cognitive Domain

The first learning behaviour is *cognitive domain*: Walters & Gardner expounded that human cognitive competence is better described in terms of a set of abilities, talents, or mental skills, which we call *intelligences*. All normal human beings possess each of these skills to some extent. But individuals differ in the degree of skills, and in the nature of their combination (Walters & Gardner, 1995, p.53).

Cognitive domain is the core of learning. It deals with how a student acquires processes and utilizes the knowledge. This domain focuses on intellectual skills, and it is familiar to educators. Bloom's taxonomy (knowledge, comprehension, application, analysis, synthesis, and evaluation) is frequently used to describe the complexity of cognitive skills; as students move forward from a beginner level, to more advance level in their knowledge. The cognitive domain is also well-suited for online learning environment and assessment (Kasilingam et al., 2014, p.28).

The cognitive domain contains learning skills predominantly related to mental or intellectual (thinking) progress. It involves the development of our mental skills and the acquisition of knowledge. Learning processes in the cognitive domain include a hierarchy of skills which involves; processing information, constructing understanding, applying knowledge, solving problems, and conducting research. There are six (6) levels of cognitive complexity, and the categories are listed from the simplest behaviour to the most complex. Thus; (i) knowledge; (ii) comprehension; (iii) application; (iv) analysis; (v) synthesis; and (vi) evaluation (Hoque, 2016, p.46).

The first level of cognitive complexity is **knowledge**: Knowledge is the ability to recall data and/or information (Hoque, 2016, p.47; Zhou & Brown, 2015, p.91). It is knowledge we use for dealing with specifics, or knowledge of the universal, and abstractions in a field (Ferris & Aziz, 2005, p.4). Example of knowledge activities: A child can recite the English alphabets, and defines terms (Hoque, 2016, p.47). Multiple-choice test, recount facts or statistics, recall a process, rules, definition; quote law or procedure (Zhou & Brown, 2015, p.91).

The second level of cognitive complexity is **comprehension**: Comprehension involves understanding, translation, interpolation, and interpretation of instructions and problems (Hoque, 2016, p.47; Zhou & Brown, 2015, p.91). Comprehension deals with translation, interpretation, and extrapolating (Ferris & Aziz, 2005, p.4). Example of comprehension activities: A student can work assigned problems, and give examples (Hoque, 2016, p.47). Interpret meaning from a given statement, or solution to a given problem, create examples or metaphors (Zhou & Brown, 2015, p.91).

The third level of cognitive complexity is **application**: It is the ability to utilize an abstraction, or to use knowledge in a new situation (Hoque, 2016, p.47). Ability to use a concept in a new situation, or unprompted use of an abstraction. Applies what was learned in the class into novel situations in the work place (Zhou & Brown, 2015, p.91). Example of application activities: A student can identify the methods to use, and use the methods to solve problems (Hoque, 2016, p.47). Put a theory into a practical effect, demonstrate, solve a problem, or manage an activity (Zhou & Brown, 2015, p.91).

The fourth level of cognitive complexity is **analysis**: Analysis is to differentiate facts and opinions (Hoque, 2016, p.47). Analysis is the ability to separate materials or concepts into component parts so that its organizational structure, and internal relationships can be understood. Or, to distinguish between facts and inferences (Zhou & Brown, 2015, p.92). Analysis of elements, analysis of relationships, and analysis of organizational principles (Ferris & Aziz, 2005, p.4). Example of analysis activities: A student/learner can explain why the solution process works (Hoque, 2016, p.47). Identify constituent parts and functions of a concept, or making assessment of relationships, values and effects (Zhou & Brown, 2015, p.92).

The fifth level of cognitive complexity is **synthesis**: Synthesis is the ability to integrate different elements, or concepts in order to form a sound pattern or structure, so that a new meaning can be established. Build a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure (Hoque, 2016, p.48; Zhou & Brown, 2015, p.92). Synthesis includes the production of a unique communication, production of a plan, or proposed set of operations, and derivation of a set of abstract relations (Ferris & Aziz, 2005, p.4). Example of synthesis activities: At synthesis level of learning, a student/learner can combine the parts of a process into a new and useful ways (Hoque, 2016, p.48). At synthesis level a learner can develop plans or procedures, design solutions, integrate methods, resources, ideas, or parts (Zhou & Brown, 2015, p.92).

The sixth level of cognitive complexity is *evaluation*: It is the judgments about the importance of concepts, judgments about the value of ideas or materials in relation to outputs, efficacy, and viability (Hoque, 2016, p.48; Zhou & Brown, 2015, p.92). Or, Judgements in terms of internal evidence, or external criteria (Ferris & Aziz, 2005, p.4). Example of evaluation activities: At evaluation level of learning, a student/learner can create variety of ways to solve problems. Then based on established criteria, the learner selects the best method suitable for solving the problem (Hoque, 2016, p.48).

2.13.2 Affective Domain

The second learning behaviour is *affective domain*: Hoque expounded that the affective domain has a hierarchical structure, and it is arranged from simpler feelings to more complex. The hierarchy is based on the principle of internalization. Internalization refers to the process whereby your affection towards something raises (increase) from a general awareness level to a point where the affection is internalized, and consistently guides, or controls our behaviour. With movement to more complexity, you will be more involved, more committed, and internally motivated (Hoque, 2016, p.50).

The affective domain focuses on attitude, motivation, willingness to participate, valuing what is being learned, and incorporating the discipline values into a new life (Kasilingam et al., 2014, p.29). It includes the manner in which we deal with things emotionally; i.e., feelings, appreciation, enthusiasms, motivation, values, and attitudes. There are five levels of affective domain; (i) receiving, (ii) responding, (iii) valuing, (iv) organization, and (v) characterization (Hoque, 2016, p.49).

The first level of affective complexity is *receiving phenomena*: Receiving phenomena is the awareness of feelings, willingness to hear emotions, and ability to utilize selected attention (Hoque, 2016, p.49; Zhou & Brown, 2015, p.97). Receiving is the awareness, willingness to receive or hear, controlled, or selected attention (Ferris & Aziz, 2008, p.4; Kasilingam et al., 2014, p.30). Example of receiving activities: Listening attentively to a friend or someone, listening to a lecture, or watching a movie (Hoque, 2016, p.49). Listening to a teacher or trainer, take interest in session or learning experience, take notes, make time for learning experience (Zhou & Brown, 2015, p.97).

The second level of affective complexity is *responding to phenomena*: Responding is the active participation of a student/learner to attend to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in response (Hoque, 2016, p.49; Zhou & Brown, 2015, p.97; Ferris & Aziz, 2005, p.4). Responding is the active participation, interaction, or response to new information, or experiences (Kasilingam et al., 2014, p.30). Example of responding activities: Responding activities include students' participation in group discussions, giving a presentation, complying with procedures, following a direction/s, or having a discussion with someone (Hoque, 2016, p.49). It is students' active participation in activities, give a presentation, question new ideas, or concepts (Zhou & Brown, 2015, p.97).

The third level of affective complexity is **valuing**: Valuing is the ability to see the worth of something and express it. Valuing is concerned with the worth you (individual) attach to a particular object, phenomenon, behaviour, or a piece of information. The level ranges from simple acceptance to a more complex state of commitment. Or, it is the ability to see the worth of something, and express it (Hoque, 2016, p.49; Zhou & Brown, 2015, p.97; Kasilingam et al., 2014, p.30). It is the acceptance of a value, preference for a value, or commitment (Ferris & Aziz, 2005, p.4). Example of valuing activities: Valuing activities include supporting an idea, or ideas to increase proficiency. Or, informing leaders or people in authorities of possible issues (Hoque, 2016, p.49). Valuing is to decide worth and relevance of ideas, or experiences (Zhou & Brown, 2015, p.97).

The fourth level of affective complexity is **organization**: Organization is the ability to prioritize a value over another, and create a unique value system (Hoque, 2016, p.49). It is the ability to organize values into priorities by contrasting different values, resolving conflicts between them, and creating a unique system (Zhou & Brown, 2015, p.97). Organization is the conceptualization of a value, or organization of a value system (Ferris & Aziz, 2005, p.4). It is a new information, or experience we attach to existing system (Kasilingam et al., 2014, p.30). Example of organization activities: A student/learner can spend more time in studies than with friends (Hoque, 2016, p.49). State personal position and reasons, states beliefs (Zhou & Brown, 2015, p.97).

The fifth level of affective complexity is **characterization (internalize values)**: Characterization is the ability to internalize values and let them control your behaviour, or to control someone's behaviour (Hoque, 2016, p.49). The behaviour is pervasive, consistent, predictable, and most important characteristics of the learner (Zhou & Brown, 2015, p.98; Kasilingam et al., 2014, p.30). Characterization is a generalized set, or characterization (Ferris & Aziz, 2005, p.4). Example of characterization activities: People (learners) show self-reliance when they work independently, or people behave consistently with their personal values, etc. (Zhou & Brown, 2015, p.98).

2.13.3 Psychomotor Domain

The third learning behaviour is **psychomotor domain**: The psychomotor domain focuses on performing sequences of motor activities to a specific level of accuracy, smoothness, rapidly, and forcefully (Kasilingam et al., 2014, p.29).

Barsamyan suggested that students/learners who like their musical instruments will improve upon their skills by '*Studying Regularly*' (*practicing*). The piano stands out. It attracts learners, and directs them for training; (i) the piano has a richer repertoire as compared to many other musical instruments; (ii) the piano develops polyphonic hearing; (iii) the piano has a broader sound range (i.e., from lowest sounds to highest sounds); (iv) it is easy to play the piano in accompaniment (Barsamyan, 2019, p.462).

Adult students who choose to play the piano have specific ideas about why they are interested in the instrument. All students/learners expect that if they play the piano (keyboard), the experience and skills they acquire would be a pleasant one.

Barsamyan (2019) expounded that (i) some adult students/learners are satisfied when they play the piano for a brief period of time. Especially, when they play a few well-known melodies; (ii) while other learners prefer a more extensive training to sight-read musical scores (works), and know how to use their fingers and pedals. Barsamyan continued that those learners who place importance on music theory aim at learning about musical chords and the harmonic structure of the pieces they play (p.462).

Barsamyan suggested that music teachers (instructors) should plan their music training programmes by ensuring that young learners would be able to achieve their ultimate goals. With effective training programmes, sooner or later; (i) the learners' hands will grow; (ii) the learner' attention span will expand; (iii) the learners will sight-read musical scores more frequently; and (iv) the learners will make progress through an extended period of time (2019, p.462).

Barsamyan was clear in pointing out that playing the piano is mainly a psychomotor skill with cognitive and affective dimensions that can only be improved through '*work*' (*practice*) and '*exercises*'. Independent muscles and the nervous systems work together to make the motions necessary to play the piano/keyboard. All psychomotor skills depend on precise and correct timing of muscular movements.

Barsamyan suggested some factors that make piano education easier for learners. Thus; (i) learners meet the physical requirements of height and strength, and they can easily reach the pedals and the further most end of the piano/keyboard; (ii) learners can reach octaves easily, and implement accompaniment styles on the piano/keyboard; and (ii) learners have the power to create higher tonal resonance and colour diversity in interpretation (Barsamyan, 2019, p.462).

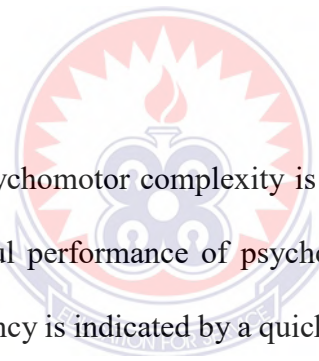
The psychomotor domain is made up of the physical movements of the body, coordination, and the use of motor skills areas. The development of this skill requires physical practice, and it is measured in terms of speed, precision, distance, procedures, or techniques in execution. There are seven (7) levels. Thus: (i) perception; (ii) set or mindsets; (iii) guided response; (iv) mechanism; (v) complex overt response; (vi) adaptation; and (vii) origination (Hoque, 2016, p.50; Zhou & Brown, 2015, p.94).

The first level of psychomotor complexity is **perception (awareness)**: This is the ability to apply sensory information to motor activity/skills (Hoque, 2016, p.50). It is the ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection to translation (Zhou & Brown, 2015, p.95). Perception uses senses organs to obtain cues to guide action. It ranges from awareness of stimulus to translating cue perception into action (Kasilingam et al., 2014, p.30). Example of perception or awareness activities: A cook adjusts the heat of a stove to achieve the right temperature of a dish (Hoque, 2016, p.50). Estimate cause and effect of movements, actions, or physical changes (Zhou & Brown, 2015, p.95).

The second level of psychomotor complexity is **set (mindset)**: Mindset is the readiness to take a particular type of action. It includes *Mental, Physical* and *Emotional Mindset*. These three sets predetermine a person's response to different situations (Hoque, 2016, p.50; Zhou & Brown, 2015, p.95). It is the readiness to take action; i.e., mental, emotional, and physical sets (Kasilingam et al., 2014, p.30). Example of mindset activities: An obese person displays motivation in performing a planned exercise/s (Hoque, 2016, p.50). Recognise someone's abilities and limitation, shows desire to learn a new process (Zhou & Brown, 2015, p.95).

The third level of psychomotor complexity is **guided response**: Guided response is the ability to imitate a displayed behaviour, or to utilize trial & error method/s, or to imitate a specific skill (Hoque, 2016, p.50). This is the early stages in learning a complex skill that includes limitation, trial & error methods. Adequacy of performance is achieved by practice (Zhou & Brown, 2015, p.95). Guided response is the knowledge of the steps required to perform a specific task. It includes imitation, and trial & error methods (Kasilingam et al., 2014, p.30). Example of guided response activities: A person follows instructions using a specific manual to enable him/her to operate a machine (Hoque, 2016, p.50). A person follows instructions to build a model (Zhou & Brown, 2015, p.95).

The fourth level of psychomotor complexity is ***mechanism (basic proficiency)***: Mechanism is the ability to convert learned responses into habitual actions with proficiency, and confidence (Hoque, 2016, p.50). Mechanism is the intermediate stage in learning a complex skill. At this stage, a learned response has become habitual, and the movements can be performed with some confidence and proficiency (Zhou & Brown, 2015, p.95). Mechanism is the ability to perform acts with much efficacy, confidence, and proficiency (Kasilingam et al., 2014, p.30). Example of mechanism activities: Example, A lady was able to cook a delicious meal after practicing how to cook it (Hoque, 2016, p.50). To perform a task or activity with expertise, and to high quality without assistance, or instruction. Or, able to demonstrate an activity to other people (Zhou & Brown, 2015, p.95).



The fifth level of psychomotor complexity is ***complex overt response (expert)***: Complex overt is the skillful performance of psychomotor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance that requires a minimum of energy. This category includes performing without hesitation, and it is automatic (Hoque, 2016, p.51; Zhou & Brown, 2015, p.95; Kasilingam et al., 2014, p.30). Example of complex overt response activities: Typing a report on a computer without looking at the keyboard (Hoque, 2016, p.51). Operate a computer quickly and accurately. Display competence while playing the piano (Zhou & Brown, 2015, p.95).

The sixth level of psychomotor complexity is ***adaptation***: Adaptation is the ability to modify learned skills to meet special events, requirements, or well-developed skills (Hoque, 2016, p.51). Adaptation is when skills are well developed, and the individual is able to modify movement patterns to fit special requirements (Zhou & Brown, 2015, p.95; Kasilingam et al., 2014, p.30). Example of adaptation activities: A designer could use plastic bottles to create a dress (Hoque, 2016, p.51). Adaptation includes how to perform a task with a machine or a device which was not originally intended to do that work (Zhou & Brown, 2015, p.95).

The seventh level of psychomotor complexity is ***origination***: This is the ability to create new movement patterns to fit a specific situation, or specific problem. The learning outcomes stress on creativity based upon highly developed skills (Hoque, 2016, p.51; Zhou & Brown, 2015, p.95; Kasilingam et al., 2014, p.30). Example of origination activities: A choreographer creates a new dance routine (Hoque, 2016, p.51). To create a new gymnastic routine (Zhou & Brown, 2015, p.95).

2.14 Howard Gardner's Multiple Intelligences

Multiple Intelligence (MI) Theory: Howard Gardner emphasized the impact which the *cultural forces* have on the human intellect; (i) the environment in which the individual lives; (ii) the cultural which the individual acquires; and (iii) the surrounding people with whom the individual interacts play a greater role in shaping the individual's multiple intelligences (*MI*) (Gardner, 1999, p.1).

That is why some intelligences are developed in some persons, while other intelligences are not developed in the same person (Gardner, 1999, p.1). Abdallah argued that every individual is different from each other. No two persons, even the identical twins are not the same in everything they do or perform. *Every human being is **unique** as the **finger print***. Abdallah continued that every human being has his/her own nature, moods, temperaments, personal traits, characteristics, ways of thinking, and so many other things which can never be possessed by another individual in the same way, or to the same degree (Abdallah, 2008, p.49).

Alem agreed with Abdallah (2008) when he expounded that every individual is a *unique person*. Therefore, he suggests that Howard Gardner's *Multiple Intelligences (MI)* should be used as a *tool* to help students/learners to develop better understanding, and appreciate their own strengths and preferred ways of learning (Alem, 2019, p.211).

Gardner stated that human beings have multiple intelligences (MI), and every individual has nine (9) in varying amount. These intelligences are located in different areas of the human brain, and they either work independently, or work together. The intelligences (*MI*) can be nurtured and strengthened, or ignored and weakened (Alem, 2019, p.207). Abdallah suggested that it is evidence for all human beings, provided that they are normal, to possess all the nine multiple intelligences (MI), but with varying degrees. No two individuals are the same; the two individuals may deal with the same subject matter, or deal with the same topic/s in different ways (Abdallah, 2008, p.23).

Human cognitive competence is better described as a set of abilities, talents, or mental skills which we call intelligences. All normal human beings in every society possess each of these skills to some extent. In other words, every individual differs in the degree of skills, and in the nature of their combination (Walters & Gardner, 1995, p.53).

Alem expounded that individual student/learner can grow, expand, and learn both skills and intelligences. But if all learners in the classroom are underdeveloped in one of the intelligences, then teachers (educators) could plan more activities to help them to grow or develop in that particular intelligence (Alem, 2019, p.210).

Since Howard Gardner proposed the *multiple intelligence (MI) theory* in his famous book (*Frames of Mind*) in 1983, a great majority of educators have been applying it in education. Teachers (educators) have considered the idea of MI as a ‘*powerful medicine*’ for the shortcomings that exist in educational system. Whichever approach (method, strategy, or assessment tool) that teachers (educators) use, they agree that instruction should be tailored according to learners/students’ multiple intelligences. So, teachers should also consider the strengths of learners that may exist in other areas other than the verbal/linguistic, and mathematical areas (Abdallah, 2008, p.31).

Alem quoted Howard Gardner by saying that all human beings have *MI*, but people differ in the strengths and combinations of the intelligences. The multiple intelligences could be enhanced through *training* and *practice* (Alem, 2019, p.207).

Alem suggests that teachers (educators) could incorporate *Multiple Intelligence* when planning for inclusive learning. This would enable learners to receive the best possible learning experiences. Also, the use of *Multiple Intelligences* would promote new possibilities for learning with greater emphasis on lifelong learning, which support the development of learners' skills in creativity and innovation (Alem, 2019, p.207).

Below outlines three (3) possible ways of using the *Multiple Intelligences*. Thus;

- (i) MI as a tool to achieve more success: Teachers (educators) should explore possible ways of using the MI as an approach to enable more learners to learn effectively. The multiple intelligence theory explains that all learners are *clever (smart)*, and that they differ only in the way in which they are smart (Abdallah, 2008, p.31).
- (ii) MI make learning more enjoyable: Students/learners learn better when they like and enjoy what they are learning. If learners do not like or enjoy what they study, they feel bored and tired, even if they are able to study and do well in their final exams. So, it is important for teachers (educators) to create an enjoyable classroom atmosphere which would serve as a motivation for learners to learn.
- (iii) MI care for individual differences: Every student/learner is unique. No two individuals are exactly the same. For instance, a particular learner may behave differently from one period to another period, or from one situation to another situation in many ways. This apply to learners in different ways while teaching and learning are in progress in the classroom. The MI would involve all the leaners, despite their individual personalities. As a result, the interest and talent of individual learners would be given much focus (Abdallah, 2008, p.32).

The *Multiple Intelligences* (MI); are (i) verbal/linguistic; (ii) logical/mathematical; (iii) visual/spatial; (iv) bodily/kinesthetic; (v) musical/rhythmic; (vi) interpersonal; (vii) intrapersonal/introspective; (viii) naturalistic; and (ix) existential.

The first MI is *verbal/linguistic intelligence*: It involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals (Gardner, 1999, p.37). Linguistic intelligence refers to an individual's ability to understand and manipulate words and languages. Everyone is thought to possess this intelligence at some level. This intelligence includes reading, writing, speaking, and other forms of verbal and written communication (Zhou & Brown, 2015, p.81). Linguistic includes reading, writing, language skills anagrams, metaphors, similes, and analogies (Alem, 2019, p.208).

Characteristics of people with linguistic intelligence: A person with well-developed verbal or linguistic intelligence usually; (i) listens to spoken word/s; (ii) learns through reading, writing, and discussion; (iii) listens effectively, comprehends, interprets, and remembers what has been said; (iv) exhibits the ability to learn other languages.

Career of people with verbal or linguistic intelligence: People who exhibit high degree of verbal or linguistic intelligences are; poets, lawyers, public speakers, and writers (Abdallah, 2008, p.27; Alem, 2019, p.208; Zhou & Brown, 2015, p.81).

Educational implication of linguistic intelligence: Teachers (educators) can enhance their learners' verbal or linguistic intelligence by guiding them to keep journals, play word games, and encourage group discussion (Zhou & Brown, 2015, p.81).

The Second MI is **logical/mathematical intelligence**: Mathematical intelligence is used to solve mathematical equations and logical things. Howard Gardner defines this intelligence as the capacity to analyse problems logically, and carry out mathematical operations, and investigate issues scientifically (Gardner, 1999, p.42; Alem, 2019, p.208; Brualdi, 1996, p.2). Mathematical intelligence refers to the ability of individuals to do things with data; collect and organize, analyse and interpret, conclude and predict. People that are strong in this intelligence can differentiate patterns and relationships (Zhou & Brown, 2015, p.81).

Characteristics of people with logical/mathematical intelligence: A person with well-developed logical or mathematical intelligence usually; (i) demonstrates skills at logical problem solving; (ii) thinks mathematically; (iii) exhibits inductive and deductive logic; (iv) good at numeration; and (v) abstract patterns (Zhou & Brown, 2015, p.81).

Career/profession of people with mathematical intelligence: People who exhibit high degree of mathematical intelligence are mathematician, scientists, chemistry, accountants, and computer programmers (Abdallah, 2008, p.27; Alem, 2019, p.208).

Educational implication of mathematical intelligence: Teachers (educators) can guide their learners to use critical-thinking activities; computer programming languages, cognitive stretching exercise, linear outlining, science-fiction scenarios, and logic puzzles, etc. (Zhou & Brown, 2015, p.81).

The Third MI is *visual/spatial intelligence*: Visual intelligence deals with the ability to perceive visual things. Howard Gardner expounded that the visual/spatial intelligence features the potential to manipulate and create mental images to solve problems, and manipulate the patterns of wide space as well as the patterns of more confine areas (Gardner, 1999, p.42; Brualdi, 1996, p.2; Alem, 2019, p.209).

Characteristics of people with spatial intelligence: A person with well-developed visual or spatial intelligence usually; (i) learns by seeing and observing; (ii) recognise faces, objects, shapes, colours, scenes; (iii) uses visual images as an aid in recalling information; (iv) enjoys drawing, painting, etc.; and (v) creates concrete, or visual representation of information (Abdallah, 2008, p.29). People with this intelligence tend to learn more from visual presentations such as movies, pictures, videos, demonstrations using models and props. People with visual intelligence usually like to draw, paint, or sculpt and often express their feelings and moods through art work. These individuals often daydream, imagine and pretend (Zhou & Brown, 2015, p.81).

Career/profession of people with visual/spatial intelligence: People who exhibit high degree of visual or spatial intelligence are; artist, architect, sculptures, painters, drawing, photographer, and designers (Abdallah, 2008, p.29).

Educational implication of visual/spatial intelligence: Teachers (educators) can foster learners' intelligence by utilizing charts, graphs, diagrams, video tapes, colours, art activities, and computer graphics software (Zhou & Brown, 2015, p.81).

The Fourth MI is *bodily/kinesthetic intelligence*: This intelligence entails the potential of using one's whole body, or parts of the body (i.e., hand/s, feet, or the mouth) to solve problems, or fashion products (Gardner, 1999, p.42; Alem, 2019, p.208). Brualdi suggested that bodily or kinesthetic intelligence is the ability to use one's mental abilities to coordinate one's own bodily movements (Brualdi, 1996, p.2). The kinesthetic intelligence refers to people who possess information through the sensations they feel in their bodies (Zhou & Brown, 2015, p.81).

Characteristics of people with bodily/kinesthetic intelligence: A person with well-developed bodily or kinesthetic intelligence usually (i) enjoys concrete learning experiences such as model building, or participating in role play; (ii) demonstrate skills in acting, games, athletics, dancing, sewing, etc. (Abdallah, 2008, p.28). Zhou & Brown suggested that people with bodily/kinesthetic are good at small and large muscle skills. They enjoy all types of sporting activities and physical activities, and they often express themselves through dance (Zhou & Brown, 2015, p.81).

Career/profession of people with bodily/kinesthetic intelligence: People who exhibit high degree of bodily or kinesthetic intelligence are dancers, actors, athletes, and craft persons (Alem, 2019, p.208; Abdallah, 2008, p.29).

Educational implication of kinesthetic intelligence: Teachers (educators) can encourage learners' with this intelligence by the use of touching, feeling, movements, improvisation, and physical relaxation activities (Zhou & Brown, 2015, p.81).

The Fifth MI is *musical/rhythmic intelligence*: Musical intelligence refers to the skills in composition, performance, and appreciation of musical patterns. It includes sensitivity of pitches, timbre, rhythmic patterns, as well as responsiveness to the emotional implications to these elements (Gardner, 1999, p.42). Musical intelligence deals with the ability to create or interpret music. They are skills for performances, music compositions, and appreciation of musical patterns, sensitivity to rhythmic patterns, pitches, and melodies. It includes remembering melodies of songs, has a good singing voice, play a musical instrument/s, sing in a choir, or musical group/s (Alem, 2019, p.208; Zhou & Brown, p.81). This refers to the ability to appreciate music, use timbre, rhythm, create, ability to compose music, and interpret musical pitches (Brualdi, 1996, p.2).

Characteristics of people with musical intelligence: A person with developed musical intelligence usually (i) enjoys and seek out opportunity to hear musical sounds; (ii) collects musical scripts/scores and information about various types of music; (iii) develops the ability to sing or play a musical instrument alone, or with other people; (iv) may offer interpretation of what the composer is communicating through music.

Career/profession of people with musical intelligence: People who exhibit high degree of musical intelligence are composers, music teachers, instrumentalists, and singers (vocalists) (Abdallah, 2008, p.30).

Educational implication of musical intelligence: Teachers (educators) can play some sort of musical instrument/s for learners to listen in the classroom, and assigning tasks that involve students' creativity, such as singing songs, or creating lyrics about the topic or material being taught (Brualdi, 1996, p.2; Zhou & Brown, 2015, p.81).

The Sixth MI is *interpersonal intelligence*: This intelligence denotes a person's capacity to understand other people (i.e., their intentions, motivations, desires, and hidden goals) and consequently, to work effectively with other people (Gardner, 1999, p.43). Interpersonal intelligence deals with the ability to understand and communicate with other people, and to facilitate relationships and group processes (Alem, 2019, p.209). Zhou & Brown expounded that interpersonal intelligence is the ability to interpret the responds to the moods, emotions, motivations, and actions of other people. It also requires good communication skills and interaction skills, and the ability to show empathy towards the feelings of other people (Zhou & Brown, 2015, p.81). Brualdi suggested that interpersonal intelligence includes interpersonal feelings (Brualdi, 1996, p.3).

Characteristics of people with interpersonal intelligence: A person with well-developed interpersonal intelligence; (i) forms and maintains social relationships, and uses variety of ways to relate to other people; (ii) perceives the feelings, thoughts, behaviours, and lifestyles of other people; (iii) influences the opinions, or actions of other people; (iv) understands and communicates effectively (Zhou & Brown, 2015).

Career/profession of people with interpersonal intelligence: People who exhibit high degree of interpersonal intelligence are; religious leaders, teachers, political leaders, psychologists, counsellors, and social workers (Abdallah, 2008, p.28).

Educational implication of interpersonal intelligence: Teachers can encourage learners' intelligence by designing lessons that include group work, and by planning cooperative learning activities (Zhou & Brown, 2015, p.81).

The Seventh MI is *intrapersonal/introspective intelligence*: This intelligence is the ability to understand oneself (i.e., one's own desires, fears, capacities, and abilities). It also involves using such information effectively, and regulating one's own life (Gardner, 1999, p.43). Zhou & Brown suggested that *intrapersonal intelligence is an internalized version of interpersonal intelligence*. Thus, individuals can understand their own emotions, motivations, and be aware of their strengths and weakness (Zhou & Brown, 2015, p.82). Brualdi is of the view that intrapersonal intelligence consists of the individual's own feelings and motivation (Brualdi, 1996, p.2). Alem suggested that sample skills of intrapersonal include; transpersonal sense of the self, awareness and expression of different feelings, understanding how one is similar to, or different from others, higher order thinking or reasoning (Alem, 2019, p.209).

Characteristics of people with introspective intelligence: A person with well-developed introspective intelligence usually; (i) Is aware of his range of emotions; (ii) Finds methods and outlets to express his/her feelings and thoughts; and (iii) Strive for self-actualization (Zhou & Brown, 2015, p.82).

Career/profession of people with intrapersonal/introspective intelligence: People who exhibit high degree of intrapersonal/introspective intelligence are independent learners, self-placed learners, and decision makers (Abdallah, 2008, p.28).

Educational Implication of Intrapersonal/Introspective Intelligence: People who teach (i.e., teachers, educators) can assign reflective activities such as journaling to awaken learners' intrapersonal intelligence (Zhou & Brown, 2015, p.82).

The Eighth MI is *naturalistic intelligence*: This intelligence defines the human ability to discriminate among living things (i.e., plants, animals) as well as sensitivity to other features of the natural world (Alem, 2019, p.209). Zhou & Brown suggested that naturalistic intelligence is seen in people who recognize and classify plants, animals, and minerals, including a mastery of taxonomies (Zhou & Brown, 2015, p.82). This intelligence deals with the ability to sense patterns in nature, and make connections to elements in nature. Alem stated that naturalistic intelligence (*'Nature Smart'*) has a strong affinity to the outside world, to the beauty in nature, or to animals, or stories that deal with animals, nature, or phenomena (Alem, 2019, p.210).

Characteristics of people with naturalistic intelligence: People with well-developed naturalistic intelligence usually; (i) Recognize specimens and value the unusual; (ii) They have the ability to sense patterns in nature, and make connections to elements in nature (Zhou & Brown, 2015, p.82).

Career of people with naturalistic intelligence: People who exhibits high degree of naturalistic intelligence are interested in subjects such as biology, zoology, botany, geology, meteorology, or astronomy (Alem, 2019, p.210).

Educational implication of naturalistic intelligence: Teachers (educators) can improve learners' intelligence by using relationships among systems of species, looking at situations to real life, and science issues (Zhou & Brown, 2015, p.82).

The Ninth MI is *existential intelligence*: Zhou & Brown (2015) stated that existential intelligence is the ability to pose and ponder over questions regarding the existence of human beings, animals, and plants, which includes life and death p.83).

Career/profession of people with existential intelligence: People who exhibit high degree of existential intelligence are; religious leaders, and philosophers (p.83).

Educational implication of using multiple intelligence: Zhou & Brown suggested the benefits of using Gardner' Multiple Intelligence Theory in the classroom. That; (i) Multiple Intelligence may be seen as a sense of increasing self-worth as students/learners build on their strengths and work towards becoming an expert in certain areas; and (ii) Students/learners can develop their strong problem-solving skills by using real life situations (Zhou & Brown, 2015, p.86).

According to Howard Gardner, an intelligence encompasses the ability to create and solve problems, create products, or provide services that are valued within a culture or society. Listed below are key points of Howard Gardner's MI Theory;

- (i) All human beings possess all the nine multiple intelligences, but in varying degrees.
- (ii) Every individual has a unique intelligence profile.
- (iii) Education can be improved by assessment of students/learners' intelligence profile and designing activities accordingly.
- (iv) Each of the intelligence occupies a different area in the human brain.
- (v) The nine MI may operate in consort, or independently from one another.
- (vi) The nine MI may define the human species (Zhou & Brown, 2015, pp.80-81).

Howard Gardner gave many instances to explain his MI. Therefore, I suggest that lecturers at the tertiary institutions (i.e., Universities, Polytechnics, and Colleges of Education), teachers at the second cycle institutions (i.e., Senior High Schools, Technical Schools, and Vocational Schools), as well as teachers at the basic levels (Junior High Schools, and Primary Schools) should endeavor to identify their students' weaker intelligences. They should also guide and develop the students' weaker intelligences to complement the stronger intelligences. If all these aptitudes are attained perfectly, the student/learner would be recognized as a *complete, and perfect person*.

2.15 The Hands and Fingers for Playing Piano

The playing apparatus consists of the *upper limb*, complete with the *back and shoulder*. Knowledge of the anatomy and structure will make it possible to understand the mechanism of movement necessary for piano playing. Two types of elements can be distinguished: the *passive* (bones and joints) and the *active* (muscles) ones.

The *upper limb* consists of the pectoral girdle (i.e., clavicle and scapula) which connects the movable section to the torso, and the movable section (the forearm bones: ulna and radius, and the hand) (Tworko, 2020, p.233). The hand is made up of;

- i) The complex of eight carpal bones arranged in two transverse rows.
- ii) Five long metacarpal bones corresponding to each of the fingers; their bases are fixed to the rigid row of carpal bones, while their heads are attached the metacarpophalangeal joints, visible on the surface of the hand as the so-called knuckles. Usefulness; it increases the *flexibility of the hand*, especially the *fingers* which serve as pillars or supports to press the piano keys.

- iii) The digital bones consist of three phalanges (proximal, intermediate, and distal in 2nd, 3rd, 4th & 5th fingers), except the thumb, which comprises a proximal and a distal phalanx. Usefulness: this makes movement in many planes possible.
- iv) The shoulder joint connects the limb to the torso and makes it possible to move along the keyboard at any angle.
- v) The elbow joint with the radial and ulnar collateral ligaments is responsible for the pronation of the hand (with the palm facing down). Usefulness; this makes piano playing possible, and it allows the *forearm rotation* up to 150-170 degrees necessary to produce *tremolos*, *trills*, *moderate-range leaps*, as well as *arpeggios* (Tworko, 2020, p.234).

The free fall: The *free fall* can be extended to the whole arm, the lower arm, the wrist, or the fingers. The *free fall* in piano playing is affected in the following manner: Bend the arm, keep the elbow, wrist and fingers in a fixed position, but free from stiffness. The fingers must be firmly set in order to strike the desired keys. The arm should fall loosely from the shoulder joint: the fingers should perform the function of aiming at the respective piano keys. The free fall from the elbow demands a gentle fixation of the wrist and fingers, the latter being prepared to strike the respective piano keys. The upper arm should hang loosely in its socket. The pianist should keep his/her fingers in a curved position. The free fall of the lower arm makes it possible to produce a strong *forte* (*f*). It takes strong fixation for the development of *fortissimo* and *chords*. Many piano players call it *rigidity* where fatigue begins (Giesecking & Leimer, 1972, p.107).

The joints of the hand, comprise of several elements. Thus:

- i) The wrist joint: Wrist joint is responsible for the circumduction movements (combining flexion and extension, adduction and abduction). The hand can only rotate up to 15-20 degrees thumb-wise, but about 45 degrees little finger-wise. This plays a major role in piano playing, letting the 4th and 5th fingers to lead voices more freely as well as efficiently and rapidly 'reach out' for the sounds of the *melody* or the *bass*. Oblique hand movements, executing *polyphonic textures*, *performing chords*, *harmonic progressions*, and *octaves* are only possible because of these joints. Their function consists in transmitting frequently huge force from the forearm, arm, and sometimes the torso. For this reason, these joints need to be particularly resilient.
- ii) The carpometacarpal joints (CMC): They link the distal row of carpal bones to the metacarpus. These joints have a tense (restricted) articular capsule, and reinforced with a set of ligaments which limits their flexibility. One exception is the *carpometacarpal joint of the thumb*, whose relaxed articular capsule makes adduction and abduction movement possible within 35-40 degrees, and opposition of the thumb within the range of 45-60 degrees. The latter type of movement, which we refer to as '*gripping*' in everyday life, in piano playing makes it possible to oppose the thumb movement to those of the other fingers, which finds its application in rotation, *trills*, and *tremolo* figurations.
- iii) The metacarpophalangeal joints: They connect the metacarpus to the proximal phalanges, popularly known as *knuckles* because of the bones protruding from the top of the hand. It is these joints that do most of the work related to finger motion in piano playing. They perform flexion and extension movements (up to 110 degrees), as well as adduction and abduction. For this reason, while playing

octaves and *large chords* we tend to raise the wrist, which allows us to strengthen the fingers a bit more.

- iv) Interphalangeal joints: They perform flexion and extension movements. These include the proximal interphalangeal joint, which can bend up to 120 degrees, and distal one bends within 70 degrees. They are connected by individual phalanges. Owing to lack of the middle phalanx, the thumb has one interphalangeal joint, bending at 90 degrees. The bones and joints of the hand are stabilised, and reinforced by a complex system of ligaments (Tworko, 2020, pp.234-236).

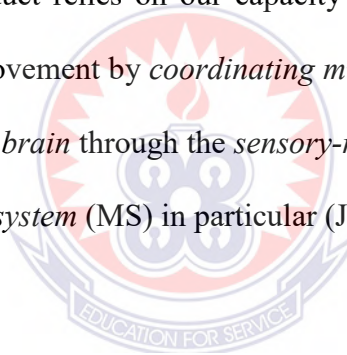
The *forearm* and the *elbow* carry out a major function in piano playing. They are moved by the muscles situated above them, in the arm, while the muscles that control the hand and the fingers start at the elbow. The elbow joint performs flexion and extension movements, as well as rotary ones (up to 150-170 degrees), which are essential for pianists. The wrist bends the hand forwards (*flexion*), backwards (*extension*), inwards towards the thumb (*radial flexion*) and outwards towards the little finger (*ulnar flexion*). A combination of these movements makes it possible to perform rotary (*circular*) movements. Two types of muscles determine the action of the hand and finger joints: *longus muscles* starts at the elbow, which end in tendons that lead to the fingertips; *brevis muscles* located in the hand (Tworko, 2020, p.237).

Tworko (2020) suggested that most of the blood flows out of the muscle along with the toxic metabolites. In the relaxation phase, blood flows in, supplying the muscle with necessary *nutrients* and *oxygen*. Any disturbances in this process, such as too long and too frequent contractions cause *hypoxia* and *deposition of toxins*.

Muscle relaxation after pressing the piano keys is therefore important for the effective work of our *playing apparatus* (hand & fingers). Tworko (2020) is of the view that;

Achieving the desired results in piano playing obviously calls for systematic practice. However, we must remember that our body's functioning depends on the principles of physiology and its endurance is limited. Our staying power is to a large extent, an individual quality. We should be aware, though, that each organism needs *mental* and *physical rest*. Despite our amazing powers of regeneration, once the number of hours spent at the piano exceeds the threshold of endurance, we risk strain, fatigue, and pain. Such symptoms are quite common in pianists, and if they persist, this may lead to injury (p. 249).

Technique encompasses the basic physical tools to create the necessary movement patterns, and the end-product relies on our capacity for physical movements through *motor skills*, organizing movement by *coordinating muscles* and *joint* action. The motor skills are controlled by the *brain* through the *sensory-motor system*, and executed by the body, the *musculoskeletal system* (MS) in particular (James, 2012, p.92).



Ortmann (1925) explained how one can apply the *pedals*, *hands*, and *fingers* to produce different piano tones and effects. Among the numerous effects are;

- i) Piano touch and tone: The number of strings used varies with the pitch. In the treble region, because of the high tension and shortness, the tone would be weak, so three strings to each tone are used. In the region of large C (middle C), two strings suffice, and in the lowest register, one string. Not all strings are stretched in the same direction (Ortmann, 1925, p.8).
- ii) The effect of percussive and non-percussive touch: Since practical piano playing often precludes placing the finger upon the key before starting its depression, it is necessary to differentiate between percussive and non-percussive touches. (i) a

percussive touch is one in which the moving finger strikes the key-surface ; (ii) a *non-percussive touch* demands that a finger rest on the surface of the key before descent (Ortmann, 1925, p.20).

- iii) Effect of finger and wrist position on key depression: There are two most common forms of finger position: (i) *curved or bent finger* makes it possible to strike the piano key with its nail joint vertical; (ii) *flat or straight finger* has its nail joint almost horizontal (Ortmann, 1925, p.23).
- iv) Duration of contact: The vibration of a string depends in part upon the nature of the stroke. This, in turn, depends upon the length of time during which the striking body remains in contact with the string. A body in contact with the string for only an instant produces one mode of vibration, and a body in contact for a longer time produces a different mode of vibration (Ortmann, 1925, p.83).
- v) The roll movement: This can emanate from the shoulder or radius joint only. If we strike a piano key by means of pronation (e.g. with the thumb), and let the higher octave follow with the fixed 5th finger through supination, we produce a *roll*. When carried out in uninterrupted rapid succession, is termed a *tremolo*. The elbow is raised when the *roll movement* is used. This is a natural movement, and should be encouraged. The *roll* is applied as a support to the fingers, and also, as an aid in *warding off fatigue* (Giesecking & Leimer, 1972, p.108).
- vi) Straight fingers: When rendering a *singing tone*, do not bent the fingers too much. But rather, *straighten the fingers enough* so that the flat part of the first joint of the fingers rest upon the piano keys (Giesecking & Leimer, 1972, p.110).

2.16 Characteristics of Adults

A person is described as an *Adult* when that individual perceives himself or herself to be essentially responsible for his/her own life (Knowles, 1980, p.24). The term *adult* can be defined as (i) when a person becomes biologically responsible; the point at which a person is able to reproduce; (ii) when a person becomes legally responsible; the point at which a person is able to vote; (iii) when a person becomes socially responsible; the point at which a person can work and marry; or (iv) when a person becomes responsible; the point at which a person begins to feel responsible for his/her own life (Caruth, 2014, p.3).

The term *adult* literally means a human being that is of relatively mature age, typically associated with sexual maturity and the attainment of reproductive age. Kapur expounded that in context of human beings, the term *adult* has at least three distinct meanings. Thus; (i) an adult is a biologically grown, or mature person; (ii) an adult is a person that has reached full growth, or is capable of reproduction; and (iii) an adult having attained the legal fixed age (Kapur, 2015, p.113).

Kapur (2015) gave examples of many countries that have pitched the legal adulthood at eighteen years (18 years). He said;

In many modern societies, the legal adulthood is based on reaching a '*legally specified age*' without requiring a demonstration of physical or mental maturity, or preparation for adulthood. For majority of countries in the world such as India, Afghanistan, Pakistan, Bangladesh, Indonesia, Malaysia, Mauritius, China, Argentina, Ecuador, Malta, Poland, Switzerland, Spain, Tunisia, Russia, USA, United Kingdom, Venezuela, Vietnam, and many more, the legal age of attaining adulthood is eighteen (18) years (p.113).

2.17 Characteristics of Adult Student

Kapur (2015) suggested some characteristics of adult students/learners when they decide to take a formal or informal education. The defining characteristics of adult learners are their opinions, values, and beliefs that they bring to the learning situation. Thus;

- i) A distinct group: No two individuals are alike. Adult students too vary distinctly from each other in terms of their needs, problems, requirements, attitudes, and outlook that they bring to the learning situation. They are also different in their age, experience, knowledge, and communication.
- ii) Autonomous, independent, and self-directed: Adult learners are self-governing, self-dependent, and self-directing. Since adult learners are autonomous and independent, all their learning endeavours have to be collaborative, participatory, and democratic to maximize learning.
- iii) Goal oriented individuals: Adult learners set their goals very clearly, and involve themselves in activities. Their set goals may be educational (i.e., to gain a degree/qualification; to acquire a skill; or to upgrade existing skills).
- iv) Voluntary learners: Adult learners join the learning process without any compulsion, or coercion.
- v) Result oriented: Adult learners usually have a definite result in their minds when they join a teaching and learning programme. However, if the results they anticipate out of the learning activity are not achievable, they may drop out (quit) the learning programme.
- vi) Relevance oriented: Adult learners are eager to know how relevance the learning process is to them, and how it is geared up to meet their needs. If they understand the relevance of the learning (both present, everyday life, and future), they would become active participants in the learning programmes.

- vii) Wealth of experience and knowledge: As adults progress chronologically in age, they become mature by accumulation of vast wealth of knowledge and experience. During discussions, the teacher (facilitator) could use adult experience and existing knowledge to help them to become more poised.
- viii) Motivated learners: Adult learners' motivation to learn is related to their immediate needs and requirements. Intrinsic motivation involves a lot of curiosity on the part of the learner (i.e., active exploration and spontaneity).
- ix) *Practical oriented*: Adult are pragmatic and practical. They prefer to know the usefulness and benefits of learning activity (Kapur, 2015, pp.114-117).

The title *adult beginner* is elusive. It means different things to different people. Many different groups are labelled *adult students*. These include: (i) *slightly older students* (9 years or 10 years, too mature for methods designed for elementary-age students); (ii) *teenagers*; (iii) *college non-music majors* (between 18-24 years); (iv) *college music majors* (between 18-24 years); (v) *adults who play for pleasure* (25 years and older); and (vi) *senior citizens* (often considered as special adult categories). Many authors, composers, and publishers believe that instruction books and repertoire books labeled '*for the adult beginner*' might be used with equal facility and pleasure by most of these groups (Uszler et al., 2000, p.55).

Knowles (1980); Kalpur (2015); Caruth (2014); and Uszler et al. (2000) have explained the categories of people that are labelled as adults and adult students. But for the benefit of the study, I acknowledge all University students whose age groups are 18 years and above as *adult students/learners*.

Kapur expounded that an adult student (i) is a mature student who is acquiring new knowledge and skills, developing new attitudes after having reached mature intellectual, physical and social development; (ii) adult student/learner is also used to describe any person socially accepted as an adult who is involved in a systematic learning process, whether it is a formal education, informal learning, or corporate sponsored learning as a fulltime, or part-time learner; (iii) adult student/learner is a person undertaking systematic study, who has completed the initial cycle of continuous education (basic education) (Kapur, 2015, p.114).

Learning takes place in different ways. But to a lot of people, learning is an internal process controlled by learners who engage their whole being; including their intellectual, emotional, and physiological functions. Malcolm Knowles defined learning as a psychological process;

Learning is described psychologically as a process of need-meeting and goal-striving by the learners. This is to say that individuals are motivated to engage in learning to the extent that they feel a need to learn and perceive a personal goal that learning will help to achieve; and they will invest their energy in making use of available resources (including teachers and readings) to the extent that they perceive them as being relevant to their needs and goals (Knowles, 1980, p.56).

Macleod & Golby (2003) suggested that learning is the central business of schooling. Schools are social institutions set up in order to '*fast track*' learning. This means what is taught in schools must have maximum transferability elsewhere (p.353).

2.18 Five Piano Teachers share their Experiences

Many people of different ages ask the question: *am I too old to learn piano?* No matter your age, playing the piano is a wonderful skill to have for variety of reasons. Studies have shown that playing music reduces *stress*, and *improves the memory*. Playing an instrument in a group also leads to lifelong friendships, while refining communication and social skills. We asked five (5) *piano experts* for their thought on *adult students* from different age groups, on learning to play instrument (9th November, 2021).

Am I too old to learn piano?

First interview question: *Is 20-30 years too old to learn piano?* Response by Liz T. (a piano teacher in Brooklyn, NY). Learning to play, or picking back up, the piano or keyboard in your 20s is a wonderful idea. Many students from a variety of fields enjoy exploring their creative side, in addition to their professions. Diving into the piano is also a nice release from your busy work day. If some students had attempted to play piano when they were much younger, but did not have the focus or patience, oftentimes this focus is much more narrowed as an adult, and the concepts are easier to comprehend when you are between 20-30 years.

Question: *What is your advice to students in this age group?* Response (Liz T.): My advice for adults learning to play piano is to take a fun song you know, and start from the basics. Learn the melody with the left-hand, then the right-hand, and put them together. Practice a little bit each day, even if it is for 15 minutes in the morning when you wake up, and 15 minutes before you go to bed at night (*Retrieved from the internet; 9th November, 2021*).

Second interview question: *Is 30-40 years too old to learn piano?* Response by Rebecca K. (a piano teacher in Vallejo, CA). The 30-40 years is such a unique and frankly, exhausting time to live. I (Rebecca K.) am there myself. Many of us have young kids, a job, and enough worries. That is why I argue that this age is the ‘*perfect*’ time to start learning piano. Self-care is something we must practice, especially in finding something that brings you joy.

Question: *What is your advice to students in this age group?* Response (Rebecca K.): All piano takes is dedication, an instrument, and a little bit of time. You are never too old to start learning piano. You may however get to a point where you regret not starting sooner (*Retrieved from the internet; 9th November, 2021*).

Third interview question: *Is 40-50 years too old to learn piano?* Response by James F. (a piano teacher in Charlotte, NC). There is no age that is really ‘*too old*’ to learn to play the piano. However, there are lifestyle factors that typically get in the way of progress once somebody enters the workforce full-time. Many of the adult students have struggled with balancing a professional career, a family, and their progress as a piano player. There are ways, however, for the disciplined student to overcome this.

Question: *What is your advice to students in this age group?* Response (James F.): I recommend practicing in 10-15 minutes sets; two (2) to four (4) times a day. Three times a day or more is really ideal, as in-wake up a little bit earlier to practice, do another session as soon as you get home, and another one right before bed. With this routine, you will see progress (*Retrieved from the internet; 9th November, 2021*).

Fourth interview question: *Is 50-60 years too old to learn piano?* Response by William P. (a piano teacher in Waterbury). Learning piano has no age limit. In fact, activities like learning piano can *stimulate the brain, increase the ability to recall information*. There are physical benefits to learning piano as well. By practicing fine motor skills in your fingers, piano students are *keeping the muscles in their hands flexible*. Flexibility in your hands can combat *arthritis*, and improve circulation in your fingers.

Question: *What is your advice to students in this age group?* Response (William P.): There are three things to keep in mind: (i) music is like a language, and it requires time and patience to achieve steady growth; (ii) physical problems such as *arthritis* (joint stiffness) are only minor obstacles that can easily be overcome; and (iii) learning an instrument should be seen as a simple pleasure in life, and not a chore. Approach it to explore your musical side (*Retrieved from the internet; 9th November, 2021*).

Fifth interview question: *Is 70 years and above too old to learn piano?* Response by Marie France M. (a piano teacher in Waldwick, NJ). There are certain advantages the 70 + years student brings to the table. They are self-motivated (no one has to push them to practice), and they know what they want to learn, which gives the teacher a clear focus.

Question: *What is your advice to students in this age group?* Response (Marie France M.): Elder students do have a higher percentage of physical challenges than their younger counterparts, particularly having good direct lighting, and a magnifying glass in reach. Large print musical scores is also a real plus. Work in 5 minute increments with a moment in between to massage the fingers and do a quick posture and relaxation check before going on (*Retrieved from the internet; 9th November, 2021*).

When it comes to learning the piano, age is just a number. Here are few steps you can take to get started: (i) find a piano teacher who has experience working with older students; (ii) not ready for private lessons yet? Try free online piano classes; (iii) commit to practice every day, and take *baby steps*; (iv) remember to enjoy yourself. Piano lessons and practice should be fun; and (v) stay motivated by keeping the reasons you want to learn piano top of your mind. *Retrieved from the internet; 9th November, 2021.*



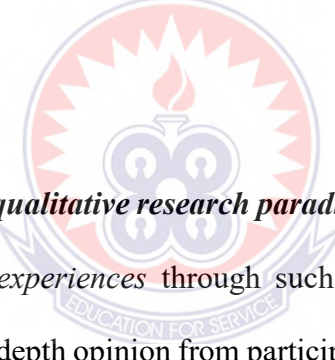
CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter covers the methodology employed for data collection. The issues discussed are captured under the following headings: (1) research approach; (2) research design; (3) researcher's role; (4) research assistants; (5) area of the study; (6) population; (7) sample technique; (8) sampling size; (9) research instruments; (10) pilot study; (11) validity and ethical issues; (12) data analysis procedure; and (13) limitation.

3.1 Research Approach

The logo of the University of Education, Winneba, is a circular emblem. It features a central lamp with a flame, set against a background of a sunburst. Below the lamp, the motto 'EDUCATION FOR SERVICE' is written in a banner. The entire emblem is surrounded by a decorative border.

The research approach was *qualitative research paradigm*. Qualitative research explores *attitudes, behaviours, and experiences* through such methods as interviews or focus groups. It attempts to get in-depth opinion from participants. As it is attitudes, behaviours and experiences which are important, fewer people take part in the research. But the contact with these people tends to last a lot longer (Dawson, 2002, pp.14-15).

Tracy explained three (3) core qualitative concepts. (i) *self-reflexivity*: It refers to researchers' interactions, and interpretations of the research scene; (ii) *context*: It is about immersing oneself in a scene, and trying to make sense of it, whether in a community festival, or during an interviews; (iii) *thick description*: The researchers investigate the particular circumstances present in that scene, and then move toward grander statements of theories (Tracy, 2013, pp.2-3).

3.2 Research Design

The research design was a *case study* and *phenomenology*. Kohn suggested that researchers can use *case study methodology* for many purposes. Thus; (i) to explore new areas where little theories are available, or measurement is unclear; (ii) to describe a process, or the effects of an event, or an intervention, especially when such events affect many different parties, and to explain a complex phenomenon (Kohn, 1997, p.3).

Greening suggested four (4) essential steps for conducting a *Phenomenological Research Methodology*: Thus;

- i) Bracketing: In this process, as Sanders (1982, p.33) attempts to ascertain, the researcher brackets out the surrounding and any presuppositions contained in a bid to confront the data in a very pure form. This is regarded as the central component of phenomenological reduction where the isolation of genuine phenomenon is done regarding what is already established of the event.
- ii) Intuiting: After bracketing out is done, intuition follows, where the researcher now remains focused on the attributed meaning of the phenomenon by the preceded research. Through this process, a shared understanding of a phenomenon on whatever being studied is achieved. To efficiently accomplish this process, the researcher should provide the variance of the data until a common understanding is met. Therefore, this process calls for the researcher to be immersed in the study and the phenomenon being studied.
- iii) Analyzing: In this process, coding is done where categorizing and making sense of the significant meanings of the phenomenon is created. When the researcher is in this process, there is the need to immerse for as long as possible for attaining pure and thorough description of the phenomenon.

iv) Describing: The critical step of any phenomenological research methodology is the description. In the descriptive stage, this is where comprehension and definition of the phenomenon are done by the researcher. This is purposed to provide the final step that catapults communication, and offers distinctions and critical descriptions in both written and verbal form (Greening, 2019, pp.89-90).

3.3 Researcher's Role

I sampled some lecturers and level 100 students (BMus Ed, BMus, and DMus) at the UEW, Music Education Department. I explained to the respondents the purpose of the study. Therefore, I had cordial rapport with all the respondents who participated, and I assured them about privacy and confidentiality. I maintained that role throughout the period that I was in the research site collecting data.

Given (2008) expounded that the researcher has a multiple roles and obligation. Thus: (i) to keep abreast with the scholarly literature (including theoretical developments, and research findings) related to the topic under consideration; (ii) to maintain a critical awareness of issues that need further examination; (iii) to ensure that the research is conducted with appropriate methodological and ethical standards; (iv) to ensure that the research is meaningful of its contribution to the discipline in particular, and to knowledge or society in general (p.772).

3.4 Research Assistants

In order not to compromise and remove subjectivity, I added *two research assistants*, and I trained them to use the assessment design. Given (2008) was clear in pointing out that a research team (e.g., *research assistant/s*) involve all of the individuals who contribute directly to a research project. Research teams can vary in size from an individual researcher working *one-on-one* with a student assistant; to large scale projects involving multiple co-investigators, collaborators, student assistants, non-student assistants, and technicians working across numerous sites (p.789).

3.5 Area of the Study

The study was conducted at the UEW, Music Education Department. I chose the Music Department as the research site, because I was a student of the UEW, and also *keyboard skills* is a general course for all undergraduate music students.

Given (2008) is of the view that the research setting can be seen as the physical, social, or cultural site in which the researcher conducts the study. In qualitative research, the focus is mainly on meaning-making, and the researcher studies the participants in their natural setting (p.787).

3.6 The Population

Table 1: Population Category

Total Population of Lecturers and Level 100 Class		Frequency
i) Lecturers		11
ii) BMus Ed Students		90
iii) BMus Students		29
iv) DMus Students		46
Total		176

The targeted population for the study was made up of (i) eleven lecturers who teach *keyboard skills* at the UEW Music Education Department; (ii) ninety BMus Ed students; (iii) twenty-nine BMus students; and (iv) forty-six DMus students.

Given (2008) suggested that a study population may be defined as a group, or every person who resides in a given town, state, province, or country. The population as a concept in research methods refers to every individual who fits the criteria (broad or narrow) that the researcher has laid out for research participants (p.644). In a similar manner, O’Leary (2004) is of the view that populations are commonly made up of individuals. But depending on the nature of the research question/s: the unit of analysis might be households, workplaces, or events (p.103). Leavy (2017) expounded that a population is a group of elements about which you might later make claims. For example, if you are interested in exploring the qualities that draws some college students in social activism, the element in your study would be *individual college student’s involvement in social activism*. So, the population you might later make claims is about *all college students who engage in social activism* (p.76).

3.7 Sampling Technique

I used *convenience sampling* to select lecturers and level 100 students. This was based on their availability, willingness, and readiness to participate in the study.

Tracy pointed out that *convenience sampling* which is also known as *opportunistic sample* are chosen, because they are convenient, easy, and relatively not expensive to access. Many research studies sample college students by using convenience sampling (Tracy, 2013, p.134). Given (2008) agreed with Tracy (2013) and stated that *convenience sample* is a sample that research participants are selected based on their ease of availability. In essence, all individuals who are willing, ready, and able to participate in the study are the people who are selected to participate. In qualitative research, it may be helpful to use a *convenience sample* to test the appropriateness of interview questions in an inexpensive and quick way, by approaching an interest group of people first, before embarking on a larger, longer, and more expensive study (p.124).

Convenience sampling involves selected people who are available (convenient) for the study. Convenience sampling often involves people whom the researcher knows, or people who live close to the research site. For this type of sampling, it is easy to get participants for recruitment (Vanderstoep & Johnston, 2009, p.27).

3.8 Sample Size

The total sample size was thirty-five (35) respondents. It consisted of (i) five lecturers who teach *keyboard skills*; (ii) ten BMus Ed level 100 students; (iii) ten BMus level 100 students; and (iv) ten DMus level 100 students.

Dawson (2002) expounded that for large scale (qualitative surveys), you will need to contact many more people than you would for a smaller scale (qualitative piece of research). The sample size will depend on what you want to do with your results (p.49). Sampling is the process by which you select a number of individuals from a larger population. The first thing you need to do is to determine the elements in your study. In this case, an element refers to the kind of person, group, or non-living item/s in which you are interested (Leavy, 2017, p.76).

3.9 Research Instruments

I used two instruments to collect data. The first research instrument was *semi-structured interview*. Three modes were used to collect data. They are: (i) face-to-face interviews; (ii) telephone interviews; and (iii) social media features (*WhatsApp*).

A lot of interviews are interactions between the *interviewer* and a *single interviewee*. It is thought that *one-on-one* (i) allows the researcher to have control over the interview process; and (ii) allows the interviewee the freedom to express his/her thoughts (O'Leary, 2004, p.164). Furthermore, interviews are guided questions and answer conversations (Kvale & Brinkmann, 2009, p.2). Semi-structured interviewing is perhaps the most common type of interview used in qualitative social research. In this type of interview, the researcher wants to know specific information which can be compared and contrasted with information gained in other interviews. To do this, the same questions need to be asked in each interview (Dawson, 2002, p.29).

Researchers who use *semi-structured interviewing* develop a written interview guide in advance. The interview guide may be very specific, with carefully worded questions, or it may be a list of topics to be covered. The researcher may follow the interview guide by asking the questions in the order they are given, or may move back and forth through the topic list based on interviewee's response (Given, 2008, p.810). The *interpretative phenomenological analysis* (IPA) usually requires a verbatim transcript of a first-person's account that has been generated by a research participant, usually in response to an invitation by a researcher. This is in the form of a (i) semi-structured interview; (ii) one-on-one interview (Larkin & Thompson, 2012, p103).

The second research instrument was *naturalistic observation*. O'Leary (2004) suggested that observational studies attempt to document what people actually do, rather than what they say they do. Observational studies rely on actual behaviour (p.172). Given (2008) was clear in pointing out the central definition features of *naturalistic observation* in qualitative research. That;

The *naturalistic observation* takes place in the natural setting for the phenomenon of interest. The researcher does not attempt to manipulate that setting in any way, and no constraints (e.g., predetermined categories) are placed on the outcome of the investigation. *Naturalistic observation* seeks to provide authentic, rich descriptions of the behaviours of interest as it naturally exists and unfolds in its real context. It emphasizes understanding and describing social activities from the point of view of the participants themselves. Naturalistic observation asserts that such understanding is possible only through firsthand accounts (p.550).

Vanderstoep & Johnston (2009) identified some stages for observation. That; (i) the researcher simply observes, attends to the details of the setting, people, and activities; (ii) the researcher describes the setting, people, and activities of the group; (iii) the researcher understands the meaning of these activities for individual participants, and/or the group identity throughout these stages, the researcher is taking copious *field notes* which are characterized by *thick description* (p.239). Yin agreed with Vanderstoep & Johnston (2009) when he stated that observation can be viewed as an *invaluable way of collecting data*. Because what you see with your own eyes, and perceive with your own senses is not filtered by what other people might have reported to you, or what the author/s of some documents might have seen. In this sense, your observations are recognized as a form of *primary data* (Yin, 2011, p.143).

Field note is used to record respondents' interviews and observations. *Field notes* are the material representation of the fieldwork event, and over time, they become equated with the scene's actors and actions. Field notes that are heavy with descriptions are rich, thick, and detailed. This allows the researcher to reenter the context and revisit those relationships, even years after an initial field visit (Tracy, 2013, pp.116-117). Field note is one of the main items used for recording data. The recording might be partial, or detail notes on events, times, methodological notes, sampling procedures, and so forth. Dawson expounded that;

If you intend to take *notes*, buy yourself a shorthand notepad and develop a shorthand style which you will be able to understand the detail. It is advisable to write up all *notes* into a longer report as soon as possible after the interview, while it is still fresh in your mind. It can be tiring taking notes in long interviews, so only arrange one or two per day (Dawson, 2002, p.67).

Given (2008) suggested that *field notes* are written as soon as possible after each field activity, and in rich detail as possible. Writing notes is a time-intensive, and the number of observations and reflections recorded can be quite large. Robert Bigdan and Sari Biklen suggested that the researcher has to jot down a topical, and sequential outline as soon as possible. Then, as soon as possible after leaving the immediate field, you should write a chronological account of the observations and impressions (pp.341-342). Yin (2011) stated that the main objective for converting *field notes* quickly is to convert the field notes to *fuller notes* as soon as possible after every field event. On most occasions, the opportunity will arise at the end of every day. Therefore, you should set aside a time slot to do that task (p.166).

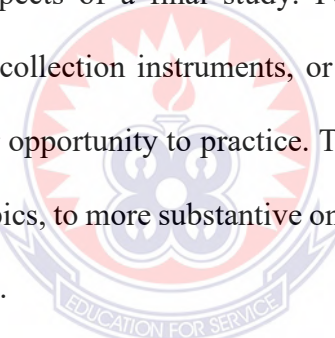
3.10 Pilot Study

During the 1st Semester of 2018-2019 academic year, I conducted a pilot study at the UEW, Music Education Department. I sampled five (5) level 100 students (BMus Ed, BMus, and DMus), and I used (i) semi-structured interview guide; (ii) observational checklist; and (iii) focus group discussion (FGD).

I gave the students three test items (i.e., technical exercises, classical pieces, and hymn tunes) to practice for 2 months (8 weeks). Therefore, each student chose to play (i) one major scale (ascending & descending) for 1 octave in one key (i.e., C major, G major, or F major); (ii) one classical piece (*Minuet in G by Bach*, or *Minuet in F no.1 by Mozart*); and (iii) one hymn tune (MHB:18, 286, or 944).

After 2 months (8 weeks) of practice, the students came to play for observation. The five students were tested on: (i) technical exercises, test for the piano; (ii) classical pieces, selected for categories; and (ii) The MHB, selected for hymn playing.

A *plot study* is a small-scale implementation of a larger study, or part of a larger study. It last for shorter period of time, and usually it involves a smaller number of participants, sites, or organization. *Pilot studies* can be used in any methodological setting. Especially, when attempting to collect data in a new format, or location, or to examine the potential *roadblocks* before full implementation. Pilot studies may also be viewed as a *feasibility study* (Given, 2008, p.624). Pilot studies help researchers to test and refine one or more aspects of a final study. For instance, the research design, fieldwork procedures, data collection instruments, or analysis plans. In this sense, the pilot study provides another opportunity to practice. The information from a pilot study can range from logistical topics, to more substantive one (e.g., refining a study's research questions) (Yin, 2011, p.37).

The logo of the University of Education, Winneba, is a circular emblem. It features a central sunburst design with a book and a torch. The text 'UNIVERSITY OF EDUCATION, WINNEBA' is written around the top inner edge, and 'EDUCATION FOR SERVICE' is written around the bottom inner edge.

3.11 Validity and Ethical Issues

To ensure that respondents' scores on the instruments were significant, and that it provided good assessments in the study, I presented the interview guide and the test items to my supervisors. They examined them, and added their suggestions. Therefore, I used the modified interview guide and test items to collect data.

The data collection followed established protocol, and it relied on rigorous methodological approaches. Thus; (i) I interviewed the lecturers' one-on-one. I also interviewed the level 100 students (BMus Ed, BMus and DMus) individually regarding their playing habits and challenges in keyboard playing; (ii) I observed each student respondent playing at the UEW Piano Laboratory One, taking notes, and recording their playing abilities with a multipurpose mobile phone; and (iii) I examined the documents to point a holistic picture of students' learning and playing experiences.

Slavin said the extent to which the data and its interpretation are credible is the validity (Slavin, 2007). I ensured that the instruments actually collected data that could measure the concepts or constructs it was supposed to measure. Validity is on the assumption that what is being studied can be measured or captured, and it seeks to confirm the truth and accuracy of the measured and captured 'data', as well as the truth and accuracy of any findings or conclusions drawn from the data (O'Leary, 2004, p.61).

Ethical Issues: (i) There was no risk involved for participating in the study; (ii) The study was beneficial to participants, because they continued to learn; and (iii) confidentiality and anonymity was rest assured. Dawson expounded that in *anonymity*, researchers need to take steps to ensure that what participants have said cannot be traced back to them when the final report or thesis is produced. Likewise in *confidentiality*, the researcher needs to show that information supplied to them in confidence will not be disclosed directly to third parties. If the information is supplied in a group setting, issues of confidentiality should be relevant to the whole group who should also agree not to disclose information directly to third parties (Dawson, 2002, p.151).

3.12 Data Analysis Procedures

During the 1st Semester of 2018-2019 academic year, I obtained permission from the HOD (Prof. Emmanuel Obed Acquah) to conduct the study.

I first conducted a pilot study during the 1st Semester of 2018-2019 to find out students' response. I sampled five (5) level 100 students (BMus Ed, BMus, and DMus). On Wednesday, 27th February, 2019, during the 2nd Semester of 2018-2019 academic year, I met the level 100 students (BMus Ed, BMus, and DMus) in the Music Education Department. I told them the essence of the study, and I sampled ten respondents from each programme. This gives a total of thirty (30) level 100 students.

I prepared the data and transcribed the interview notes, organized field notes, organized observation checklists, and ensured that all documents to be included in the analysis were present and available. For easy identification and comparison, I gave coding and created categories. The qualitative data was presented in narrative form with tables and a visual diagram.

I gave *codes* and *code numbers* to the lecturers and student respondents. The five lecturers were given code **Lec** (Lecturer), and their code numbers ranged from **Lec 1** to **Lec 5**. The student respondents were also given codes and code numbers according to their programme of study. Thus, (i) Bachelor in Music Education (**BMus Ed**), with code numbers ranged from **BMus Ed 1** to **BMus Ed 10**; (ii) Bachelor in Music (**BMus**), with code numbers ranged from **BMus 1** to **BMus 10**; and (iii) Diploma in Music (**DMus**), with code numbers ranged from **DMus 1** to **DMus 10**. The codes were given to keep confidentiality and anonymity.

The interviews and observations were conducted at the UEW, Music Education Department. The duration was from Monday, 4th March, 2019, to Wednesday, 8th May, 2019. At the beginning of the interview, I had the opportunity to meet the HOD (Prof. Emmanuel Obed Acquah). I also met lecturers *one-on-one* at their offices, especially lecturers who teach *keyboard skills* at the Music Education Department.

I also met each student respondent (BMus Ed, BMus, and DMus) *one-on-one*, and we agreed on a specific day and time that was convenient for both of us. I made that schedule in advance, because I did not want the interviews and observations to disrupt individual respondent's timetable for lectures, group discussions, assignments, and so forth. Likewise, I had the student respondents contact phone numbers, and therefore it made communication easier.

Sections of the Interview Guide: The interview guide was grouped into four sections.

- Section A: Personal biography (programme, level, age, gender, and academic background).
- Section B: Former musical life (former musical group, specific musical instrument played, number of years used to play that musical instrument).
- Section C: Keyboard experience (months/years used to play keyboard, personal piano books, practice methods, practice sections per week, keyboard playing challenges, and so forth).
- Section D: Commitment to lifelong keyboard playing, and owning a keyboard.

The interviews and observations of the level 100 student respondents (BMus Ed, BMus, and DMus) took place at the UEW, Piano Laboratory One. The Piano Laboratory One was appropriate for the interviews and observations, because it is built purposely for piano/keyboard playing. The Piano Laboratory One also offered students' *privacy*, and protected their *confidentiality*. The data collection continued on other days based on the timetable I made to meet each of the student respondent's *one-on one*.

The modified interview items (*interview guide*) was used, and it was repeated with the same wording during the interviews with each student respondent. Each of the student respondent (BMus Ed, BMus, and DMus) was given sufficient time for the interview process and the observation. Although, some of the items on the *interview guide* were not fundamental to the study, but they provided appropriate information for me to use for recommendations. Given (2008) was clear when she pointed out that in qualitative research, methods of data collection almost always involve *face-to-face* interaction with the study community and the study participants...Collection of *face-to-face data* occurs in two ways: (i) through *observation* (what the researcher sees); and (ii) through *interviewing* (what respondents tell researchers) (p.520).

Each of the level 100 student respondent (BMus Ed, BMus, and DMus) played; (i) one major scale for one octave (ascending & descending). The major key options were C major, G major or F major; (ii) one piano piece from the *Hours with the Masters: Volume I* (Primary to Elementary) by Dorothy Bradley; and (iii) one hymn tune from the Methodist Hymn Book (MHB).

The student respondents selected test items based on; (i) their interest; (ii) ability to play the pieces with the appropriate rhythms; and (iii) ability to play the pieces in the stipulated keys. The student respondents took the test items home to practice. Therefore, after 2 months (8 weeks), they came to the Piano Laboratory and played for observation. Soon after each student respondent (BMus Ed, BMus, and DMus) had finished the interview with the researcher, that respondent was asked to play (i) one major scale for one octave; (ii) one piano piece; and (iii) one hymn tune that he/she had selected earlier to practice. The authorities at the Music Department released one *keyboard synthesizer* (YAMAHA Digital Piano, P-105, with 88 keys) at the UEW Piano Laboratory One for the exercise.

The time allocated for individual student respondent was 15 minutes to 20 minutes. In other words, it was the duration that individual student respondent (BMus Ed, BMus, and DMus) was able to complete the interview and observation. This was based on the satisfactory information gathered by the researcher and his two research assistants. To avoid *subjectivity* of the data collection process, I did not conduct the *interviews* and *observations* alone by myself. But I was assisted by two research assistants who helped me to record student respondents (BMus Ed, BMus, and DMus) keyboard playing abilities, and their scores.

Yin (2011) suggested that within qualitative research, the phenomenological studies emphasizing hermeneutic or interpretive analyses are most strongly devoted to capture the uniqueness of events (p.14).

Saldana (2014) stated that the data should be organized in a '*repository*' for easy access, with back-ups for all files (as cited in Leavy, 2017). For the reason that qualitative research produces a wealth of data, you will also need to sort the data for analysis as part of the organizational process. The nature of the sorting process will depend on how much data you have collected. Saldana (2014) recommends using a separate file for each *chunk of data*. For example, one day's worth field notes, one interview, and so forth (Leavy, 2017, p.150). Saldana (2014) was of the view that you may begin to '*Prioritize*' the data analysis by noting which data will best help you to address the research purpose, and answer the research questions (p.584).

Yin stated that many data analysis, regardless of the particular qualitative orientation adopts to five-phase cycle. Thus; (i) compiling; (ii) disassembling; (iii) reassembling and arraying; (iv) interpreting; and (v) concluding. Analysis begins by;

- (i) Compiling and sorting: Compiling deals with the field notes amassed from your fieldwork, and other data collection (Yin, 2011, p.177).
- (ii) Disassembling procedure: Disassembling calls for breaking down of the compiled data into smaller fragments, or pieces. The procedure may be accompanied by assigning *new labels* or *codes* to the fragments, or pieces (Yin, 2011, p.178).
- (iii) Reassembling procedure: The reassembling or recombination may be facilitated by depicting the data graphically, or by arraying them in lists and other tabular forms (Yin, 2011, p.179).
- (iv) Interpreting the reassembling data: Interpreting the reassembling data involves using the reassembled material to create a new narrative, with accompanying

tables and *graphics* where relevant, that will become the *key analytic* portion of your draft manuscript (Yin, 2011, p.179).

- (v) Conclusion: Conclusions should be related to the interpretation in the fourth phase, third phase, second phase, and first phase of the cycle (p.179).

The study used *interpretative phenomenological analysis (IPA)*. This design is suitable for interpreting participants' understanding and experiences. Larkin & Thompson (2012) stated that *interpretative phenomenological analysis* is an approach to qualitative analysis with a psychological interest on how people make sense of their experiences. The IPA requires the researcher to collect detailed first-person accounts, from research participants (p.101). The interpretive phenomenology is at once a philosophical and methodological. The goal of interpretive phenomenology is to enter the hermeneutic circle in the most propitious way to study the phenomena at hand. This requires a lot of thoughts about developing lines of inquiry in ways that will allow for extending disconfirming, and/or expanding the researcher's understanding (Given, 2008, p.462).

The IPA has a phenomenological epistemology, and its assumptions are: (i) an understanding of the world requires an understanding of experience/s; (ii) IPA researchers elicit and engage with the personal accounts of other people who are always-already immersed in a linguistic, social, cultural, and physical world; (iii) we need to take an ideographic approach to our work, in order to facilitate a detailed focus on the particular; and (iv) we cannot escape interpretation at any stage; therefore, we need to maintain a commitment to grounding them (Larkin & Thompson, 2012, pp.102-103).

When I and my two research assistants were satisfied with the interviews and observations, we ended the data collection process, and exited from the research site (i.e., UEW, Music Education Department). As a result, the data collection process was completed at the Piano Laboratory One on Wednesday, 8th May, 2019, at 20:30.

Given (2008) suggested that disengagement becomes necessary to mark the end of the researcher-participant relationship, even if the researcher maintains a relationship that was established during the research. Disengagement allows a transition from the researcher-participant relationship whereby the researcher is no longer investigating the *other* (participants) at the research site (p.225). Dawson (2002) was clear when she said it is important to leave the *community (research site)* on good terms. Many researchers find that it is helpful to stay in touch with their contacts. However, you may also wish to return to the *community* several years later, to conduct a *follow-up study* (p.107).

Yin agreed with Dawson (2002) on how a researcher should plan to exit the *field setting (research site)*. He suggested that you may want to *stay in touch*, even though you are not planning to return to the *field setting* per se. Some relationships are best left to linger rather than ending in a firmly established *goodbye*. You may even want to leave open the opportunity of returning to the *field setting* after some days, to do a *follow-up study* (Yin, 2011, p.121).

3.13 Limitation

In the study, each respondent gave a convenient date and time, and they made themselves available for the data collection process. Therefore, I and my two assistants did not encounter challenges in sampling, research instruments and data collection process.

Miles (2017) suggested that limitations are defined as constraints to your study based on the research methodology and design. Primarily, limitations deal with the constraints to the research method (as cited in Miles, 2019, p.2). Theofanidis & Fountouki (2018) explained that *limitation* of any particular study concern potential weakness that are usually out of the researcher's control, and are closely associated with the chosen research design, statistical model constraints, funding constraints, or other factors. In this respect, a limitation is an '*Imposed*' restriction which is essentially out of the researcher's control (p.156).

Limitation is a factor that may, or will affect the study, but is not under the control of the researcher. In such studies that use questionnaires, a common limitation is the willingness of the individuals to respond at all, to respond in a timely fashion, and to respond accurately. It is important to the effects on the outcomes of the study, and they are not controlled by the researcher (Miles, 2019, p.2).

CHAPTER FOUR

RESULTS, FINDINGS, AND DISCUSSION

4.0 Overview

This chapter presents (1) results obtained from the data collection; (2) findings; and (3) discussion of the findings. The study seeks to find out about adult students keyboard playing skills at the UEW Music Education Department. As a Case Study, it looked at the *keyboard skills* performance of level 100 students during the 2018-2019 academic year. The study sampled five lecturers who teach *keyboard skills*, and thirty level 100 students (BMus Ed, BMus, and DMus). The results of the outcome was used to answer the formulated research questions.

My prior understanding of the *keyboard skills* acquisition was very relevant to the analysis that included, but were not limited to descriptions of adult students' demographic/cultural characteristics, entry credentials, and keyboard playing experiences they brought onto the programmes, the phenomena being looked at values and decisions in selecting the pieces or test materials for analysis.

I asked two lecturers at the UEW, Music Education Department about the importance of the *keyboard skills*? Mr. John Francis Annan said keyboard is everything, when it comes to music. It improves students' general musicianship (harmony, rhythmic work, aural & sight-reading, analysis, and so forth). He continued that a lot of people outside the UEW assess music students according to some level of keyboard playing.

Dr. Mrs. Augusta Ako Mensah also said music students are trained in the Department to become music teachers. Therefore, keyboard playing enhances, and complements their teaching in the classrooms. She added that *keyboard skills* prepare music students for the job market; especially, playing for various churches, choral groups, and so forth.

4.1 Age Distribution of Student Respondents

Table 2 below shows the ages of level 100 student respondents in the three programmes (BMus Ed, BMus, and DMus). They ranged from 20 years to 30 years and above, with majority of the students (13) in range 20-24 years.

Table 2: Age Distribution of Adult Students

Age Range	Student Category	Frequency	%
20–24	Students	13	43.33
25–29	Students	11	36.67
30 and above	Students	6	20
Total		30	100

In Table 2, thirteen student (43.33%) were between 20-24 years, and eleven students (36.67%) were between 25-29 years, whilst six (20%) were 30 years and above.

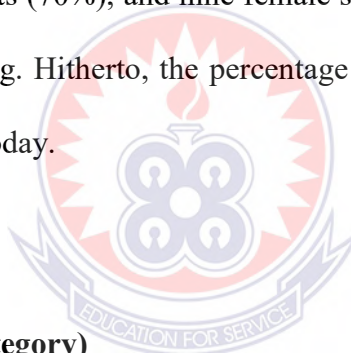
4.2 Gender (Student Category)

The study sampled thirty level 100 students. Thus; (i) ten BMus Ed students; (ii) ten BMus students; and (iii) ten DMus students.

Table 3: Gender (Student Category)

Students Category	Male Frequency	Male %	Female Frequency	Female %
BMus Ed 1-10	6	20	4	13.33
BMus 1-10	7	23.33	3	10
DMus 1-10	8	26.67	2	6.67
Total	21	70	9	30

Table 3 above shows that in BMus Ed, six student respondents (20%) were male, whilst four students (13.33%) were female. In BMus, seven students (23.33%) were male, and three students (10%) were female. In DMus, eight students (26.67%) were male, whilst two (6.67%) were female students. Therefore, BMus Ed, BMus, and DMus gave a total of twenty-one male students (70%), and nine female students (30%). The percentage of female is quite encouraging. Hitherto, the percentage was much less than the 30% the Department has chucked today.



4.3 Gender (Lecturer Category)

The study sampled five lecturers who teach *keyboard skills* at the UEW, Music Education Department.

Table 4: Gender (Lecturer Category)

Gender	Lecturer Category	
	Frequency	%
Male	5	100
Total	5	100

Table 4 above shows that all the five lecturers (100%) were male.

4.4 Academic Background of Student Respondents

The data indicated that the UEW admit students from different areas of study. Therefore, students at the UEW have different backgrounds. In the study, the student respondents said they were from Colleges of Education, Polytechnic, Senior High School, Technical School, and some were admitted as Matured Students (i.e., candidates who have the requisite entry qualification, and are 25 years and above). This category is admitted by embrace exams (music theory and practical).

Table 5: Academic Background of Students

Academic Background	Frequency	%
College of Education	2	6.67
Polytechnic	1	3.33
Senior High School	16	53.33
Technical School	5	16.67
Matured Student	6	20
Total	30	100

Table 5 above shows that majority of level 100 students (BMus Ed, BMus, and DMus), sixteen (53.33%) were from various Senior High Schools, and six (20%) were admitted as Matured Students (i.e., candidates who have the requisite entry qualification, and are 25 years and above), whilst five students (16.67%) were from various Technical Schools. Two students (6.67%) were from Colleges of Education, whilst one student (3.33%) was from a Polytechnic.

4.5 Academic and Professional Designation of Lecturers

The five lecturers who teach *keyboard skills* play piano as their principal instrument. The lecturers have experience for teaching adult students piano pedagogy. They also teach other aspects of music (i.e., harmony, literature, aural & sight-reading, analysis). Table 6 below shows lecturers academic and professional designation.

Table 6: Academic and Professional Designation of Lecturers

Academic Designation			Professional Designation		
Lecturer's Degree	Freq.	%	Lecturer's Rank	Freq.	%
PhD	1	20	Senior Lecturer	1	20
MPhil	2	40	Senior Lecturer	2	40
MPhil	2	40	Lecturer	2	40
Total	5	100		5	100

Table 6 above shows that all the lecturers sampled are well qualified to handle the *keyboards skills* teaching at the tertiary level (i.e., they have risen to the ranks of lecturers and senior lecturers). One holds a doctorate degree in Music Education, whilst the remaining four hold research master's degrees in music. All of them have many years of teaching experience in Music at the Department.

4.6 Adult Students Musical Instruments

Research Question 1 *asked the type of readiness and experiences of students who enroll onto the music programmes (BMus Ed, BMus, and DMus) at the UEW, Music Education Department bring along for their studies?*

The data was collected on level 100 student respondents (BMus Ed, BMus, and DMus) comfort zone musical instruments. The data indicated that level 100 students had former musical life. Thus; (i) each student was active in a specific musical group; and (ii) each student played one principal instrument in the group. Table 7 below shows level 100 students comfort zone musical instruments.

Table 7: Students Comfort Zone Musical Instruments

Former Musical Instrument	Frequency	%
Voice (sop., alto, tenor, bass)	11	36.67
Trumpet	2	6.67
Euphonium	1	3.33
Tuba	1	3.33
Guitar	2	6.67
Drums	3	10
Keyboard	10	33.33
Total	30	100

Table 7 above shows that level 100 students (BMus Ed, BMus, and DMus) were actively involved in specific musical groups (i.e., church choir, youth choir, gospel band, brass band, and African drum ensemble), and each of them played a principal musical instrument. The comfort zone distribution of students' instruments explain the type of musical instruments. Thus; (i) eleven students (36.67%) were singers in various musical groups (i.e., church choir, youth choir, and gospel band). As singers, the female sung soprano & alto, and the male sung tenor & bass (SATB); (ii) two students (6.67%) played trumpet in musical group (i.e., brass band); (iii) one students (3.33%) played euphonium in a musical group (i.e., brass band); (iv) one student (3.33%) played tuba in a musical group (i.e., brass band); (v) two students (6.67%) played guitar in musical group (i.e., gospel band) ; (vi) three students (10%) played African drums such as conga in musical

group (i.e., African drum ensemble); and (vii) ten students (33.33%) played organ or keyboard for various churches (i.e., Orthodox, Pentecostal, and Charismatic), and musical groups (i.e., church choir, youth choir, and gospel band).

Table 7 above indicated that twenty students (66.67%) were actively involved in various musical groups. None of them formerly played keyboard in the musical groups. But, data indicated that ten students (33.33%) played keyboard in the musical groups.

4.7 Duration of Keyboard Playing Experience

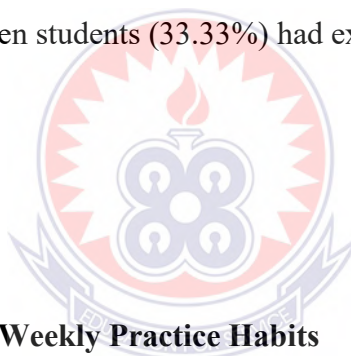
During the 2nd semester of 2018-2019 academic year, the data collection revealed that a lot of level 100 student respondents (BMus Ed, BMus, and DMus) had only accumulated less than 12 months of keyboard playing experience as shown in Table 8 below.

Table 8: Students Keyboard Playing Experience

Duration of Keyboard Playing Experience	Range of Playing Experience	Frequency	Summary of Playing Experience	Percentage %
7 Months	Less than	6	20	20
8 Months	1 year	14		46.67
1 Year (12 Months)		2		6.67
2 Years (24 Months)	2–4 years	3	7	10
4 Years (48 Months)		2		6.67
5 Years (60 Months)	5–6 years	2	3	6.67
6 Years (72 Months)		1		3.33
Total		30	30	100

Table 8 above shows that fourteen student respondents (46.67%) accumulated **8** months of keyboard playing experience, whilst six students (20%) accumulated **7** months of playing experience. On the contrary, two students (6.67%) played for **1** year, and three students (10%) accumulated 2 years, whilst another two students (6.67%) accumulated **4** years. Likewise, two students (6.67%) played the keyboard for **5** years, whilst one student (3.33%) played for **6** years.

The results in Table 8 above clearly show that although the students (BMus Ed, BMus, and DMus) were all in level 100, but their keyboard playing experiences varied considerably with the years of experiences associated with the instrument. Thus, twenty level 100 students (66.67%) had only encountered the keyboard for less than 12 months (1 year), as the remaining ten students (33.33%) had experiences from **1-6** years.



4.8 Student Respondents Weekly Practice Habits

Research Question 3: *asked the practice methods, and self-development strategies that students engage themselves in with regard to Keyboard skills performance at the UEW Music Education Department?*

A component of **RQ 3** seeks to find out the *self-development strategies that students engage themselves in with regard to keyboard skills performance at the UEW Music Education Department*. The researcher set *four weekly practice session/day criteria* to find out the number of days per week that level 100 students (BMus Ed, BMus, and DMus) use to engage themselves at the piano/keyboard for practice and playing skills.

This is also called *practice habits*. *Practice habit* is very vital for pianists, and people who certainly want to play the piano/keyboard to acquire a gradual skill development day by day, and to do regular public performances, by using minimum practice days.

I suggest that if an individual (adult learner) plays the piano/keyboard, and adopt to four, five, six, or seven practice sessions/days per week, it would enable the individual (learner) to correct some common mistakes. *Regular practice habits* would: (i) enable students/learners to use appropriate fingering at faster tempi (speeds); (ii) enable students to improve hands & fingers dexterity; (iii) enable students to keep to regular tempo (speed); (iv) enable students to interpret complex rhythmic patterns with ease; (v) enable students to acquire sight-reading skills; (vi) enable students to memorise pieces (music) within the shortest possible practice sessions/days; (vii) enable students to do mental practice away from the physical piano; (viii) enable students to play a whole piece (music) flawless; and (ix) enable students to do regular public performances (recitals, concerts, church, musical groups, audience) with confidence.

I conducted *one-on-one* interviews with the level 100 students (BMus Ed, BMus, and DMs), and the data indicated their *practice habits*. Thus; (i) five students (16.67%) adopted to one practice session/day per week; (ii) twelve students (40%) adopted to two practice sessions/days per week; (iii) ten students (33.33%) adopted to three practice sessions/days per week; (iv) two students (6.67%) adopted to four practice sessions/days per week; and (v) one student (3.33%) adopted to six practice sessions/days per week. Table 9 below shows students *weekly practice habits*.

Table 9: Students Weekly Practice Habits

Practice Sessions Per Week	Frequency	%
One practice day per week	5	16.67
Two practice days per week	12	40
Three practice days per week	10	33.33
Four practice days per week	2	6.67
Five practice days per week	0	0
Six practice days per week	1	3.33
Total	30	100

Table 9 above indicated that a lot of level 100 students, twenty seven (90%) did not meet the *four weekly practice session/day criteria*. They adopted to *one, two, and three* practice sessions/days per week, which was too minimum. However, three students (10%) were able to meet the *four weekly practice session/day criteria*. Thus; (i) two students (6.67%) adopted to four (4) practice sessions/days per week; whilst (ii) one student (3.33%) adopted to six (6) practice sessions/days per week.

I suggest that the five respondents (16.67%) who adopted to one practice session/day per week had one particular day in a week which they practice. I strongly believe that they only play the keyboard when they decide to go for keyboard tutorials.

Table 10 below shows the detail of ten level 100 student respondents (33.33%) who formerly played keyboards in various churches (i.e., Orthodox, Pentecostal, and Charismatic) and musical groups (i.e., church choir, youth choir, and gospel band). It also shows the number of years they used to play keyboard, and their practice habits.

Table 10: Students Years of Playing Experience

Respondents	Former Musical Group	Duration of Keyboard Playing Experience	Practice Sessions/days per Week	Range of Weekly Practice
1) BMus Ed 9	Church choir	2 years	2 days per week	
2) BMus 7	Gospel band	1 year	2 days per week	
3) BMus 9	Church choir	4 years	2 days per week	2–3
4) BMus Ed 8	Church choir	5 years	3 days per week	Practice days
5) BMus Ed 10	Gospel band	2 years	3 days per week	per week
6) DMus 7	Church choir	2 years	3 days per week	
7) DMus 8	Church choir	1 year	3 days per week	
8) BMus Ed 6	Youth choir	4 years	4 days per week	4 and 6
9) BMus 8	Youth choir	5 years	4 days per week	Practice days
10) BMus Ed 7	Church choir	6 years	6 days per week	per week

Table 10 shows that six students (20%) played the keyboard for various church choirs, and two students (6.67%) played for youth choirs, whilst two students (6.67%) played the keyboard for gospel bands. The ten students also played for various churches (i.e., Orthodox, Pentecostal, and Charismatic). The data indicated that seven students (23.33%) did not meet the *four weekly practice session/day criteria*.

They adopted to two and three practice sessions/days per week. On the contrary, three students (10%) were able to meet the *four weekly practice session/day criteria*. These students adopted to four and six practice sessions/days per week.

4.9 Student Respondents Challenges in Piano/Keyboard Playing

The data indicated that a lot of level 100 students (BMus Ed, BMus, and DMus) encountered challenges at the keyboard. Table 11 below shows students' challenges.

Table 11: Students Challenges in Piano/Keyboard Playing

Self-determination for playing the Keyboard	Strongly agree SA	Agree A	Neutral N	Disagree D	Strongly Disagree SD
	5	4	3	2	1
i) I can easily remember the melodies or tunes that are produced from the piano/keyboard, when after some time lapse, I practice the same piece (music) again. I can recollect it back.	16	8	2	0	4
ii) I can recognise varied rhythmic patterns in the treble stave and bass stave, and play them simultaneously.	14	2	4	4	6
iii) I can play hymn tunes with ease, even though four notes are played simultaneously.	14	4	0	4	8
iv) I can easily coordinate my left-fingers with my right-fingers on the keyboard. Coordination of both-hands is not difficult for me.	14	8	2	0	6
v) I can practice a whole piano piece/s (music), and also play from memory.	2	2	4	0	22
vi) I can easily play classical music with more melisma (using a syllable of a text to sing, or to play several different notes in succession).	4	2	0	2	22
vii) I can easily sight-read musical scores (staff notation), and coordinate with both-hands on the piano/keyboard.	10	8	0	2	10

Table 11 above reveals seven common challenges of level 100 students. Four students find it difficult to remember the melodies or tunes, when after some time lapse, they sit at the piano to practice the same piece again. When rhythms in the treble stave are different from rhythms in the bass, it made hand coordination difficult for ten students. Likewise, hand coordination was difficult for twelve students who play hymn tunes. Twenty-two students find it difficult to practice a whole piano piece/s and play from memory. Also, playing music with more melisma was a challenge for twenty-four students, whilst sight-reading was a challenge for twelve students.

4.10 Students Commitment to Lifelong Piano/Keyboard Playing

The data indicated that a lot of level 100 students (BMus Ed, BMus, and DMus) showed commitment to lifelong piano/keyboard playing.

Table 12: Students Commitment to Lifelong Keyboard Playing

Self-determination for Playing the Piano/Keyboard	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
	SA	A	N	D	SD
	5	4	3	2	1
i) I want to become a keyboardist in my church, and musical group.	10	0	6	8	6
ii) I want to play the keyboard, and also teach other people as well.	10	2	12	2	4
iii) I want to become a concert pianist.	4	0	16	6	4
iv) I want to play the keyboard just to pass my exams at the UEW.	4	0	13	7	6

Table 12 above shows that ten student respondents (33.33%) wanted to become organists or keyboardists in various churches (i.e., Orthodox, Pentecostal, and Charismatic) and musical groups (i.e., church choir, youth choir, and gospel band), whilst twelve students (40%) wanted to play the keyboard and also teach other people. Likewise, four students (13.33%) wanted to become concert pianists. But, other four students (13.33%) wanted to play the keyboard just to pass their exams at the UEW.

4.11 Students Owning a Personal Keyboard

The data revealed that a lot of level 100 student respondents (BMus Ed, BMus, and DMus) did not own personal keyboards with 5 octaves, or 7¼ octaves.

Table 13: Students Owning a Personal Keyboard

Programme	Own a Personal Piano/Keyboard	Percentage %	Do Not Own a Personal Keyboard	Percentage %
BMus Ed	3	10	7	23.33
BMus	4	13.33	6	20
DMus	4	13.33	6	20
Total	11	36.67	19	63.33

Table 13 above shows that eleven student respondents (36.67%) own personal keyboards which they used to practice piano pieces (music) and play favourite music. But a lot of them, nineteen students (63.33%) did not own personal keyboards. I am very certain that students (63.33%) who did not own keyboards most often go to the Piano Laboratory to practice their pieces, or go to colleagues and use their keyboard to practice.

4.12 Students Respondents Performance on Technical Exercises

Given (2008) suggested that an observation guide is a type of form prepared prior to data collection that delineates the behaviour and situational features to be observed and recorded during observation. Most of the qualitative observation guide act as flexible guidelines for data collection (p.576).

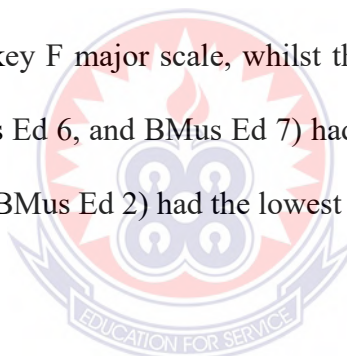
During the observation of level 100 students (BMus Ed, BMus, and DMus), they were tested on three test items. Each of them chose a set of test item based on; (i) their interest; (ii) ability to play the pieces (music) with appropriate rhythms; and (iii) ability to play the pieces in the stipulated keys. The first test item was technical exercise. Each student respondent played one *major scale* for one octave, with both-hands ascending & descending. The option keys were key C major, key G major, and key F major. The technical exercises were scored on technical control of voice parts, and fluency in playing, with a total assessment score of 10.

I trained two research assistants to use the test items and scoring. I used a *multi-purpose mobile phone* (TECNO Spark 5, 64 GB, 3 GB) as audio recording, to record each student's playing abilities. I also used a *field note book* to write down the interviews, and scores on the tests items. Results of the technical exercises are presented in Tables 14, 15, and 16 below for the three categories (BMus Ed, BMus, and DMus).

Table 14: Scores of BMus Ed Respondents on Technical Exercises

Respondents'	Major Key	Technical Control of Voice Part/s (Scale:1-5)	Fluent Playing (Scale:1-5)	Assessment Score out of a Total of 10
BMus Ed 1	Key C	4.1	3.9	8.0
BMus Ed 2	Key C	4.1	3.9	8.0
BMus Ed 3	Key C	4.2	4.0	8.2
BMus Ed 4	Key C	4.2	4.0	8.2
BMus Ed 5	Key C	4.1	4.0	8.1
BMus Ed 6	Key G	4.4	4.6	9.0
BMus Ed 7	Key G	4.4	4.6	9.0
BMus Ed 8	Key G	4.4	4.5	8.9
BMus Ed 9	Key F	4.4	4.5	8.9
BMus Ed 10	Key F	4.4	4.4	8.8

Table 14 above shows the assessment scores of BMus Ed student respondents. The range of the scores are not very much wide. Five BMus Ed students played key C major scale, then two students played key F major scale, whilst three students played key G major scale. Two students (BMus Ed 6, and BMus Ed 7) had the highest scores, but other two students (BMus Ed 1, and BMus Ed 2) had the lowest scores.

**Table 15: Scores of BMus Respondents on Technical Exercises**

Respondents	Major Key	Technical Control of Voice Part/s (Scale:1-5)	Fluent Playing (Scale:1-5)	Assessment Score out of a Total of 10
BMus 1	Key C	4.2	4.0	8.2
BMus 2	Key C	4.1	3.9	8.0
BMus 3	Key F	4.1	4.0	8.1
BMus 4	Key F	4.2	4.1	8.3
BMus 5	Key C	4.2	4.1	8.3
BMus 6	Key C	4.2	4.0	8.2
BMus 7	Key F	4.4	4.6	9.0
BMus 8	Key G	4.4	4.6	9.0
BMus 9	Key G	4.4	4.6	9.0
BMus 10	Key C	4.1	4.1	8.2

Table 15 above shows that five BMus student respondents played key C major scale, whilst three students played key F major scale, and two students played key G major scale. Three students (BMus 7, BMus 8, and BMus 9) had the highest scores, but one student (BMus 2) had the lowest.

Table 16: Scores of DMus Respondents on Technical Exercises

Respondents	Major Key	Technical Control of Voice Part/s (Scale:1-5)	Fluent Playing (Scale:1-5)	Assessment Score out of a Total of 10
DMus 1	Key C	4.2	4.1	8.3
DMus 2	Key C	4.1	4.1	8.2
DMus 3	Key C	4.1	3.9	8.0
DMus 4	Key C	4.1	3.9	8.0
DMus 5	Key F	4.1	4.1	8.2
DMus 6	Key G	4.2	4.1	8.3
DMus 7	Key G	4.4	4.6	9.0
DMus 8	Key G	4.4	4.6	9.0
DMus 9	Key F	4.2	4.0	8.2
DMus 10	Key C	4.2	4.0	8.2

Table 16 above shows that five DMus student respondents played key C major scale, and two students played key F major scale, whilst three students played key G major scale. Two students (DMus 7, and DMus 8) had the highest scores, but other two students (DMus 3, and DMus 4) had the lowest.

The total number of specific major keys played by level 100 student respondents (BMus Ed, BMus, and DMus) on technical exercises are grouped into three. Thus;

- i) Seven student respondents (23.33%) played key F major scale.
- ii) Eight student respondents (26.67%) played key G major scale.
- iii) Fifteen student respondents (50%) played key C major scale.

4.13 BMus Ed, BMus, and DMus Performance on Classical Pieces

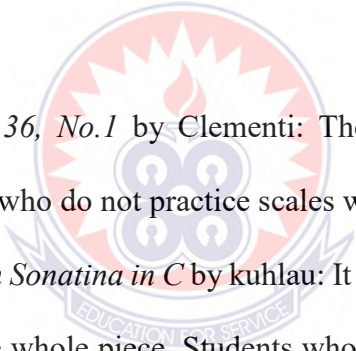
The second test item was *classical pieces*, and student respondents (BMus Ed, BMus, and DMus) were scored on recognition of voices, rhythm, meter, tempo, dynamics, and fluent playing. It had a total score of 30, as presented in Tables 17, 18, and 19 below. The *Hours with the Masters: volume 1 (Primary to Elementary)* by Dorothy Bradley was used for the second test. This piano course book (vol.1) has a collection of twenty-seven (27) piano pieces written in the keys of C, G, D, A, F, Bb majors, and A minor. But, eleven (11) piano pieces (music) in the keys of C, G, and F majors were selected for playing.

The eleven selected *piano pieces* are: (a) *Minuet in G* by Bach; (b) *Melody Op.68, No.1* by Schumann; (c) *Minuet in F, No.1* by Mozart; (d) *Allegretto in C, No.10* by Diabelli; (e) *Minuet in G* by Purcell; (f) *Rondo Militaire in G* by Pleyel; (g) *Sonatina in C, Op.36, No.1* by Clementi; (h) *Ecossaise in G* by Beethoven; (i) *Allegro Vivace from Sonatina in C* by Kuhlau; (j) *Study in C, Op.47, No.19* by Heller; and (k) *L'Harmonie des Anges* by Burgmuller.

During the selection of the classical pieces, the student respondents (BMus Ed, BMus, and DMus) chose the pieces based on (i) their interest; (ii) ability to play the pieces with appropriate rhythms; and (iii) ability to play the pieces in the stipulated keys.

The student respondents (BMus Ed, BMus, and DMus) selected seven pieces from the eleven classical pieces mentioned above. The selected classical pieces are: **(a)** *Minuet in G* by Bach; **(b)** *Melody Op.68, No.1* by Schumann; **(c)** *Minuet in F, No.1* by Mozart; **(d)** *Allegretto in C, No.10* by Diabelli; **(e)** *Minuet in G* by Purcell; **(f)** *Rondo Militaire in G* by Pleyel; and **(h)** *Ecossaise in G* by Beethoven.

However, the student respondents (BMus Ed, BMus, and DMus) did not select four classical pieces from the eleven pieces. It could be possible that the 2 months (8 weeks) period set for students to practice the test items was not enough, or the pieces were difficult for them, hence, they selected other classical pieces. Below shows the rejected classical pieces (music).

- 
- i) *Sonatina in C, Op.36, No.1* by Clementi: The piece contains some scales in sequence. Students who do not practice scales will find it difficult to play.
 - ii) *Allegro Vivace from Sonatina in C* by Kuhlau: It contains several chromatic scales that run through the whole piece. Students who do not practice chromatic scales will find it difficult to play this piece.
 - iii) *Study in C, Op.47, No.19* by Heller: This piece has the melody in the treble stave, and the bass accompaniment is made up of broken chords in succession. Therefore, hand coordination would be difficult for some of the students.
 - iv) *L'Harmonie des Anges* by Burgmüller: Arpeggios for both-hands run through the whole piece. This piece could be difficult for students who do not practice arpeggios as part of their technical exercises.

The results of student respondents (BMus Ed, BMus, and DMus) on classical pieces (music) are presented in Tables 17, 18, and 19 below.

Table 17: Scores of BMus Ed Respondents on Classical Music

Respondents	Piece	Recognize Voice/s scale:1-5	Correct Rhythm scale:1-5	Correct Meter scale:1-5	Regular Tempo scale:1-5	Dynamic scale1-5	Fluent Playing scale:1-5	Assessment Score out of a Total of 30
BMus Ed 1	a	3.5	3.9	3.0	2.1	--	1.9	14.4
BMus Ed 2	a	3.5	3.8	3.0	1.1	--	2.9	14.3
BMus Ed 3	c	3.2	3.5	2.8	2.0	--	1.7	13.2
BMus Ed 4	a	3.5	3.8	3.0	2.1	--	2.9	15.3
BMus Ed 5	h	3.2	3.5	2.8	2.0	--	2.7	14.2
BMus Ed 6	d	4.0	4.1	4.1	4.3	3.0	4.4	23.9
BMus Ed 7	e	4.1	4.2	4.3	4.8	4.2	3.8	25.4
BMus Ed 8	f	4.0	4.1	4.1	4.3	3.0	4.4	23.9
BMus Ed 9	h	4.0	3.8	3.9	4.0	3.0	4.0	22.7
BMusEd 10	d	3.8	4.2	3.3	4.7	3.0	3.9	22.9

Table 17 above shows that three student respondents (BMus Ed 1, BMus Ed 2, and BMus Ed 4) played *Minuet in G by Bach*, then one student (BMus Ed 3) played *Minuet in F, No.1 by Mozart*, and two students (BMus Ed 6, and BMus Ed 10) played *Allegretto in C, No.10 by Diabelli*, whilst one student (BMus Ed 7) played *Minuet in G by Purcell*. Likewise, one student (BMus Ed 8) played *Rondo Militaire in G by Pleyel*, and two students (BMus Ed 5, and BMus Ed 9) played *Ecossaise in G by Beethoven*. In all, BMus Ed 7 scored the highest (25.4), but BMus Ed 3 scored the lowest.

Table 18: Scores of BMus Respondents on Classical Music

Respondents	Piece	Recognize Voice/s scale: 1-5	Correct Rhythm scale:1-5	Correct Meter scale:1- 5	Regular Tempo scale:1- 5	Dynamic scale:1-5	Fluent Playing scale:1-5	Assessment Score out of a Total of 30
BMus 1	c	3.6	3.9	3.0	2.6	--	1.9	15.0
BMus 2	a	3.5	3.8	2.9	2.0	--	1.7	13.9
BMus 3	c	3.6	3.8	3.0	2.6	--	1.9	14.9
BMus 4	b	3.5	3.4	2.5	1.2	--	1.7	12.3
BMus 5	b	3.5	3.5	2.6	2.4	--	1.8	13.8
BMus 6	a	3.5	3.8	3.0	2.1	--	1.9	14.3
BMus 7	d	4.0	3.8	4.0	4.2	3.0	4.0	23.0
BMus 8	e	4.1	4.2	4.3	4.8	3.2	4.7	25.3
BMus 9	f	4.1	4.2	4.3	4.8	3.2	4.7	25.3
BMus 10	h	3.2	3.5	3.8	3.0	--	2.7	16.2

Table 18 above shows that two student respondents (BMus 2, and BMus 6) played *Minuet in G* by Bach, then another two students (BMus 4, and BMus 5) played *Melody Op.68, No. 1* by Schumann, and two students (BMus 1, and BMus 3) played *Minuet in F, No.1* by Mozart, whilst one student (BMus 7) played *Allegretto in C, No.10* by Diabelli. Likewise, one student (BMus 8) played *Minuet in G* by Purcell, then another student (BMus 9) played *Rondo Militaire in G* by Pleyel, whilst one student (BMus 10) played *Ecossaise in G* by Beethoven. BMus 8 had the highest score of 25.3, but BMus 4 had the lowest (12.3).

Table 19: Scores of DMus Respondents on Classical Music

Respondents	Piece	Recognise Voice/s scale:1-5	Correct Rhythm scale:1-5	Correct Meter scale:1-5	Regular Tempo scale:1-5	Dynamic scale:1-5	Fluent Playing scale:1-5	Assessment Score out of a Total of 30
DMus 1	a	3.5	3.8	3.0	2.1	--	1.9	14.3
DMus 2	c	2.2	3.5	2.8	2.0	--	1.7	12.2
DMus 3	a	3.5	3.8	3.0	2.1	--	1.8	14.2
DMus 4	b	3.5	3.8	3.0	2.1	--	1.9	14.3
DMus 5	c	3.2	3.5	2.8	2.0	--	1.7	13.2
DMus 6	c	3.5	3.9	3.0	2.1	--	1.9	14.4
DMus 7	d	4.1	4.2	4.3	4.5	3.4	4.4	24.9
DMus 8	f	4.0	4.1	4.1	4.3	3.4	4.5	24.4
DMus 9	h	3.5	3.9	3.0	2.1	--	1.9	14.4
DMus 10	a	3.2	3.5	2.8	3.0	--	2.7	15.2

Table 19 above shows that three student respondents (DMus 1, DMus 3, and DMus 10) played *Minuet in G* by Bach, then one student (DMus 4) played *Melody Op.68, No. 1* by Schumann, whilst three students (DMus 2, DMus 5, and DM 6) played *Minuet in F, No.1* by Mozart. Likewise, one student (DMus 7) played *Allegretto in C, No.1* by Diabelli, then another student (DMus 8) played *Rondo Militaire in G* by Pleyel, whilst one student (DMus 9) played *Eccossaise in G* by Beethoven. Out of a total assessment score of 30, DMus 7 had the highest score of 24.9, but DMus 2 had the lowest (12.2).

The total number of specific classical pieces played by level 100 student respondents (BMus Ed, BMus, and DMus) are grouped into seven. Thus,

- i) Eight student respondents (26.67%) played *Minuet in G* by Bach.
- ii) Six student respondents (20%) played *Minuet in F, No.1* by Mozart.
- iii) Four student respondents (13.33%) played *Allegretto in C, No.10* by Diabelli.
- iv) Four student respondents (13.33%) played *Eccossaise in G* by Beethoven.
- v) Three student respondents (10%) played *Melody Op.68, No.1* by Schumann,
- vi) Three student respondents (10%) played *Rondo Militaire in G* by Pleyel.
- vii) Two student respondents (6.67%) played *Minuet in G* by Purcell.

4.14 BMus Ed, BMus, and DMus Performance on Hymn Tunes

The playing of the *hymn tunes* were scored on recognition of voices, rhythm, meter, and tempo, with a total assessment score of 20, as presented in Tables 20, 21, and 22 below. Twenty-one hymn tunes in the keys of C major, G major and F major were selected from the *Methodist Hymn Book* (MHB). Thus; MHB 18, 23, 64, 129, 133, 199, 234, 242, 320, 414, 421, 488, 539, 608, 617, 677, 811, 818, 942, 944, and (AT 23).

The level 100 student respondents (BMus Ed, BMus, and DMus) selected seventeen hymn tunes out of the twenty-one tunes. Thus, MHB: 18, 23, 64, 129, 133, 199, 242, 320, 414, 421, 608, 617, 811, 818, 942, 944, and additional tune 23 (AT 23). However, respondents did not choose four hymn tunes. It could be that coordination of both-hands was a challenge for them. The rejected hymn tunes are MHB: 234, 488, 539, and 677. The results of the hymn tunes are presented in Tables 20, 21, and 22 below.

Table 20: Scores of BMus Ed Respondents on Hymn Tunes Playing

Respondents	Hymn Tunes Selected	Recognize Voice/s scale:1-5	Correct Rhythm scale:1-5	Correct Meter scale:1-5	Regular Tempo scale:1-5	Assessment Score out of a Total of 20
BMus Ed 1	MHB:18	3.0	3.9	3.7	1.3	11.9
BMus Ed 2	MHB:818	2.2	2.7	3.6	1.4	9.9
BMus Ed 3	MHB:133	3.1	3.8	3.9	1.3	12.1
BMus Ed 4	MHB:AT23	2.2	3.9	3.8	1.1	11.0
BMus Ed 5	MHB:129	2.0	2.8	3.6	1.0	9.4
BMus Ed 6	MHB:608	4.4	4.5	4.3	4.2	17.4
BMus Ed 7	MHB:617	4.5	4.5	4.4	4.3	17.7
BMus Ed 8	MHB:199	4.3	4.4	4.2	4.3	17.2
BMus Ed 9	MHB:23	4.4	4.4	4.3	4.1	17.2
BMusEd 10	MHB:64	4.3	4.2	4.3	4.1	16.9

Table 20 above shows a total assessment score of 20 on hymn tunes. BMus Ed 7 played MHB 617 and had the highest score (17.7), and BMus Ed 5 played MHB 129, but had the lowest score (9.4).

Table 21: Scores of BMus Respondents on Hymn Tunes Playing

Respondents	Hymn Tunes Selected	Recognize Voice/s scale:1-5	Correct Rhythm scale:1-5	Correct Meter scale:1-5	Regular Tempo scale:1-5	Assessment Score out of a Total of 20
BMus 1	MHB:421	3.4	3.6	3.0	2.1	12.1
BMus 2	MHB:818	3.3	3.7	3.2	1.4	11.6
BMus 3	MHB:944	3.4	3.4	3.0	1.2	11.0
BMus 4	MHB:811	3.1	3.5	2.3	1.0	9.9
BMus 5	MHB:320	3.3	3.4	3.1	1.1	10.9
BMus 6	MHB:AT23	3.1	3.4	3.2	1.6	11.3
BMus 7	MHB:199	4.2	4.5	3.9	4.2	16.8
BMus 8	MHB:64	4.1	4.2	4.3	4.1	16.7
BMus 9	MHB:617	4.2	4.3	4.3	4.2	17.0
BMus 10	MHB:18	3.0	3.1	2.6	1.0	9.7

Table 21 above shows that BMus 9 played MHB 617 and had the highest score (17.0), and BMus 10 played MHB 18, but had the lowest score (9.7).

Table 22: Scores of DMus Respondents on Hymn Tunes Playing

Respondents	Hymn Tunes Selected	Recognize Voice/s scale:1-5	Correct Rhythm scale:1-5	Correct Meter scale:1-5	Regular Tempo scale:1-5	Assessment Score out of a total of 20
DMus 1	MHB:242	2.4	3.6	3.0	1.4	10.4
DMus 2	MHB:18	3.0	3.1	2.5	1.0	9.6
DMus 3	MHB:133	3.4	3.6	3.0	1.4	11.4
DMus 4	MHB:811	3.4	3.6	3.0	1.2	11.2
DMus 5	MHB:421	3.0	3.1	2.6	2.0	10.7
DMus 6	MHB:942	2.4	3.6	3.0	1.4	10.4
DMus 7	MHB:199	4.1	4.2	4.3	4.1	16.7
DMus 8	MHB:23	4.0	4.1	4.1	3.9	16.1
DMus 9	MHB:414	3.4	3.6	3.0	1.4	11.4
DMus 10	MHB:818	3.0	3.1	2.6	2.0	10.7

Table 22 above shows that DMus 7 played MHB 199 and had the highest score (16.7), and DM 2 played MHB 18, but had the lowest score (9.6).

Below shows the number of specific hymn tunes played by level 100 student respondents.

- i) Three respondents played each of the following hymn tunes: MHB 18, 199, and 818. Therefore, nine respondents played the three hymn tunes.
- ii) Two respondents played each of the following hymn tunes: MHB 23, 64, 133, 421, 617, 811, and AT 23. So, fourteen respondents played the seven hymn tunes.
- iii) Each respondent played one of the following hymn tunes MHB 129, 242, 320, 414, 608, 942, and 944. So, seven respondents played the seven hymn tunes.

The observation was well suited for the study, because it enabled me to discover individual student's (BMus Ed, BMus, and DMus) keyboard playing abilities and challenges. The assessment scores of the student respondents on classical pieces, and hymn tunes playing demonstrated that majority of them scored below average.

To improve upon students' proficiency, I suggest that; (i) students should be encourage to own personal pianos/keyboards. This would enable them to practice and play several pieces (music) and become skillful; (ii) students should also be encourage to adopt to four, five, six, or seven practice sessions/days per week. This would enable them to develop their playing skills more rapidly.

4.15 Summary of Students (BMus Ed, BMus, and DMus) Test Items

Test on technical exercises: Student respondents (BMus Ed, BMus, and DMus) played major scales. Thus, seven students (23.33%) played key F major; and eight students (26.67%) played key G major; whilst fifteen (50%) students played key C major.

Test on classical pieces: Student respondents (BMus Ed, BMus, and DMus) played seven classical pieces. They were in category (difficult, much less difficult, and easy).

- i) Five respondents played two difficult pieces: Thus, three students (10%) played *Rondo Militaire in G* by Pleyel; whilst two students (6.67%) played *Minuet in G* by Purcell.
- ii) Eleven respondents played three much less difficult pieces: Thus, four students (13.33%) played *Allegretto in C, No.10* by Diabelli; then another four students (13.33%) played *Ecossaise in G* by Beethoven; whilst three students (10%) played *Melody Op.68, No.1* by Schumann,
- iii) Fourteen respondents played two easy pieces: Thus, eight students (26.67%) played *Minuet in G* by Bach; whilst six students (20%) played *Minuet in F, No.1* by Mozart.

Test on hymn tunes playing: Ten respondents (33.33%) played five hymn tunes, MHB 23, 64, 199, 608, 617; then seven respondents (23.33%) played six much less difficult hymn tunes, MHB 133, 242, 414, 421, 818, AT 23; whilst thirteen respondents (43.33%) played six easy hymn tunes, MHB 18, 129, 320, 811, 942, 944.

Table 23: Summary of Students Choice of Difficulty Level of Tests

Test Item	Level	Frequency	%
Technical Exercise	Easy	15	50
	Much less difficult	8	26.67
	Difficult	7	23.33
Classical Pieces	Easy	14	46.67
	Much less difficult	11	36.67
	Difficult	5	16.67
Hymn Tunes	Easy	13	43.33
	Much less difficult	7	23.33
	Difficult	10	33.33

Given (2008) suggested that observational research involves collecting impressions of the world by using all of one's senses. Especially, looking and listening in a systematic and purposeful way to learn about a phenomenon of interest. Although, frequently employed on its own, observational research is often used with other methods such as interviewing and analysis (p.573).

4.16 Lecturers Advise on Teaching and Learning Approaches

Research Question 2 *asked the teaching and learning approaches that lecturers use to engage students in keyboard skills at the UEW, Music Education Department?*

4.16.1 Lecturers Advise on Keyboard Practice Approaches/Methods

Lecturers who teach *keyboard skills* explained some challenges of level 100 students (BMus Ed, BMus, and DMus). Thus: (i) some students had low proficiency levels before gaining admission into the UEW, hence quite a challenge bringing students up; (ii) some level 100 students lack personal keyboards for practice; (iii) some students do not practice regularly; (iv) some students lack the requisite skills for sight-reading; and (v) hand coordination is a challenge for some students.

Due to level 100 students (BMus Ed, BMus, and DMus) challenges, it made the lecturers to use practice approaches/methods to engage them in keyboard playing. Below shows lecturers practice approaches.

Table 24: Lecturers Advise on Keyboard Practice Approaches/Methods

Lecturers Advise on Practice Methods	Importance of Practice Methods
i) Begin your practice with technical exercises: Especially, major scales, minor scales & arpeggios.	<i>Technical exercises make the fingers flexible to play accurate notes, and play at faster tempo.</i>
ii) Break new music into small groups of bars/measures: Break new piece/s (music) into 2, 3, or 4 measures, and focus on them one group at a time.	<i>Appropriate for playing difficult sections and complex rhythmic work.</i>
iii) Separate-hands practice: For hymn tunes, practice with one hand during a practice session. Then use the other hand to practice during the next practice session. When you have got the skills to play with separate-hands, the next step is to coordinate with both-hands.	<i>Appropriate for students who find it difficult to play hymn tunes with both-hands. Separate-hands is good for playing complex rhythms and memory work.</i>
iv) Break difficult passages into small sections: Identify difficult passages in a music. Break them into small sections, and focus on them one section at a time.	<i>Appropriate for playing difficult passages with ease.</i>
v) Slow practice: Begin a new piece (music) with slow practice.	<i>Slow practice is one of the best antidotes to play flawless.</i>
vi) Do well to sight-read <i>staff notation</i> (musical scores): Make conscious effort to sight-read musical scores as you continue to play the piano keys with your fingers.	<i>Appropriate to improve sight-reading skills, and eye-hand coordination.</i>
vii) Do not convert <i>staff notation</i> (musical scores) to <i>tonic-solfa</i> : Do not convert staff notation to tonic-solfa whilst you continue to play the piano keys.	<i>Converting staff notation to tonic solfa whilst you play the piano keys will slow down your tempo.</i>
viii) Do not consciously memorise the new piece/s you begin to play.	<i>Too much memory work will result in poor sight-reading skills.</i>
ix) Adopt to short practice sessions per day: Practice regularly for at least 30 minutes per day.	<i>The human brain can concentrate best during short practice periods than long practice periods.</i>

Table 24 above shows lecturers practice approaches/methods they recommend for level 100 students (BMus Ed, BMus, and DMus).

Thus; (i) begin your practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) break new piece/s (music) into 2, 3, or 4 bars/measures, and focus on them one group at a time. Usefulness; this is appropriate for playing difficult sections, and complex rhythmic work; (iii) begin a new piece (music) with separate-hands practice. Usefulness; separate-hands practice is appropriate for playing complex rhythmic work, and memory work; (iv) break difficult passages into small sections, and focus on them one section at a time. Usefulness; this is appropriate for playing difficult passages with ease; (v) begin a new piece (music) with slow practice. Usefulness; slow practice is one of the best antidotes to play flawless; (vi) make conscious effort to sight-read *staff notation* (musical scores). Usefulness; sight-reading staff notation improves sight-reading skills, and eye-hand coordination; (vii) do not convert *staff notation* (musical scores) to *tonic solfa* whilst you continue to play the piano keys. Usefulness; converting staff notation to tonic solfa whilst you play the piano keys will slow down your tempo; (viii) do not consciously memorise the new pieces you begin to play. Usefulness; too much memory work will result in poor sight-reading skills; and (ix) practice regularly for at least 30 minutes per day. Usefulness; the human brain can concentrate best during short practice periods than long practice periods.

4.16.2 Lecturers use Books to Guide Adult Students

Very often, lecturers do not easily get books on *piano pedagogy*, since most of them are obsolete and out of print. The data indicated a list of books that lecturers use.

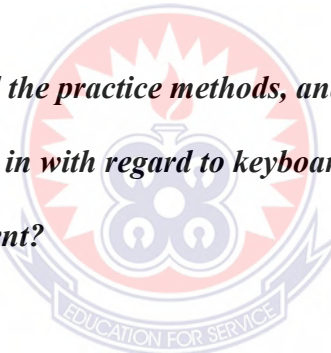
Table 25: Lecturers use Books to Guide Adult Students

List of Books for Playing piano/Keyboard	Category	Range of Playing Experience
i) Deodorized Song Book	<i>Basic popular folk tunes with fingering</i>	<i>Suitable for adult-learners with 0 to 3 months of playing experience</i>
ii) Alfred's Basic Adult Piano Course Series (vol.1)	<i>Adult self-tuition: short pieces with fingering</i>	<i>Suitable for learners with 0 to 12 months of playing experience</i>
iii) John Thompson's Piano Series (vol.1)	<i>Short pieces with fingering</i>	
iv) Lawrence Wright Pianoforte Tutor		
v) John Schaum Pianoforte Tutor		
vi) Harmonium Schule		
vii) William Smallwood's Pianoforte Tutor	<i>Rudiments, short pieces with fingering, chants, scales and musical terms</i>	<i>Suitable for all piano students and adult-learners with 1 month and more of playing experience</i>
viii) Hours with the Masters (vol.1-6) by Dorothy Bradley	<i>Piano course book: with fingering for Elementary, Intermediate, and Advance levels.</i>	<i>Suitable for all keyboardists and adult-learners with 2 months and more of playing experience</i>
ix) Ghana Praise	<i>Choral compositions by Ghanaian Art music composers.</i>	<i>Suitable for all pianists/keyboardists and adult students with 2 months and more of playing experience</i>
x) Patriotic Songs		
xi) Roman Catholic Church Hymnal	<i>All the hymnals contain hymn tunes, whilst the MHB contains both hymn tunes, and chants</i>	<i>Suitable for all pianists/keyboardists and adult students with 2 months and more of playing experience</i>
xii) Methodist Hymn Book (MHB)		
xiii) Seventh Day Adventist Hymnal		
xiv) Baptist Hymnal		
xv) Presbyterian Tunes to the Twi and Ga Hymn Book		
xvi) Presbyterian Hymnal		
xvii) Evangelical Presbyterian Hymnal		
xviii) Latter Day Saints Hymnal		

Table 25 above shows the books that lecturers use to guide level 100 students (BMus Ed, BMus, and DMus) in piano/keyboard playing. The books are grouped into six categories. Thus; (i) one basic book with popular Ghanaian folk tunes; (ii) one basic adult piano course series vol.1; (iii) five types of piano tutors. Some contain rudiments, scales, and musical terms; (iv) one piano course book in vol.1-6; (v) two choral books compiled by Ghanaian Art Music composers; and (vi) seven hymnals and a tunes book from various churches. All the books listed in table 25 above are appropriate for level 100 students.

4.17 Adult Students Practice Methods and Self-Development Strategies

Research Question 3 asked the practice methods, and self-development strategies that students engage themselves in with regard to keyboard skills performance at the UEW Music Education Department?



4.17.1 Students (BMus Ed, BMus, and DMus) Practice Methods

Level 100 students (BMus Ed, BMus, and DMus) grouped pieces into four categories. Thus, (i) pieces below their skill level; (ii) pieces within their skill level; (iii) pieces slightly above their skill level; and (iv) pieces too difficult for them.

The students identified eight practice approaches/methods to enable them to play pieces (music) slightly above their skill level, and pieces too difficult for them.

Table 26: Students Keyboard Practice Methods

Student Respondents' Practice Methods	Importance of Practice Methods
i) I begin my practice with technical exercises: I begin my practice by playing major scales, minor scales, and arpeggios.	<i>Technical exercises make the fingers flexible to play accurate notes, and play at a faster tempo.</i>
ii) I break music into small groups of bars/measures: I break new pieces (music) into 2, 3, or 4 measures, and I focus on them one group at a time.	<i>Appropriate for playing difficult sections & complex rhythmic work.</i>
iii) I begin with separate-hands practice: I begin a new piece with separate-hands practice. When I am OK, I coordinate with both-hands.	<i>Appropriate for playing complex rhythmic work, and memory work.</i>
iv) I break difficult passages into small sections: I break difficult passages into small sections, and I focus on them one section at a time.	<i>Appropriate for playing difficult passages with ease.</i>
v) I begin with slow practice: I begin a new piece (music) with slow practice.	<i>Slow practice is one of the best antidotes to play flawless.</i>
vi) I practice one page of a piece (music) at a time: I practice one page of a piece perfectly well, then I move to the next page.	<i>Appropriate for improving sight-reading skills, and memory work.</i>
vii) I analyse the new pieces (music): Before I begin to play a new piece, I first analyse it. Then I practice with both-hands slowly.	<i>Analysis includes identification of the form, rhythmic patterns, scales, modulations, chord progression.</i>
viii) I listen to audio & video performances: I listen to multimedia recordings on Western Art Music (i.e., baroque, classical, romantic) and Contemporary music on piano/keyboard performances as part of my practice.	<i>Appropriate to develop ear training, improve mental imagery, for analysis, memory work, and develop motivation to play the music.</i>

Table 26 above shows the students' practice methods. The data indicated that a lot of level 100 students (BMus Ed, BMus, and DMus), twenty students [66.67%] had played the keyboard for less than 1 year (12 months). Students with 7 months and 8 months of keyboard playing experiences adopted to five. Below shows the five practice methods.

Thus; (i) I begin my practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) I break new piece/s (music) into 2, 3, or 4 bars/measures, and I focus on them one group at a time. Usefulness; this is appropriate for playing difficult sections and complex rhythmic work; (iii) I begin a new piece/s with separate-hands practice. Usefulness; separate-hands practice is appropriate for playing complex rhythmic work, and memory work; (iv) I break difficult passages into small sections, and I focus on them one section at a time. Usefulness; this is appropriate for playing difficult passages with ease; and (v) I begin a new piece (music) with slow practice. Usefulness; slow practice is one of the best antidotes to play flawless.

Likewise, ten students (33.33%) (BMus Ed, BMus, and DMus) formerly played keyboard for various churches, and musical groups. I use to call them *skilled keyboard players*. They are students with 1-6 years of keyboard playing experiences. Apart from the five practice methods mentioned above, the *skilled keyboard players* added three.

Thus; (i) I practice one page of a piece (music) at a time. Usefulness; this is appropriate for improving sight-reading skills, and memory work; (ii) I analyse a new piece (music) before I begin to play. Usefulness; the analysis includes the identification of the rhythm patterns, textures, scales, modulations, chord progression; and (iii) I listen and watch multimedia recordings on Western Art Music (i.e., baroque, classical, romantic), and Contemporary music. Usefulness; Audio & video recordings are appropriate to develop ear training, improve mental imagery, for analysis, memory work, and develop motivation to play the music.

Table 24 above shows that lecturers used nine practice approaches/methods to engage adult students in piano/keyboard playing. In Table 26 above, level 100 students (BMus Ed, BMus, and DMus) mentioned eight practice approaches/methods. Five practice approaches by lecturers were also identified by students. This signifies that level 100 students were familiar with lecturers' five practice approaches.

The corroborated effective practice methods by lecturers and students are: (i) begin your practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) break new music into 2, 3, or 4 groups of bars/measures, and focus on them one group at a time. Usefulness; this is appropriate for playing difficult sections, and complex rhythmic work; (iii) begin a new piece (music) with separate-hands practice. Usefulness; separate-hands practice is appropriate for playing complex rhythmic work, and memory work; (iv) break difficult passages into small sections, and focus on them one section at a time. Usefulness; this is appropriate for playing difficult passages with ease; and (v) begin a new piece (music) with slow practice. Usefulness; slow practice is one of the best antidotes to play flawlessly.

However, the data indicated that level 100 students did not use the other four (4) practice approaches by lecturers in Table 24 above. Thus; (i) make conscious effort to sight-read staff notation (musical scores) as you continue to play the piano keys with your fingers. Usefulness; sight-reading staff notation improves sight-reading skills, and eye-hand coordination; (ii) do not convert *staff notation* (musical scores) to *tonic-solfa* whilst you continue to play the piano keys. Usefulness; converting staff notation to tonic solfa whilst you continue to play the piano keys will slow down your tempo; (iii) do not consciously memorise the new pieces you begin to play. Usefulness; too much memory work will result in poor sight-reading skills; and (iv) practice regularly for at least 30

minutes per day. Usefulness; the human brain can concentrate best during short practice periods than long practice periods.

4.17.2 Adult Students use Books

Table 27 below shows the books that students (BMus Ed, BMus, and DMus) use to engage themselves in piano/keyboard playing. They are grouped into six categories.

Table 27: Students Use Piano/Keyboard Books

List of Books for Piano/Keyboard Playing	Category	Range of Playing Experience
i) <i>Deodorized Song Book</i> by Ghanaian Art musician	<i>Basic popular folk tunes with fingering.</i>	<i>Appropriate for adults with 0 to 3 months of keyboard playing.</i>
ii) <i>Alfred's Basic Adult Piano Course Series (vol. 1)</i> by Western Art musician	<i>Adult self-tuition: pieces with tunes & fingering.</i>	<i>Appropriate for adults with 0 to 12 months of playing.</i>
iii) <i>William Smallwood's Pianoforte Tutor</i> by Western Art musician	<i>Rudiments, short pieces with, chants, scales, and musical terms.</i>	<i>Appropriate for adults with 0 to 12 months of playing.</i>
iv) <i>Hours with the Masters (vol.1-6)</i> by Dorothy Bradley	<i>Piano course book with fingering for: (i)Elementary level, (ii) Intermediate level, and (iii) Advance level.</i>	<i>Appropriate for all Piano students, and adults with 1 month and more of piano playing.</i>
v) <i>Hannon Series for Fingering Exercises</i> by Western Art musician.	<i>Scales in various keys: various scales with fingering exercises.</i>	<i>Appropriate for all keyboardists, and adult learners.</i>
vi) Roman Catholic Church Hymnal	<i>All the hymnals contain hymn tunes, whilst the</i>	<i>Appropriate for all keyboardists</i>
vii) Methodist Hymn Book (MHB)	<i>MHB contains both</i>	<i>(pianists), and</i>
viii) Seventh Day Adventist Hymnal	<i>hymn tunes and chants.</i>	<i>adult learners with</i>
ix) Baptist Hymnal		<i>2 months and</i>
x) Presbyterian Tunes to the Twi and Ga Hymn Book		<i>more with playing</i>
xi) Presbyterian Hymnal		<i>experience.</i>
xii) Evangelical Presbyterian Hymnal		
xiii) Latter Day Saints Hymnal		

The books listed in Table 27 above are appropriate for improving students (BMus Ed, BMus, and DMus) playing skills. Thus; (i) one basic book for popular Ghanaian folk tunes. Usefulness; appropriate for students with 0 to 3 months of keyboard playing; (ii) one basic adult piano course series vol.1. Usefulness; appropriate for adults with 0 to 3 months of playing; (iii) one piano tutor. Usefulness; appropriate for adults with 0 to 12 months of playing; (iv) one piano course book in vol.1-6. Usefulness; appropriate for all Piano students, and adults with 1 month and more in piano playing; (v) Hannon series for fingering exercises. Usefulness; appropriate for all pianists/keyboardists, and adults; and (vi) seven hymnals and a tunes book from various churches. Usefulness; appropriate for pianists/keyboardists, and students with 2 months and more with playing experience.

4.17.3 Skilled Keyboard Players use Books

Research Question 5 *asked the type of self-concepts that students cultivate on the music programmes, and hold towards keyboard skills development at the UEW Music Education Department?*

The **RQ 5** ask the self-concepts that level 100 students (BMus Ed, BMus, and DMus) cultivate. In other words, it is the understanding that students retained in their minds concerning musical development, and the experiences they develop in keyboard playing and performance.

Table 10 above indicated that ten students (33.33%) formerly played the organ/keyboard for various churches and musical groups. I (researcher) use to call them *skilled keyboard players*. They are students with varied experiences which ranged from 1-6 years. Thus; (i) six students (20%) play keyboard for various churches and church choirs; (ii) two students (6.67%) play keyboard for youth choirs; whilst (iii) two students (6.67%) play keyboard for gospel bands. The students came into the UEW to study music with the intention to upgrade their knowledge in musical theory, and to develop their keyboard playing proficiency.

Concerning keyboard playing, the *skilled keyboard players* in level 100 said they play keyboard for various churches (i.e., Orthodox, Pentecostal, and Charismatic), and musical groups (i.e., church choir, youth choir, and gospel band) on every weekend (i.e., Saturdays and Sundays). Few *skilled keyboard players* said they play for churches and musical groups in Winneba. But a lot of them said they go to towns such as Swedru and Kasoa, both in the Central Region, and Accra on every weekend (i.e., Saturdays and Sundays) to play for various churches and musical groups.

The data indicated that a lot of *skilled keyboard players* in level 100 (BMus Ed, BMus, and DMus) own personal keyboards. The students explained that they devote time to do *deliberate practice* to acquire the proficiency to play music to accompany the musical groups (i.e., church choir, youth choir, and gospel band). Consequently, regular practice and regular performance have become part of their musical life.

Table 28 below shows the type of books that the *skilled keyboard players* use. The books are grouped into five (5) categories, and with one practice methods.

Table 28: Skilled Keyboard Players use Books

List of Books for Playing Piano/Keyboard	Category	Range of Playing Experience
i) <i>Messiah</i> by G.F. Handel	<i>Contains: recitatives, solos, duets, trios, and choruses (soprano, alto, tenor, bass) with piano accompaniments.</i>	<i>Pianists/keyboardists with 1 year and more playing experience.</i>
ii) <i>Judas Maccabaeus</i> by G.F. Handel		
iii) <i>Elijah</i> by G.F. Handel		
iv) <i>Creation</i> by J. Haydn		
v) <i>Hours with the Masters (vol.1-6)</i> by Dorothy Bradley	<i>Piano course book with fingering for:</i> <i>(i)Elementary level, (ii) Intermediate level, and (iii) Advance level.</i>	<i>Appropriate for all Pianists, students, and adults with 1 month and more of playing experience.</i>
vi) <i>Anthems and High-life tunes</i> by Ghanaian Art Music composers	<i>Choral compositions for chorus (soprano, alto, tenor, and bass).</i>	<i>Keyboardists and students with 6 months and more of playing experience.</i>
vii) <i>Patriotic songs</i> by Ghanaian Art Music composers		
viii) <i>Books of Musical Chords</i> compiled by Western Art musicians.	<i>Contains major, minor, diminished, augmented chords in roots, 1st, 2nd, 3rd inversions, etc.</i>	<i>Pianists/Keyboardists and students with 6 months and more of playing experience.</i>
ix) <i>Hannon Series for Fingering Exercises</i> by Western Art musician.	<i>Scales in various keys: various scales with fingering exercises.</i>	<i>Appropriate for all keyboardists, and music students.</i>
x) Listen and watch multimedia recordings on piano/keyboard performances on Western Art music (baroque, classical, romantic), and other Contemporary music performances.	<i>Musical type: baroque, classical, romantic and contemporary music.</i> <i>Good for memory work and performances</i>	<i>Pianists/keyboardists and music students with 1 month and more of playing experience.</i>

Table 28 above indicated that the *skilled keyboard players* in level 100 (BMus Ed, BMus, and DMus) practice from various books. The books are grouped into five (5) categories, and with one practice approach/method. Thus;

- i) Six students play keyboard for various churches and church choirs, whilst two students play keyboard for youth choirs. Therefore; eight students (26.67%) play pieces (music) made up of recitatives, solos, duets, trios, and choruses. The pieces are from the *Messiah* by G. F. Handel; *Judas Maccabaeus* by G. F. Handel; *Elijah* by G. F. Handel; and *Creation* by J. Haydn. Students who do not own the books manage to make photocopies for their personal use. These books are appropriate for pianists/keyboardists, music students, and adults with 1 year (12 months) and more of playing experience.
- ii) Six students play keyboard for various churches and church choirs, whilst two students play keyboard for youth choirs. Therefore; eight students (26.67%) play piano music from the *Hours with the Masters (vol. 1-6)* by Dorothy Bradley. This piano course book is for *Elementary level*, *Intermediate level*, and *Advance level*. The *Hours with the Masters (vol. 1-6)* is appropriate for all pianists, music students, and adults with 1 month (4 weeks) and more of playing experience.
- iii) Six students play keyboard for various churches and church choirs, whilst two students play keyboard for youth choirs. Therefore; eight students (26.67%) play music made up of *anthems*, *supplementary hymn tunes*, and *high-life tunes*. They also play *patriotic songs* by various Ghanaian Art Music composers. These books are appropriate for pianists/keyboardists, students, and adults with 6 months and more of playing experience.
- iv) Two students play keyboard for gospel bands. They use *Books of Musical Chords* compiled by Western Art musicians. The book (i.e., *Books of Musical Chords*)

contain chords such as; major, minor, diminished, augmented chords in roots, 1st, 2nd, 3rd inversions, and so forth. This book is appropriate for keyboardists and students with 6 months and more of playing experience. The two students also play piano music from the *Hours with the Masters (vol.1-6)* by Dorothy Bradley. The *Hours with the Masters (vol.1-6)* is appropriate for all pianists, music students, and adults with 1 month and more of playing experience.

- v) The ten students (33.33%) play from the *Hannon Series for Fingering Exercises* by Western Art musician. The book consists of; various major and minor scales with fingering exercises. This book is appropriate for all pianists/keyboardists, music students, and adults with 2 months and more of playing experience.
- vi) The ten students (33.33%) use *Audio & Video recordings* as part of their practice. The students listen to *audio & video recordings* on various Western Art Music (i.e., baroque, classical, and romantic). They also listen and watch videos on Contemporary music, especially, keyboard performances, and choral music. *Audio & Video recordings* are appropriate for all pianists/keyboardists, music students, and adults with 1 month (4 weeks) and more of playing experience.

4.18 Monitory and Evaluation of Students' Keyboard Skills

Research Question 4 *asked the measures that are put in place to enhance the overall improvement of keyboard skills at the UEW Music Education Department?*

4.18.1 Monitory of Students' Progress in Keyboard Skills

It was evidence that lecturers (100%) met level 100 students (BMus Ed, BMus, and DMus) 'one-on-one' during each week to ascertain their progress and challenges. But, if some particular students were not making progress in keyboard playing, the five lecturers (100%) advised them to come for tutorial twice per week. They also used exercise books to monitor each student attendant, and performance. Three lecturers (60%) advised their students to bring along exercise books which they write practice approaches/methods to enable them to play difficult sections and difficult pieces (music) with ease. Table 29 below shows lecturers' monitory.

Table 29: Lecturers Monitory

Lecturers Monitory of Progress	Strongly agree SA	Agree A	Neutral N		Strongly Disagree SD
i) I meet students (BMus Ed, BMus, and DMus) 'one-on-one' during each week to ascertain their progress and challenges in keyboard playing.	5 (100%)	4	3	0	0
ii) However, if some particular students are not making progress in keyboard playing, I advise them to come for tutorial twice per week.	5(100%)	0	0	0	0
iii) I have an exercise book that I use to record and monitor each student attendant and performance.	5(100%)	0	0	0	0
iv) I also advice my students to bring along exercise books, and I write practice approaches/methods to enable them to play difficult sections and difficult pieces with ease.	2(40%)	1(20%)	2(40%)	0	0

4.19.0 Findings of the Study

The study employed phenomenological case study under qualitative research paradigm, and it described the participants' experience of adult students' keyboard practice habits, and playing skills among level 100 students. The study sampled five lecturers who teach *keyboard skills* at the UEW, Music Education Department, and thirty level 100 students (BMus Ed, BMus, and DMus), so making a total sample size of thirty-five (35) respondents. The data was collected with semi-structured interview guide, and conducted face-to-face interview, and by mobile phone interactions. Field notes were taken, and a multipurpose mobile phone was used to record student respondents playing on (i) technical exercises; (ii) classical pieces; and (iii) hymn tunes playing.

Seven critical issues came up as findings from the study. They include (i) entry keyboard playing experience factor; (ii) weekly practice habits; (iii) commitment to lifelong keyboard playing; (iv) owning a personal keyboard; (v) lecturers advise on practice approaches; (vi) lecturers monitor of progress; and (vii) the development of keyboard teaching and learning models.

4.19.1 Entry Keyboard Playing Experience Factor

The keyboard playing entry experience determined the shaping of students' knowledge and musicianship. Irrespective of their programmes (BMus Ed, BMus, and DMus), the key phenomenon discovered from the study showed that the duration of keyboard playing exposure before entering into the UEW had influence on student's results.

Figure 5 below illustrates this factor.

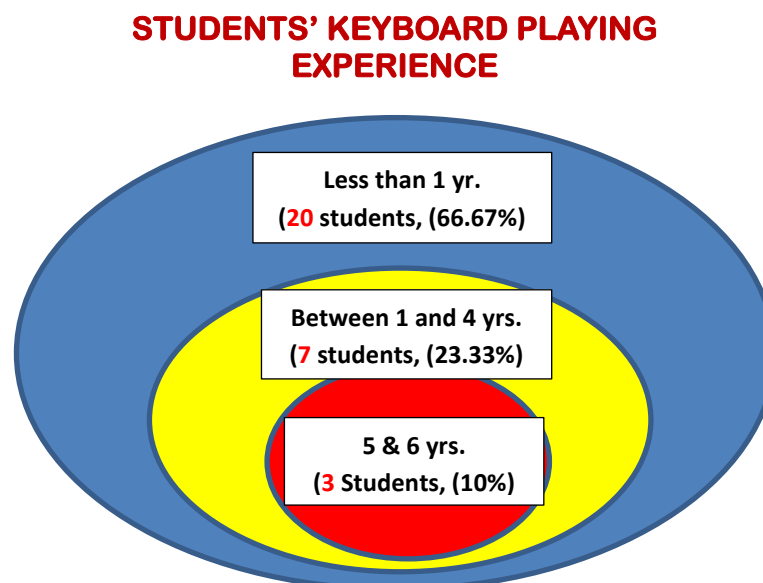


Figure 6: Students' Keyboard Playing Experience Factor

During the 2nd Semester of 2018-2019, the data revealed that twenty students [66.67%] had only accumulated less than 12 months of keyboard playing, and seven students accumulated 1 to 4 years, whilst three students accumulated between 5 and 6 years.

4.19.2 Weekly Practice Habits

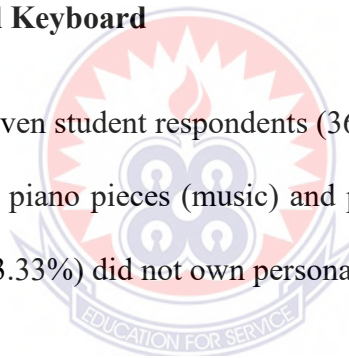
The study revealed that a lot of level 100 students (BMus Ed, BMus, and DMus), twenty-seven (90%) did not meet the *four weekly practice session/day criteria*. Thus, five students (16.67%) adopted to one practice session/day per week, and twelve students (40%) adopted to two practice sessions/days per week, whilst ten students (33.33%) adopted to three practice sessions/days per week. However, three students were able to meet the *four weekly practice session/day criteria*. Thus, two students adopted to four practice sessions/days per week, whilst one student adopted to six practice sessions.

4.19.3 Commitment to Lifelong Keyboard Playing

A lot of students (BMus Ed, BMus, and DMus) wanted to be committed to lifelong keyboard playing. Ten students (33.33%) wanted to become organists or keyboardists in various churches (i.e. Orthodox, Pentecostal, and Charismatic) and musical groups (i.e. church choir, youth choir, and gospel band), whilst twelve students (40%) wanted to play the keyboard and also teach other people. Likewise, four students (13.33%) wanted to become concert pianists, but other four students (13.33%) wanted to play the keyboard just to pass their exams at the UEW.

4.19.4 Owning a Personal Keyboard

The study revealed that eleven student respondents (36.67%) owned personal keyboards which they use to practice piano pieces (music) and play favourite music. But a lot of them, nineteen students (63.33%) did not own personal keyboards.

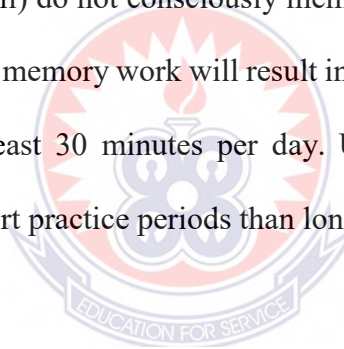


4.19 5 Lecturers Advise on Practice Approaches

Lecturers could not easily use adult approaches of *andragogy* and *heutagogy*. Because of students' entry keyboard playing experiences, it made the lecturers to use *pedagogy* as they use to teach children. Below shows lecturers' keyboard practice approaches/methods they recommend for level 100 students (BMus Ed, BMus, and DMus).

Thus; (i) begin your practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) break new piece/s (music) into 2, 3, or 4 bars/measures, and focus on them one group at

a time. Usefulness; appropriate for playing difficult sections and complex rhythmic work; (iii) begin a new piece (music) with separate-hands practice. Usefulness; appropriate for playing complex rhythmic patterns, and memory work; (iv) break difficult passages into small sections, and focus on them one section at a time. Usefulness; appropriate for playing difficult passages with ease; (v) begin a new piece (music) with slow practice. Usefulness; slow practice is one of the best antidotes to play flawless; (vi) make conscious effort to sight-read *staff notation* (musical scores). Usefulness; it improves sight-reading skills, and eye-hand coordination; (vii) do not convert *staff notation* (musical scores) to *tonic solfa* whilst you continue to play the piano keys. Usefulness; converting staff notation to tonic solfa whilst you continue to play the piano keys will slow down your tempo; (viii) do not consciously memorise the new pieces you begin to play. Usefulness; too much memory work will result in poor sight-reading skills; and (ix) practice regularly for at least 30 minutes per day. Usefulness; the human brain can concentrate best during short practice periods than long practice periods.



4.19.6 Lecturers Monitory of Progress

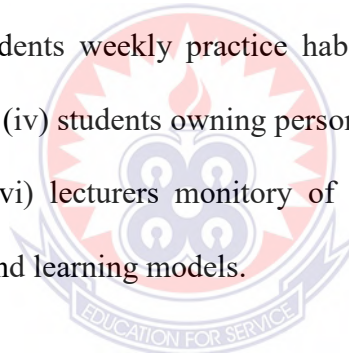
It was evidence that the lecturers met level 100 students (BMus Ed, BMus, and DMus) ‘one-on-one’ during each week to ascertain their progress and challenges. But, if some particular students were not making progress in keyboard playing, the lecturers advised them to come for tutorial twice per week. The lecturers record and monitor each student attendant and performance. Also, lecturers’ advised their students to bring along exercise books which they write practice approaches/methods for them.

4.19.7 The Development of Keyboard Teaching and Learning Models.

The study came out with three teaching and learning models/manuals for students use. They are; (i) *model of sight-reading and performance in society*; (ii) *a monograph of piano teaching and learning to adult African students*; and (iii) introduction of the KWARF (*keyboard weekly assignment report form*). The KWARF would be a reliable record to monitor students, as well as their weekly practice habits.

4.20.0 Discussion of the Findings

The discussion of the findings from the study focused on: (i) students keyboard playing experience factor; (ii) students weekly practice habits; (iii) students commitment to lifelong keyboard playing; (iv) students owning personal keyboards; (v) lecturers advise on practice approaches; (vi) lecturers monitor of students' progress; and (vii) the development of teaching and learning models.



4.20.1 Students' Keyboard Playing Experience Factor

Table 8 above shows level 100 students (BMus Ed, BMus, and DMus) keyboard playing experience. The key phenomenon discovered from the study showed that the duration of keyboard playing exposure before entering into the UEW had influence on individual student's results. The students' keyboard playing experience factor in Figure 5 above also reveals that twenty students had played keyboard for less than 1 year. Seven students accumulated 1 to 4 years, whilst three students accumulated 5 and 6 years.

The first theory: *Pyramid Model of Distribution of Musical Skills in Society* was created by Lehmann, et al., (2007). It describes four levels of musical skills and performance, and it coincides with individual's musical life. Thus;

- i) Average population without musical training: People at this level are capable of performing basic musical tasks, such as singing a limited repertoire of familiar songs, tapping along to a beat, or listening to music of their culture and understanding its basic messages.
- ii) Amateurs, or beginner musician: People at this level includes the beginning string students, semi-professional rock guitarists, or the decade-long member of a church choir. They all have some type of formal or informal training.
- iii) Music experts: People at this level have sought and received extensive training with the goal of making music their professional careers as *music teachers, composers, performers*, and so forth. *Classical musicians* typically have gone through formal musical training and examinations. *University music students* are in this level, because they are clearly on the way to professionalism.
- iv) Elite experts: In music, the elite experts are the big-time international performers we know from recordings, or the performers and composers included in the encyclopedias (e.g., Clara Schumann, Ravi Shankar, the Beatles, Dizzy Gillespie, and David Bowie). The attainment of genius is a composite of the biological, cognitive, motivational, cultural, and historical factors (Lehmann, et al., 2007, pp.15-17).

In the society, a person's engagement in musical activities will determine his/her level of proficiency. The *Pyramid Model of Distribution of Musical Skills in Society* is relevant to the study. I used it to support **Research Question 1** which asked the type of readiness and experiences that students who enroll onto the music programmes at the UEW Music Education Department bring along for their studies.

Specifically, I used the *Pyramid Model of Distribution of Musical Skills in Society* created by Lehmann, et al., (2007) to support level 100 students (BMus Ed, BMus, and DMus) entry keyboard playing experience factor. **Research Question 1** fits perfectly well in the second level (i.e., *amateurs, or beginner musician*), and the third level (i.e. *music experts*)

Table 8 above indicated that a lot of level 100 students (BMus Ed, BMus, and DMus), twenty students [66.67%] had play the keyboard for less than 1 year (12 months). Thus; fourteen students (46.67%) played the keyboard for 8 months, whilst six students (20%) played for 7 months. All the twenty student respondents [66.67%] were active in musical groups (i.e., church choir, youth choir, gospel band, brass band, and African drum ensemble), and each of them played a principal instruments (i.e., voice/singers, trumpet, euphonium, tuba, guitar, and African drums). But, none of the twenty student respondents [66.67%] formerly played keyboard in the musical groups. As far as keyboard playing and performance is concern, all the twenty student respondents fit perfectly well in the second level (i.e., *amateurs, or beginner musician*).

The Pyramid Model of Distribution of Musical Skills in Society; second level (i.e., novice, or *beginner musicians*) is appropriate for the twenty students [66.67%], because the data indicated that six students (20%) were introduced to keyboard playing at the UEW, Music Education Department during the 1st Semester of 2018/2019 academic year. Likewise, fourteen students (46.67%) played the keyboard for just 1 month (4 weeks) before they were admitted onto the music programmes (BMus Ed, BMus, and DMus). Therefore, with regards to keyboard playing proficiency and performance, I (researcher) recognise the twenty students [66.67%] as *beginner musicians*.

However, the data also indicated that ten level 100 students (33.33%) formerly played the keyboard for various churches (i.e., Orthodox, Pentecostal, and Charismatic), and musical groups (i.e., church choir, youth choir, and gospel band). They are students with 1-6 years of keyboard playing experiences. With regards to keyboard playing and performance, I use to call them *skilled keyboard players*. The ten students (33.33%) (i.e., *skilled keyboard players*) fit well in the third level (i.e., *music expert*).

The third level (i.e., *music expert*) of the *Pyramid Model of Distribution of Musical Skills in Society* created by Lehmann, et al., (2007) explains three categories of *music experts*. Thus; (i) musicians with professional careers, such as music teachers, composers, and performers; (ii) classical musicians; and (iii) University music students. *University music students* were added in the third level, because they are clearly on the way to professionalism. The data indicated that although, all the student respondents (BMus Ed, BMus, and DMus) were in level 100, but their keyboard playing experiences were not the same.

4.20.2 Students' Weekly Practice Habits

Table 9 above shows that a lot of level 100 students, twenty-seven (90%) did not meet the *four weekly practice session/day criteria*. They adopted to one, two, and three practice sessions/days. Thus; five students (16.67%) adopted to one practice session/day per week, and twelve students (40%) adopted to two practice sessions/days per week, whilst ten students (33.33%) adopted to three practice sessions/days per week.

On the contrary, three students (10%) were able to meet the *four weekly practice session/day criteria*. Thus; (i) two students (6.67%) adopted to four practice sessions/days per week; whilst (ii) one student (3.33%) adopted to six practice sessions/days per week. Barsamyan pointed out that playing the piano is mainly psychomotor skill with cognitive and affective dimensions that can only be improved through 'work' (*practice*) and exercises (Barsamyan, 2019, p.5). She also suggested that piano/keyboard instructors should frequently remind their students that new movement patterns can only be developed by repetitive *work (practice)* and exercises, by so doing, they will achieve a fast and correct style and performance. Likewise, students/learners should gradually extend their regular practice time to overcome difficulties (Barsamyan, 2019, p.6).

Schleuter has comparable viewpoint with Barsamyan (2019) on piano/keyboard practice when he expounded that students' motivation is a critical component for the teaching & learning process. The study of why students pursue certain interests and goals with energy and persistence is helpful for teachers. Because it is an area that teachers and instructors can influence students learning to some extent (Schleuter, 1997, p.166).

Colwell agrees with Schleuter (1997) and Barsamyan (2019) when he emphasized that in *Deliberate Practice*, we set specific goals that lie to some extent outside our current level of performance, and we try to attain those sessions with great concentration (Colwell, 2006, p.65). When I consider Schleuter (1997); Barsamyan (2019); and Colwell (2006) viewpoints on piano/keyboard practice, I suggest that if adult students are really committed to more practice sessions/days per week (i.e., four, five, six or seven), their keyboard techniques and understanding will improve day by day.

During *piano practice*, the most taboo is to start over and over again. Practice with goals, key points and difficulties in a planned way can get twice the result with half the effort. First, one can play the whole music once or twice to get a general idea of the music, and then practice it paragraph by paragraph, and find out the difficult points, and exercise with musical sentences or even bars as a unit, and then carry out the overall practice. Different methods of key touching can also be applied to practice. In this way, *score memorizing* is a breeze, especially by sections (Jiang, 2019, p.286).

Practice is a major activity in score development, because it becomes more prolific and concentrated at the *tertiary level*. It is important that individual students be given instruction on how to organise their practice-time. Plan the duration of active and rest periods, and the order in which the skills are practiced, so that there is a warm-up period. Other methods can lead to the same increases in neuronal development. *Mental rehearsal* is a cognitive process that complements physical rehearsal, and leads to the development of performance expertise (James, 2012, pp.98-99).

4.20.3 Students' Commitment to Lifelong Keyboard Playing

Table 12 above shows that a lot of student respondents (BMus Ed, BMus, and DMus) wanted to be committed to lifelong keyboard playing. Thus, ten students wanted to become organists or keyboardists in various churches (i.e., Orthodox, Pentecostal, and Charismatic) and musical groups (i.e., church choir, youth choir, and gospel band), whilst twelve students wanted to play the keyboard and also teach other people. Likewise, four students wanted to become concert pianists, but other four students wanted to play the keyboard just to pass their exams at the UEW.

The second theory: *Abraham Maslow's Hierarchy of Needs in Human Environment in the Society* suggested seven types of human attitudes.

- i) Physiological needs: These are food, water, clothing, shelter, rest or sleep, as well as procreation. They are for the survival and sustainability of human race.
- ii) Safety or security needs: These deal with protection and survival from; conflicts, wars, clashes, riots, militancy, kidnapping, armed robbery, and terrorism.
- iii) Love and belonging or social needs: These help people to have the confidence to contribute reasonably in decision making process, and promote developments.
- iv) Esteem and prestige needs or ego needs: People seek for self-respect, recognition, reputation, and status in social groups, or communities in the society.
- v) Self-actualization or self-realization: It help people to discover their hidden talents in them. It also encourages people to be innovative and more efficient in order to improve upon their living conditions in communities in the society.
- vi) Understanding needs: Understanding is the acquisition of relevant knowledge, skills, information, and attitude.

vii) Aesthetic needs: It refers to the desire of human beings to enjoy and promote the beauty of the human environment. People are encouraged to love, understand, appreciate, and promote the efficacy of beauty such as artworks, music, and painting in human environment (Aruma & Hanachor 2017, pp.20-25).

The needs of 1-4; also called *deficient needs* talk about the basic needs of the human population. This extends to the needs of 5-7 (*growth needs*). The *growth needs* are very useful for the growth of musical skills, and human development. Students who obtain the *growth needs* tend to have a sense of satisfactory in music and keyboard proficiency.

When adult students, or beginner musicians' interest in piano/keyboard playing is sustained in the long term, it would enable them to improve upon keyboard playing skills. *Maslow's Hierarchy of Needs in Human Environment* is appropriate in the study, because in chapter four, Table 12 above, it indicated that a lot of adult students (BMus Ed, BMus, and DMus) showed committed to lifelong keyboard playing.

I did not use the *deficient needs* of 1-4. But, I used the *growth needs* of 5-7 to support students' commitment to lifelong keyboard playing. Thus, (i) 5th level (i.e., *self-actualization needs*), students would develop intrinsic motivation to discover the hidden talents in them; (ii) 6th level (i.e., *understanding needs*), students would be able to acquire relevant knowledge and skills to play piano/keyboard; and (ii) 7th level (i.e., *aesthetic needs*) students would be able to acquire playing proficiency, and appreciate the aesthetics of keyboard playing and performance.

Barsamyan suggested that students/learners who like their musical instruments will improve upon their skills by ‘*studying regularly*’ (*regular practice*). The piano stands out. It attracts learners, and directs them for training, because; (i) *the piano has a richer repertoire as compared to many other musical instruments*; (ii) *the piano develops polyphonic hearing*; (iii) *the piano has a broad sounds range*; and (iv) *it is easy to play the piano with accompaniment* (Barsamyan, 2019, 462).

For instance, students who choose to play the piano have specific concepts about why they are interested in the instrument. All adults want the experience to be a pleasant one, but they have different opinions on what constitutes that enjoyment.

Barsamyan expounded that; (i) some learners are satisfied when they play the piano for a brief period of time, especially when they play a few well-known melodies; while (ii) other learners prefer a more extensive training to sight-read musical scores (*works*), and know how to use their fingers and pedals. Barsamyan continued that those learners who place importance on music theory aim at learning about musical chords and the harmonic structure of the pieces they play (Barsamyan, 2019, p.462).

Zhou & Brown explained some characteristics of people with musical intelligence: A person with developed musical intelligence usually (i) enjoys and seek out opportunity to hear musical sounds; (ii) collects musical scripts/scores and information about various types of music; and (iii) develops the ability to sing or play a musical instrument alone, or with other people (Zhou & Brown, 2015, p.81).

4.20.4 Students Owning a Personal Keyboard

Table 13 above reveals that eleven student respondents (36.67%) own personal keyboards which they use to practice piano pieces and play other favourite music. But a lot of them, nineteen students (63.33%) did not own keyboards.

Keyboard skills is a general course for all undergraduate students (BMus Ed, BMus, and DMus) at the UEW. Therefore, I suggest that students who really want to become accomplish pianist or keyboardist for various churches and musical groups (i.e., church choir, youth choir, gospel band, and so forth) should endeavor to purchase keyboards for their personal use. Nowadays, manufacturers have produced keyboards with 61 keys (5 octave), 76 keys (6 octave), 88 keys (7¼ octave), and with various specifications.

Woodward (2015) described variety of pianos/keyboards with specifications for personal use. He suggested they could be purchase either new, or second-hand. Thus;

- i) Keyboard synthesizers, and workstations: Workstations are hi-tech keyboards. They are used by professionals, or used for recordings (p.16).
- ii) Electronic/digital pianos: Many digital pianos have 88 keys (7¼ octave), and they also produce numerous sounds. The low-tech home pianos tend to have their own amplification and built-in speakers, whereas the hi-tech pianos can be used with headsets. The electronic digital pianos are one of the best keyboards for people who want to play classical pieces, or jazz music. But for beginners, they should purchase one with auto-accompaniments (p.17).
- iii) Acoustic pianos: Acoustic pianos are very good, especially for professional and performances. But their major disadvantages are; (a) they need periodic tuning;

- (b) they occupy more space in a room; (c) they are not suitable for gigging; and
(d) they do not support the use of headsets (p.18).
- iv) Organs: Numerous organs have two manuals or three manuals with pedal boards. The pedals can be added, or connected to other digital keyboards if required.
- v) Arranger keyboards: Numerous arranger keyboards are manufactured with 61 keys (5 octave), or 76 keys (6 octave). Some features are auto-accompaniment, built-in speakers, and built-in sequencers (p.21).
- vi) Controller keyboards with modules: These keyboards are available with 61 keys (5 octave), 76 keys (6 octave), and 88 keys (7¼ octave), and with un-weighted, semi-weighted, and fully weighted key options. Their main use is in conjunction with computer-based recording system, DAW (*digital audio workstation*) such as Cakewalk, Albeton, Cubase, etc. (Woodward, 2015, pp.16-23).

Students who own personal keyboards with 61 keys (5 octave), 76 keys (6 octave), or 88 keys (7¼ octave) are able to; (i) practice a lot of pieces (music) they have at hand; and also (ii) play other favourite pieces at their leisure at any point in time.

Therefore, if students (BMus Ed, BMus, and DMus) purchase pianos/keyboards for their personal use, it would enable them to practice regularly, and increase their *weekly practice sessions/days*. This would; (i) enable students to achieve a gradual skill development day by day; and (ii) enable students to play the keyboard for various churches, musical groups, and be able to do regular public performances.

4.20.5 Lecturers Advise on Practice Approaches

The lecturers at the UEW, Music Education Department considered individual adult student's playing abilities, and they came out with practice approaches to guide them. Keyboard practice approaches are essential for every student who want to practice the keyboard, and progress steadily to acquire playing skills. Table 24 above shows lecturers practice approaches they recommend for level 100 students. Due to students' entry keyboard playing experiences, it made lecturers to use *pedagogy approaches*.

Thus; (i) begin your practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) break new music into 2, 3, or 4 bars/measures, and focus on them one group at a time. Usefulness; this is appropriate for playing difficult sections, and complex rhythmic work; (iii) begin a new music with separate-hands practice. Usefulness; separate-hands practice is appropriate for playing complex rhythmic patterns, and memory work; (iv) break difficult passages into small sections. Usefulness; this is appropriate for playing difficult passages with ease; (v) begin a new music with slow practice. Usefulness; slow practice is one of the best antidotes to play flawless; (vi) make conscious effort to sight-read *staff notation*. Usefulness; sight-reading staff notation improves sight-reading skills, and eye-hand coordination; (vii) do not convert *staff notation* to *tonic solfa* whilst you continue to play the piano keys. Usefulness; converting staff notation to tonic solfa whilst you play the piano keys will slow down your tempo; (viii) do not consciously memorise new pieces you begin to play. Usefulness; too much memory work may result in poor sight-reading skills; and (ix) practice regularly for at least 30 minutes per day. Usefulness; the human brain can concentrate best during short practice periods than long practice periods.

Pedagogy is derived from the Greek stem *paid* (*child*) and *agogos* (*leading*). So, pedagogy means ‘*the art and science of teaching children*’ (Knowles, 1970, p.37). In pedagogy, the teacher designs, plans, and devises any conscious activity to implement learning in the *learner* who is central to the learning process. It is the *conscious activity* devised by the teacher (or person responsible) that determines how learning is organized and implemented for learning to take place (Shah, 2021, p.361).

Ozuah (2005) defines pedagogy as *the art and science of teaching children* (p.83). In pedagogy, the teacher is in control, and he/she is regarded as accountable for all learning. Thus, what should be taught; how it should be taught; when it should be taught; how it should be measured, etc. (Caruth, 2014, p.3). Shah suggested that;

Successful education for all depends on teachers being able to embrace both the art and science of pedagogy, acting as parents who understand the needs, abilities, and experiences of their students, while also being trained in the best methods of communication and presentation of appropriate materials (Shah, 2021, p.8).

Piano playing requires the movement and work of the whole limb, and sometimes even of the torso. Different manners of attack are made possible by the coordinated work of the various parts of our playing apparatus. The individual parts of the limb work together during piano playing. We thus speak of arm playing, forearm playing, from-the-wrist, and finger playing technique (Tworko, 2020, p.239).

The lecturers practice approaches mentioned above are very effective. Therefore, I suggest that every student should use them during their practice (study). If individuals use the lecturers practice approaches effectively, their playing proficiency will improve, and they would move to the next level of learning (i.e., *Andragogy approach*).

The concept of *andragogy* (*self-directed learning*) was made popular by Knowles (1975), and stems from the belief that pedagogical approaches for teaching adults should be fundamentally different from those for teaching children. These ideas are based on the view that the more a learner becomes mature, the more self-directed the learner will be in his/her own learning. A key attribute of andragogy is *self-directed learning*.

Malcolm Knowles expounded that *andragogy* is premised on at least four (4) crucial assumptions about the characteristics of adult learners that are different from the assumptions of children on which the traditional pedagogy is premised. Thus;

As the person matures; (i) the person's self-concept moves from one of being a dependent personality towards one of being a self-directed human being; (ii) the person accumulates a growing reservoir of experience that becomes an increasing resource for learning; (iii) the person's readiness to learn becomes oriented increasingly to the developmental tasks of his/her social roles; and (iv) the person's time perspective changes from one of postponed application of knowledge to immediacy of application, and his/her orientation towards learning shifts from one of '*subject-centeredness*' to one of '*problem-centeredness*' (Knowles, 1970, p.39).

Barsamyan wrote that playing the piano is mainly a psychomotor skill with cognitive and affective dimensions that can only be improved through '*practice and exercises*' (*work*). Independent muscles and nervous systems work together to make the motions necessary to play the piano. All psychomotor skills depend on precise and correct timing of muscular movements. Factors that make piano education easier for learners are; (i) learners meet the physical requirements of height and strength, and can easily reach the pedals and the further most end of the piano; (ii) learners can reach octaves easily, and play accompaniment styles on the piano; and (iii) learners have the power to create higher tonal resonance, and colour diversity in interpretation (Barsamyan, 2019, p.462).

Benjamin Bloom created a *taxonomy* to promote higher form of thinking. Thus; (i) *cognitive domain* (knowledge); (ii) *affective domain* (feelings, or emotional), and (iii) *psychomotor domain* (manual, or physical skills) (Zhou & Brown, 2015, p.89).

The *psychomotor domain* is made up of the physical movements of the body, coordination, and the use of motor skills areas. The development of this skill requires physical practice, and it is measured in terms of speed, precision, distance, procedures, or techniques in execution (Hoque, 2016, p.50; Zhou & Brown, 2015, p.94).

4.20.6 Lecturers Monitory of Students Progress

Table 29 above shows lecturers monitoring of students' *keyboard skills*. It was evidence that lecturers met level 100 students 'one-on-one' during each week to ascertain their progress and challenges. But, if some particular students were not making progress in keyboard playing, the lecturers advised them to come for tutorial twice per week. They also used exercise books to monitor each student attendant, and performance. The lecturers also write practice approaches to enable students to play difficult sections.

Barsamy (2019) suggested that music instructors (teachers) should plan their training programmes by ensuring that young students/learners achieve their ultimate goals. With effective training programmes, sooner or later, (i) the learners' hands will grow; (ii) their attention span will expand; (iii) they will sight-read more frequently; and (iv) they will make progress through an extended period of practice time (p.462).

4.20.7 Development of Teaching and Learning Models

The study came out with three models/manuals for adult students' use. Thus, (i) *model of sight-reading and performance in society*; (ii) *a monograph of piano teaching and learning to adult African students*; and (iii) introduction of the KWARF (*keyboard weekly assignment report form*). The manuals are designed for self-tuition. Especially, during weekends, holidays, and vacations when students encounter challenges.

The third theory: *Pedagogy-Andragogy-Heutagogy (PAH) Continuum* was created by Lisa Marie Blaschke (2012) as approaches for teaching students/learners from the fundamental level (children); to intermediate level (adults); and to advance level (fully-fledged adults). Thus, (i) *pedagogy*; (ii) *andragogy*; and (iii) *heutagogy*.

- i) **Pedagogy:** Pedagogy is a teaching theory rather than a learning theory, and it is usually based on transmission. The teacher/instructor determines curriculum content and structure, the sequential order, and means of content delivery. For example, pedagogy teaching could be done by lecturing or reading books (McAuliffe et al., 2009, p.14).
- ii) **Andragogy (*self-directed learning*):** Andragogy is a process in which individuals take the initiative, with or without the help of other people to diagnose their learning needs, formulate learning goals, identify human and material resources for learning, choose and implement learning strategies, and evaluate learning outcomes (Knowles, 1975, p.18). With *andragogy*, course content is less structured, and students/learners take increased control in organizing and directing learning. As students' progress through the continuum, they become more autonomous. Thus, they are able to make all learning-related decisions (*structure, contents, and knowledge sources*).

iii) Heutagogy (*self-determined learning*): Heutagogy is advancement of learning which learners progress into maturity and autonomy. With heutagogy, more mature students (learners) do not require lecturer/instructor control, because they are more self-directed in their learning. The cognitive development progress is parallel with learner maturity and autonomy (Blaschke, 2012, p.60).

Blaschke & Marin (2020) also identified *four principles of heutagogy*. Thus:

- i) **Learner agency:** Agency is central to heutagogy, because it enables learners to decide on their learning path, including what they will learn (*content*), how they will learn it (*methods*), and how to achieve it (*assessment*) (p.3).
- ii) **Capability and self-efficacy:** Through experimentation and exploration, students develop a sense of achievement (*self-efficacy*) with each learning success. So, triggering an intrinsic motivation to learn and develop competency. It also enables students/learners to apply new skills in their environments (p.3).
- iii) **Reflection and metacognition:** With this principle, students/learners undergo a process of *double-loop learning*, reflecting upon what they have learned (*new knowledge*), how they have learned it (*learning process*), as well as how new knowledge and skills influence their values and beliefs (p.4).
- iv) **Non-linear learning:** It include exploration, creation, collaboration, sharing, and reflection. In *heutagogy*, the student is in control of the learning journey, which is sometimes defined as the '*learning path*'. The role of the lecturer (instructor) is not diminished, but rather it focuses on guiding the students by shifting control and responsibility to students (Blaschke & Marin, 2020, pp.3-4).

Howard Gardner expounded that the *Multiple Intelligence (MI)* deals with the ability to create, or interpret music. They are skills for music performances, music compositions, appreciation of music, sensitive to rhythmic patterns, pitches, and melodies. (Gardner, 1999, p.42; Alem, 2019, p.208). A person with well-developed *Multiple Intelligence* usually (i) enjoys and seek out opportunities to hear musical sounds; (ii) collects musical scripts (musical scores) and information about various types of music; (iii) develops the ability to sing and/or play a musical instrument alone, or with other people; (iv) may offer his/her own interpretation of what a musical composer communicates through music (Abdallah, 2008, p.30; Zhou & Brown, p.81). The necessary motor skills are controlled by the *brain* through the *sensory-motor system*, and executed by the body, the *musculoskeletal system* (MS) in particular (James, 2012, p.92).

Self-efficacy is the core that motivates musicians to have the confidence to continue in higher levels of musical training and performances, because they feel that it equips them to handle challenges as they move on. Thus, self-efficacy enables a good musician to be knowledgeable about the essential sub-skills and strategies for successful performances (Lehmann, et al., 2007, p.54).

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Overview

This chapter is grouped into four sections. Thus, (1) summary of the findings; (2) conclusions; (3) recommendations; and (4) suggestions for future research work.

5.1 Summary of the Findings

The study was conducted at the UEW, Music Education Department, during the 2018-2019 academic year. The purpose of this phenomenological case study is to describe the participants' experience of adult students' keyboard practice habits, and playing skills among level 100 students (BMus Ed, BMus, and DMus). The study also seeks to find out lecturers' monitory of students *keyboard skills*, lecturers' practice approaches/methods they recommend for level 100 students. Six research objectives were designed to guide the study, and six research questions were formulated from the objectives.

The related literature review provided appropriate information for the study. It explains the theoretical framework of the study, and three additional theories to support the main theoretical framework. The related literature review also discusses sight-reading, motivation, piano techniques, piano and its effects, buy yourself a keyboard, some related topics in music education, hands and fingers for playing piano, characteristics of adults and adult students, and five piano teachers experiences.

The research approach was *qualitative research paradigm*, and the design was *phenomenology* and *a case study*. The total sample size was thirty five, which consisted of five lecturers and thirty level 100 students (BMus Ed, BMus, and DMus). *Convenience sampling technique* was used to select the various respondents for the study.

The study used two research instruments. The first was *semi-structured interviews*, and three modes were used to collect data; thus, (i) face-to-face interviews; (ii) telephone interviews; and (iii) social media features (WhatsApp). The second research instrument was *naturalistic observation*, and I used (i) a field note book to record written documents; and (ii) a multi-purpose mobile phone was used as audio recordings to record the level 100 students (BMus Ed, BMus, and DMus) keyboard playing abilities. I personally collected the data with two research assistance. There was no risk involved in the study, and confidentiality and anonymity was rest assured.

The presentation and analysis were discussed in chapter four. It was done by using the *research data* from the *interviews* and *observations*. Some authorities in the field of music education were cited to support some responses from the lecturers, and level 100 students (BMus Ed, BMus, and DMus). I also conducted a practical test at the UEW, Piano Laboratory One. The essence of the practical test was to find out level 100 students keyboard playing proficiency. The test items were (i) technical exercises in key C major, G major, and F major, test for the piano/keyboard; (ii) classical pieces from the *Hours with the Masters*, test for category; and (iii) hymn tunes from the Methodist Hymn Book (MHB), test for hymn playing.

With respect to *validity*, I interviewed the five lecturers *one-on-one*, and each student (BMus Ed, BMus, and DMus) about what they were experiencing in keyboard teaching, learning, and playing. I and my two research assistants naturally observed level 100 students (BMus Ed, BMus, and DMus) at the UEW Piano Laboratory One, taking notes, recording their playing, analyzing, and transcribing students' scores on the three test items. One of the keyboard synthesizers (YAMAHA Digital Piano, P-105, with 88 keys) was released at the Piano Laboratory One for the practical test. There was no risk involved for participating in the study. *Ethical issues* such as confidentiality and anonymity was adhered throughout the data collection.

5.1.1 Research Question 1

What type of readiness and experiences do students who enroll onto the music programmes at the UEW Music Education Department bring along for their studies?

The findings (**RQ 1**) showed that majority of the student respondents attended various institutions before entry into the UEW to study the music programmes (BMus Ed., BMus, and DMus). Thus; (i) two students (6.67%) attended Colleges of Education; (ii) one student (3.33%) attended a Polytechnic; (iii) sixteen students (53.33%) attended various Senior High Schools; (iv) five students (16.67%) attended various Technical Schools; and (v) six students (20%) were admitted into the UEW as matured students (i.e., candidates who have the requisite entry qualification, and are 25 years and above).

The findings (**RQ 1**) also showed that the UEW level 100 student respondents (BMus Ed, BMus, and DMus) had former musical life (i.e., former musical group, and specific musical instrument they played). Student respondents said they were actively involved in a specific musical group (i.e., church choir, youth choir, gospel band, brass band, and African drum ensemble), and each of them played a principal musical instrument. The comfort zone distribution of students' instruments explained the type of musical instruments.

Thus; (i) eleven students (36.67%) were singers in various musical groups (i.e., church choir, youth choir, and gospel band); (ii) two students (6.67%) played trumpet in musical group (i.e., brass band); (iii) one students (3.33%) played euphonium in a musical group (i.e., brass band); (iv) one student (3.33%) played tuba in a musical group (i.e., brass band); (v) two students (6.67%) played guitar in musical group (i.e., gospel band) ; (vi) three students (10%) played drums such as conga in musical group (i.e., African drum ensemble); and (vii) ten students (33.33%) played organ/keyboard for various churches (i.e., Orthodox, Pentecostal, and Charismatic), and musical groups (i.e., church choir, youth choir, and gospel band).

5.1.2 Research Question 2

What teaching and learning approaches do lecturers use to engage students in the study of keyboard skills at the UEW Music Education Department?

The findings 2 (**RQ 2**) showed lecturers' practice approaches/methods they recommended for level 100 students (BMus Ed, BMus, and DMus).

The lecturers teaching and learning approaches was; (i) begin your practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) break new piece/s (music) into 2, 3, or 4 bars/measures, and focus on them one group at a time. Usefulness; this is appropriate for playing difficult sections, and complex rhythmic work; (iii) begin a new piece (music) with separate-hands practice. Usefulness; separate-hands practice is appropriate for playing complex rhythmic patterns, and memory work; (iv) break difficult passages into small sections, and focus on them one section at a time. Usefulness; this is appropriate for playing difficult passages with ease; (v) begin a new piece (music) with slow practice. Usefulness; slow practice is one of the best antidotes to play flawless; (vi) make conscious effort to sight-read *staff notation* (musical scores). Usefulness; sight-reading staff notation improves sight-reading skills, and eye-hand coordination; (vii) do not convert *staff notation* (musical scores) to *tonic solfa* whilst you continue to play the piano keys. Usefulness; converting staff notation to tonic solfa whilst you continue to play the piano keys will slow down your tempo; (viii) do not consciously memorise the new pieces you begin to play. Usefulness; too much memory work will result in poor sight-reading skills; and (ix) practice regularly for at least 30 minutes per day. Usefulness; the human brain can concentrate best during short practice periods than long practice periods.

5.1.3 Research Question 3

What practice methods, and self-development strategies do students engage themselves in with regard to keyboard skills performance at the UEW Music Education Department?

The findings 3 (**RQ 3**) showed that level 100 students (BMus Ed, BMus, and DMus) engaged themselves with eight practice methods. Table 26 above shows the students' eight (**8**) practice methods. The data indicated that twenty students [66.67%] had played the keyboard for less than 1 year (12 months). Students with **7** months and **8** months of keyboard playing experiences adopted to five. Below shows their practice methods.

Thus; (i) I begin my practice with technical exercises. Usefulness; technical exercises make the fingers flexible to play accurate notes, and play at faster tempo; (ii) I break new music into 2, 3, or 4 bars/measures, and I focus on them one group at a time. Usefulness; this is appropriate for playing difficult sections, and complex rhythmic work; (iii) I begin a new music with separate-hands practice. Usefulness; separate-hands practice is appropriate for playing complex rhythms, and memory work; (iv) I break difficult passages into small sections. Usefulness; this is appropriate for playing difficult passages with ease; and (v) I begin a new music with slow practice. Usefulness; slow practice is one of the best antidotes to play flawless.

Likewise, ten students (33.33%) formerly played keyboard for various churches, and musical groups. I use to call them *skilled keyboard players*. They are students with **1-6** years of keyboard playing experiences. Apart from the five practice methods mentioned above, the *skilled keyboard players* also added three practice methods.

Thus; (i) I practice one page of a music at a time. Usefulness; this is appropriate for improving sight-reading skills, and memory work; (ii) I analyse a new music before I begin to play. Usefulness; the analysis includes texture, scales, modulations, rhythmic work, chord progressions; and (iii) I listen and watch multimedia recordings on Western Art Music (i.e., baroque, classical, romantic), and other Contemporary music as part of my practice. Usefulness; Listening to audio & video recordings are appropriate to develop

ear training, improve mental imagery, used for analysis, good for memory work, and develop motivation to play the music.

In findings 2 (**RQ 2**) above, the lecturers mentioned nine practice approaches, but in findings 3 (**RQ 3**), level 100 students also identified eight practice methods. Five out of the nine practice approaches/methods by lecturers were also identified by students. The corroborated effective practice methods by lecturers and students means that level 100 students (BMus Ed, BMus, and DMus) were using lecturers' five approaches.

The corroborated effective practice approaches/methods by lecturers and students are: (i) begin your practice with technical exercises; (ii) break new music into 2, 3, or 4 groups of bars/measures, and focus on them one group at a time; (iii) begin a new piece (music) with separate-hands practice; (iv) break difficult passages into small sections, and focus on them one section at a time; and (v) begin a new piece with slow practice.

However, findings 3 (**RQ 3**) also indicated that level 100 students (BMus Ed, BMus, and DMus) did not use the other four practice approaches by lecturers in findings 2 (**RQ 2**). Thus; (i) make conscious effort to sight-read *staff notation* (musical scores) whilst you continue to play the piano keys. Usefulness; sight-reading staff notation improves sight-reading skills, and eye-hand coordination; (ii) do not sight-read *staff notation* (musical scores) and convert it to *tonic-solfa* whilst you play the piano keys. Usefulness; converting staff notation to tonic solfa whilst you continue to play the piano keys will slow down your tempo; (iii) do not consciously memorise the new piece/s you begin to play. Usefulness; too much memory work will result in poor sight-reading skills; and (iv) practice regularly for at least **30** minutes per day. Usefulness; the human brain can concentrate best during short practice periods than long practice periods.

Concerning self-development strategies in findings 3 (RQ 3), I set *four weekly practice session/day criteria* to find out the number of days per week that level 100 students (BMus Ed, BMus, and DMus) used to engage themselves at the piano/keyboard for practice and playing skills. This is also called *practice habits*. *Practice habit* is very essential for all pianists. It is also important for people who certainly want to play the piano/keyboard to acquire a gradual skill development day by day, and do regular public performances flawless with minimum practice sessions/days.

I suggest that if an individual (learner) plays the piano/keyboard, and adopt to four, five, six, or seven practice sessions/days per week, it would enable the individual to correct some common mistakes. *Regular practice habits* would; (i) enable students to use appropriate fingering at faster tempi (speeds); (ii) enable students to improve hands & fingers dexterity; (iii) enable students to keeps to regular tempo (speed); (iv) enable students to interpret complex rhythmic patterns with ease; (v) enable students to acquire sight-reading skills; (vi) enable students to memorise pieces (music) within the shortest possible practice sessions/days; (vii) enable students to do mental practice away from the physical piano/keyboard; (viii) enable students to play a whole piece/s (music) flawless; and (ix) enable students to do regular public performance/s (i.e., recitals, concerts, church, musical groups, audience) with confidence.

I conducted *one-on-one* interviews with the level 100 students (BMus Ed, BMus, and DMus), and they told me their *practice habits*. Thus, (i) five students (16.67%) adopted to one practice session/day per week; (ii) twelve students (40%) adopted to two practice sessions/days per week; (iii) ten students (33.33%) adopted to thee practice sessions per week; (iv) two students (6.67%) adopted to four practice sessions/days per week; and (v) one student (3.33%) adopted to six practice sessions per week.

The findings 3 (**RQ 3**) showed that a lot of level 100 students, twenty seven students (90%) did not meet the *four weekly practice session/day criteria*. They adopted to one, two, and three practice sessions/days per week, which was too minimum. But, three student (10%) were able to meet the *four weekly practice session/day criteria*. Thus; (i) two students (6.67%) adopted to four practice sessions/days per week; whilst (ii) one student (3.33%) adopted to six practice sessions/days per week.

5.1.4 Research Question 4

How are students keyboard skills monitored, and evaluated at the UEW Music Education Department?

The findings 4 (**RQ 4**) showed that lecturers (100%) met level 100 students (BMus Ed, BMus, and DMus) ‘*one-on-one*’ during each week to ascertain their progress and challenges. But, if some particular students were not making progress in keyboard playing, the five lecturers (100%) advised them to come for tutorial twice per week. They also used exercise books to record each student attendant, and performance. Three lecturers (60%) advised their students to bring along exercise books which they write practice approaches to enable them to play difficult sections, and difficult pieces.

5.1.5 Research Question 5

What type of self-concepts do students cultivate on the music programmes, and hold towards keyboard skills development at the UEW Music Education Department?

The findings **5 (RQ 5)** showed the self-concepts that level 100 students (BMus Ed, BMus, and DMus) cultivate. In other words, it is the understanding that students retain in their minds concerning musical development, and the experiences they develop in keyboard playing and performance.

Table 10 above indicated that ten students (33.33%) formerly played the organ/keyboard for various churches and musical groups. I use to call them *skilled keyboard players*. They are students with varied experiences which ranged from **1-6** years. Thus; (i) six students play keyboard for various churches and church choirs; (ii) two students play keyboard for youth choirs; whilst (iii) two students play keyboard for gospel bands. The students came into the UEW to study music with the intention to upgrade their knowledge in musical theory, and to develop their playing proficiency.

Concerning keyboard playing, the *skilled keyboard players* in level 100 said they play keyboard for various churches (i.e., Orthodox, Pentecostal, and Charismatic), and musical groups (i.e., church choir, youth choir, and gospel band) on every weekend (i.e., Saturdays and Sundays). Few *skilled keyboard players* said they play for churches and musical groups in Winneba. But a lot of students said they go to towns such as Swedru and Kasoa, both in the Central Region, and Accra on every weekend (i.e., Saturdays and Sundays) to play for various churches and musical groups.

The data indicated that many *skilled keyboard players* in level 100 (BMus Ed, BMus, and DMus) own personal keyboards. The students explained that they devote time to do *deliberate practice* to acquire the proficiency to play music to accompany the musical groups (i.e., church choir, youth choir, and gospel band). Consequently, regular practice and regular performance have become part of their musical life.

Table 28 above indicated that the *skilled keyboard players* in level 100 (BMus Ed, BMus, and DMus) practice from various books. The books are grouped into five (5) categories, and with additional one practice approach/method as shown below.

- i) Six students play keyboard for various churches and church choirs, whilst two students play keyboard for youth choirs. The eight students (26.67%) play pieces (music) made up of recitatives, solos, duets, trios, and choruses. The pieces are from the *Messiah* by G. F. Handel; *Judas Maccabaeus* by G. F. Handel; *Elijah* by G. F. Handel; and *Creation* by J. Haydn. Students who do not own the books manage to make photocopies for their personal use. These books are appropriate for all pianists/keyboardists, music students, and adults with 1 year (12 months) and more of playing experience.
- ii) Six students play keyboard for various churches and church choirs, whilst two students play keyboard for youth choirs. The eight students (26.67%) play piano music from the *Hours with the Masters (vol. 1-6)* by Dorothy Bradley. This piano course book is for *Elementary level*, *Intermediate level*, and *Advance level*. The *Hours with the Masters (vol. 1-6)* is appropriate for all pianists, music students, and adults with 1 month (4 weeks) and more of playing experience.
- iii) Six students play keyboard for various churches and church choirs, whilst two students play keyboard for youth choirs. The eight students (26.67%) play music made up of *anthems*, *supplementary hymn tunes*, and *high-life tunes*. They also

play *patriotic songs* by various Ghanaian Art Music composers. These books are appropriate for pianists/keyboardists, music students, and adults with 6 months and more of playing experience.

- iv) Two students play keyboard for gospel bands. They use *Books of Musical Chords* compiled by Western Art musicians. The book (i.e., *Books of Musical Chords*) contain chords such as; major, minor, diminished, augmented chords in roots, 1st, 2nd, 3rd inversions, and so forth. This book is appropriate for keyboardists, music students, and adults with 6 months and more of playing experience. The two students also play piano music from the *Hours with the Masters (vol.1-6)* by Dorothy Bradley. The *Hours with the Masters (vol.1-6)* is appropriate for all pianists, keyboardists, music students, and adults with 1 month (4 weeks) and more of playing experience.
- v) The ten students (33.33%) play from the *Hannon Series for Fingering Exercises* by Western Art musician. It consists of various major scales and minor scales, with fingering exercises. This book is appropriate for all pianists/keyboardists, music students, and adults with 2 months and more of playing experience.
- vi) The ten students (33.33%) use *Audio & Video recordings* as part of their practice. They listen to *audio & video recordings* on various Western Art Music (i.e., baroque, classical, and romantic). They also listen and watch videos on Contemporary music, especially, keyboard performances, and choral music. *Audio & Video recordings* are appropriate for all pianists/keyboardists, music students, and adults with 1 month (4 weeks) and more of playing experience.

5.1.6 Research Question 6

What measures can be put in place to enhance the overall improvement of keyboard skills at the UEW Music Education Department?

I made two models; (i) *model of sight-reading and performance in society*. It explains the geography of the piano, music reading, practice, memory work, and mental rehearsal; (ii) *a monograph of piano teaching and learning to adult African students*. The monograph is a self-tuition to develop students' keyboard playing skills, especially, during weekends, holidays, and vacations when students are not on campus.

5.2 Conclusions

The UEW admits students with different background of study. The BMus Ed, BMus, and DMus students were from Colleges of Education, Polytechnic, Senior High Schools, Technical Schools, and some were admitted as Matured Students. The students were active in musical groups (i.e., church choir, youth choir, gospel band, brass band, and African drum ensemble), and each of them played a principal instrument such as voice (SATB), brass wind instruments, stings (guitar), African drums, and piano/keyboard.

Lecturers used practice approaches to engage students in keyboard playing. Thus; (i) begin your practice with technical exercises; (ii) break music into small measures; (iii) begin with separate-hands practice; (iv) break difficult passages into small sections; (v) begin with slow practice; (vi) make conscious effort to sight-read musical scores; (vii) do not convert *staff notation* to *tonic solfa*; (viii) do not consciously memorise new music you begin to practice; and (ix) practice regularly for at least 30 minutes per day.

The research data indicated that students (BMus Ed, BMus, and DMus) were using eight practice methods. Thus; (i) I begin my practice with technical exercises; (ii) I break music into small bars/measures; (iii) I break difficult passages into small sections; (iv) I begin with separate-hands practice; (v) I begin with slow practice; (vi) I practice one page of a piece at a time; (vii) I analyse new pieces before I begin to practice; and (viii) I use audio & video recordings as part of my practice. I set a *four weekly practice session/day criteria* to identify level 100 students *practice habits*. Three students (10%) were able to meet the *four weekly practice session/day criteria*, but majority of them, twenty-seven (90%) did not meet the four weekly practice session/day criteria.

The lectures met level 100 students *one-on-one* during each week to ascertain their progress and challenges. They advised students with playing challenges to come for tutorial twice per week. They also monitor each student's attendance and performance. The lecturers commended practice approaches for students with challenges.

The skilled keyboard players in level 100 often play keyboards for various churches and musical groups in Winneba. But a lot of them go to towns such as Swedru and Kasoa in the Central Region, and Accra every weekend (Saturdays and Sundays) to play keyboard for various churches, and musical groups. The skilled keyboard players' play music from books made up of recitatives, solos, duets, trios, and choruses. These books are works of Western Art Music composers, such as G. F. Handel, and J. Haydn. They play piano pieces from the *Hours with the Masters vol.1-6.*, and anthems, hymn tunes, high-life tunes, and patriotic songs by Ghanaian Art Music composers. They also devoted time to do *deliberate practice* to upgrade their proficiency.

5.3.0 Recommendations Overview

The study revealed that a lot of level 100 students (BMus Ed, BMus, and DMus) had challenges in keyboard playing. Therefore, to minimize this problem, I have made four recommendations. Thus; (i) students should purchase piano/keyboard for personal use; (ii) students should do regular SR drill; (iii) students should listen and watch audio & video recordings (*multimedia recordings*) on piano/keyboard, and other performances; and (iv) students should use the KWARF.

5.3.1 Recommendation 1 (Purchase Personal Keyboards)

The data revealed that a lot of level 100 students (BMus Ed, BMus, and DMus) did not own personal keyboards. To curtail this problem, I suggest that students should be encourage to purchase pianos/keyboards for their personal use. If students own personal keyboards, it will enable them to increase their *weekly practice habits*, and play piano music and other favourite music to develop their playing skills. It will also enable them to play keyboard for various churches, or musical groups.

5.3.2 Recommendation 2 (SR Drill)

SR drill (i.e., *Sight-Reading Drill*): The *SR drill* is useful for level 100 students (BMus Ed, BMus, and DMus) who find it difficult to sight-read musical scores, and as a result, struggle with their fingers to look for the piano keys. I suggests that students should be encourage to do regular *SR drill* (exercises) for at least 10 minutes per day.

The *SR drill* should include identification of chords, scales, pitch names, and rhythmic work. This will enable the adult students to interpret rhythmic patterns better in musical scores, and also develop associate motor skills. There are three methods by which students can choose to practice rhythms. Thus; (i) by clapping the rhythmic patterns; (ii) by playing one single piano key repeatedly to depict the rhythmic patterns; or (iii) by tapping the lap/s with one hand to depict the rhythmic patterns. Regular *SR drills* can develop the *perceptual span*, and *eye-hand span* of the adult student/learner.

5.3.3 Recommendation 3 (Audio & Video Recordings)

I suggest that adult students who find it difficult to practice a particular piano piece (music), or distinguish between musical sounds/pitches or rhythmic work, should ask a skilled keyboard player to play the piece/s (music) for them. Thus, when the skilled keyboard player begins to play the pieces (music), students should record the music on their smart mobile phones for listening.

Students (BMus Ed, BMus, and DMus) should also listen and watch *multimedia recordings* on piano/keyboard performances on Western Art music (i.e., baroque, classical, romantic), Contemporary music, and other types of music performances. This will enable them to familiarize themselves with the full version of the music they listen. Multimedia recordings will also enable students to watch how pianists/keyboardists use their fingers to play the piano keys.

Listening and watching multimedia recordings on piano/keyboard performances on Western Art Music (i.e., baroque, classical, romantic), and other Contemporary music is also recognized as a practice method. Listening to audio & video recordings will enable the adult student/learner to; (i) develop ear training more rapid; (ii) able to interpret complex rhythmic work; (iii) able to keep to regular tempo; (iv) able to observe and distinguish between chord progressions; (v) develop mental imagery; (vi) able to analyse music more rapid; and (vii) develop motivation to play the piano/keyboard. You must always remember that music is an art, and each person is unique in his/her own style of playing. For that reason, adult students/learners should not intentionally replicate artists' style of playing with gestures, because that will hinder their skill development.

Nowadays, people such as the music experts, composers, pianists/keyboardists, adult students/learners, amateurs, as well as music lovers can access a lot of Western Art Music (i.e., baroque, classical, romantic) compositions, and other piano or keyboard performances on the *internet*, and even download them on their smart mobile phones. However, if some students cannot find the piece/s (music) they intent to play on the internet, they can use other methods to get copies and record them. Students can give a hard copy of the music to a skilled keyboard player to play, then they record it on their smart mobile phones for listening.

The usefulness of the *finale*: Students can score the piano piece (music) they intent to play on *finale* (i.e., a musical software used to score musical notation and expressions). Students can also play the new piano music on a computer for listening and analyse it. The *finale* is very versatile for all musicians, composers, pianists/keyboardist, music students, as well as amateurs.

Currently, a lot of music composers and music students use *computers* to notate music, and the *computers* may be involved in nearly every aspect of music composition. Ferris expounded that composers may record each step of their work for replay. This allows them to hear their own work immediately, and if necessary, make any changes and preserve satisfactory results. Recording their own compositions also enable composers to bypass the interpretation of their work by someone else, hence, eliminating the need for rehearsals and ensuring an accurate presentation (Ferris, 2008, p.42).

The resources for the *composition* and *performance* of electronic music have been broadened considerably through the use of the MIDI (*Musical Instrument Digital Interface*). This is a remarkable system that enables composers to manage quantities of complex information and allows synthesizers, computers and sound modules, drum machines, and other electronic devices from many manufactures to communicate with each other (p.42). Ferris continued that initially, *piano concert composers* were interested in MIDI-based systems. Nevertheless currently, they also used to write and perform film scores, teach music theory, create rhythm tracks for rap music, and provide music for computer games (Ferris, 2008, p.43).

5.3.4 Recommendation 4 (KWARF)

KWARF (i.e., *Keyboard Weekly Assignment Report Form*): I humbly suggest that the UEW Music Education Department should embrace the concept, and provide each student with one booklet of the KWARF with a maximum of 30 leaflets. A booklet is meant to be used for a whole academic year. Thus, the first 15 leaflets (i.e., 1-15) should be filled by students within the 1st Semester, and the other 15 leaflets (i.e., 16-30) should also be filled by students within the 2nd Semester.

The KWARF would be a reliable record to monitor each students (BMus Ed, BMus, and DMus) keyboard playing, as well as their weekly practice habits. The KWARF explains: (i) the detail account of the daily practice activities; (ii) number of minutes (duration) a student use to sit at the piano/keyboard to practice the pieces; (iii) challenges of the students during practice sessions; and (v) comments or advise from the lecturer/instructor who teaches the student. The next page shows a typical illustration of the KWARF. It demonstrates how a student filled it.



KWARF (Keyboard Weekly Assignment Report Form)

1. Name of student: ...Obeng Kwaku Sampson.....
2. Programme: **BMus Ed**
3. Level: **100**.....
4. Date: **Wednesday, 4th March, 2020..** |; Week: **4th Week ..** |; Semester: **2nd Semester.**
5. Type of activities: (i) **Technical exercises** |; (ii) **Hymn playing**
6. Practice session per day or per sitting: **One practice session; 45 minutes per day...**
7. Detail account of the daily practice activities:

 - a. Sunday: **I did not practice on Sunday**.....
 - b. Monday: (i) **I practiced key C Major scale for 2 octaves, and key G Major scale for 1 octave; ...**(ii) **I also practiced MHB:242**.....
 - c. Tuesday: **I did not practice on Tuesday**
 - d. Wednesday: (i) **I practiced key C Major scale for 2 octaves, and key G Major scale for 1 octave**(ii) **I also practiced MHB:242**.....
 - e. Thursday: **I did not practice on Thursday**
 - f. Friday: **I did not practice on Friday**
 - g. Saturday: **I did not practice on Saturday**

8. State and explain the major challenge/s you had during your practice sessions:
I find it difficult to sight-read MHB: 242 and coordinate with both-hands on the keys.
.....
9. Comments from the lecturer or instructor: (i) **two** practice sessions/days per week is too minimum. You should adopt to **four, five, or six practice sessions/days per week**; (ii) do not practice the whole tune of MHB 242 at one practice sitting. Use separate-hands to practice **2 or 4 bars/measures** at a time. When you have developed the skill to play with separate-hands, the next step is to coordinate with both-hands.....

5.4 Suggestions for Future Research Work

I suggest that future research work should be conducted on piano major students' progress and challenges in piano playing at the UEW, Music Education Department, since the current study delved only into the beginning level 100 students (BMus Ed, BMus, and DMus).



REFERENCES

- Abdallah, M.M.S. (2008). *Multiple ways to be smart: Gardner's theory of multiple intelligences and its educational implications in English teaching and oral communication*. <http://www.mabdallah.bravehost.com>
- Adler, P. A., & Adler, P. (1987). *Membership roles in field research*. Sage.
- Agawu, K. (2011). *The Challenge of African Art Music*. 21(2), 49-64. <http://www.erudit.org/apropos/utilization.html>
- Agordor, A. A. (2002). *Studies in African music*. Comboni Printing School.
- Akuno, E. A. (2001). A conceptual framework for research in music and music education within a cultural context. *Bulletin of the Council for Research in Music Education*, no. 147. *The 18th International Society for Music Education ISME Research Seminar* (Winter, 2000/2001, pp.3-8). University of Illinois Press.
- Alem, D. D. (2019). *Theory of Multiple Intelligences and its Underlying Philosophy*, 7(7), 205-213. <http://www.academicresearchjournals.org/IJELC/index.htm>
- Alexander, R. (2008b). Pedagogy. Curriculum and culture. In K. Hall, P. Murphy, & J. Soler, (Eds). (pp. 3-27). Open University and SAGE
- Aruma, E. O., & Hanachor M. E. (2017). Abraham Maslow's hierarchy of needs and assessment of needs in community development. Department of adult and non-formal education. *International Journal of Development and Economic Sustainability*, 5(7), 15-27. Published by European Centre for Research Training and Development. <http://www.eajournals.org>
- Ashton, J., & Newman, L. (2006). An unfinished symphony: 21st Century teacher education using knowledge creating heutagogies. *British Journal of Educational Technology*, 37(6), 825-840. <http://doi.10.1111/j.1467-8535.2006.00662.x>
- Axelrod, H. R. (1976). *Heifetz. Paganini Ana*.
- Bailey, K. D. (1978) *Methods of social research*. Basingstoke: Collier-Macmillan
- Baltes, P. B., & Baltes, M. M. (1989). *Optimierung Durch Selektion und Compensation: Ein Psychologisches Modell Erfolgreichen Alterns*. *Zeitschrift fur Pädagogik*, 35, 85-105.
- Baltes, P. B., Lindenberger, U., & Staudinger, U. M. (1998). Life-span theory in developmental psychology. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: vol. 1. Theoretical models of human development* (5th ed., 1029-1143). Wiley.

- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Bandura, A. (2002). Social cognitive theory of mass communication. In J. Bryant & M. B. Oliver M. B. (Eds.). *Media effects: Advances in theory and research* (pp. 94-124). Routledge.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of Human Behaviour*, (vol. 4., pp. 71-81). Academic Press
- Barsamyan, M. (2019). *Piano Education in Adults*, 14(13), 458-464.
<https://doi.10.5897/ERR2019.3695>. <http://www.academicjournals.org>
- Blaschke, L. M., & Marín, V. I. (2020). Applications of heutagogy in the educational use of e-portfolios. *Revista de Educación a Distancia*. 20(6), 64.
<https://doi.org/10.6018/red.407831>
- Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distance Learning*, 13(1), 56-71. <https://edtechbook.org/pkq6>
- Blaschke, L. M., & Hase, S. (2019). Heutagogy and digital media networks: Setting Students on the path to lifelong learning. *Pacific Journal of Technology Enhanced Learning*, 1(1), 1-14. <http://www.researchgate.net/publication/333942664>
- Blaschke, L. M., & Hase, S. (2015). Heutagogy: A holistic framework for creating 21st Century self-determined learners. In M. M. Kinshuk & B. Gros. *The future of ubiquitous learning: Learning designs for emerging pedagogies*. Springer Verlag
- Blaschke, L. M., & Marin, V. I. (2020). Application of heutagogy in the educational use of e-portfolios. *Revista Education a Distancia*, 20(64).
<http://doi.org/10.6018/red>.
- Bloom, B. S. (1956). *Taxonomy of educational objectives, handbook I: The cognitive domain*. David McKay Co Inc.
- Bloom, B. S. (1985). *Developing talent in young people*. (Ed.). Ballantine.
- Boatwright, H. (1956). *Introduction to the theory of music*. W. W. Norton
- Brower, H. (1915). *Piano mastery: Talks with master pianists and teachers*. Frederick A. Stokes Company Publishers.
- Brualdi, A. C. (1996). *Multiple intelligences: Gardner's theory*. The Educational Resources Information Center, Clearinghouse on assessment and evaluation.
<http://www.eric.ed.gov>

- Burland, K., & Davidson, J. W. (2002). Training the talented. *Music Education Research*, 4(1), 121–140.
- Camp, M. W. (1981). *Developing piano performance: A teaching philosophy*. Hinshaw Music, Inc.
- Caruth, G. (2014). Learning how to learn: A six point model for increasing student engagement. *Participatory Educational Research (PER)*, 1(2), 1-12.
<http://www.partedres.com>.
- Cohen, L., Manion, L. & Morrison, K. (2000). *Research methods in education*. (5th Ed.). Routledge.
- Colwell, R. (2006). *MENC Handbook of musical cognition and development*. The National Association for Music Education. Oxford University Press, Inc.
- Cooke, J. F. (1999). *Great pianists on piano playing: Godowsky, Hofmann, Lhévinne, Paderewski and 24 other legendary performers*. Originally published in 1913, expanded edition published in 1917. Dover.
- Curzon, C. (1951). *Bring music into your practice. Etude*.
- Dawson, C. (2002). *Practical research methods: A user-friendly guide to mastering research*. Oxford OX4 IRE. <http://www.howtobooks.co.uk>
- Eberle, J. (2009). Heutagogy: What your mother didn't tell you about pedagogy and the conceptual age. *In Proceedings from the 8th Annual European Conference on ELearning* (2009, October 29th–30th). Bari.
- Emerson, R. M., Fretz, R. I., & Shaw, L. (1995). *Writing ethnographic field notes*. University of Chicago Press.
- Epstein, D. (1995). *Shaping time music, the brain, and performance*. Schirmer Books.
- Epstein, H. (1987). *Music talks: Conversations with musicians*. Penguin Books.
- Farquhar, S. E. (2003). *Quality teaching early foundations: Best evidence synthesis*. New Zealand Ministry of Education
- Ferris, J. (2008). *Music the Art of listening* (7th Ed). McGraw Hills Companies, Inc.
- Ferris, T. L. J., & Aziz, S. M. (2005). *A Psychomotor Skills Extension to Bloom's Taxonomy of Education: Objectives for Engineering Education*.
<https://www.researchgate.net/>
- Fourie, E. (2004). The processing of music notation: Some implications for piano sight-reading. *Journal of the Musical Arts in Africa*, 1, 1-23.

- Furneaux, S., & Land, M. F. (1999). The effects of skill on the eye-hand span during musical sight-reading. *Proceedings of the Royal Society of London, Series B*, 266, 2435–2440.
- Galvan, J. L. (2017). *Writing literature reviews: A guide for students of the social and behavioural sciences*. (6th Ed.). Routledge.
- Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st Century*. Basic Books
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. Basic Books
- Gagné, F. (2009a). Building gifts into talents: Detailed overview of the DMGT 2.0. In B. MacFarlane & T. Stambaugh (Eds.), *Leading Change in Gifted Education: The Festschrift of Dr. Joyce Van Tassel-Baska* (pp. 61–80). Prufrock Press.
- Giesecking, W., & Leimer, K. (1972). *Piano technique consisting of two complete books: The shortest way to pianistic perfection and rhythmic, dynamics, pedal, and other problems of piano playing*. Dover Publications, Inc.
- Gerig, R. (1985). Observations of Franz Liszt's piano technique. *Journal of the American Liszt Society*, 3-28.
- Gill, R. (2011). The shadow in organizational ethnography: Moving beyond shadowing to spectating. *Qualitative Research in Organizations and Management*, 6, 115–133. <https://doi.org/10.1108/17465641111159116>
- Given, L. M. (2008). *The SAGE Encyclopedia of qualitative research methods*. Vol. 1 & 2, SAGE Publications
- Gold, R. L. (1958). Roles in sociological field observation. *Social Forces*, 36, 217–223.
- Gordon, S. (1996). *A history of keyboard literature: Music for the piano and its Forerunners*. Division of Thomson Learning, Inc.
- Greening, N. (2019) Phenomenological research methodology. *Scientific Research Journal (SCIRJ)*, VII(V), 88-92. <http://dx.doi.org/10.31364/SCIRJ/v7.i5.2019.P0519656>
- Hase, S. (2009). Heutagogy and e-learning in the workplace: Some challenges and opportunities. *Impact Journal of Applied Research in Workplace E-Learning*, 1(1), 43-52. <https://doi.org/10.5043/13>
- Hase, S., & Blaschke, L. M. (2021). So, you want to do heutagogy: Principles and practice. In S. Hase & L. M. Blaschke (Eds.). *Unleashing the Power of Learner Agency*. Ed Tech Books. <https://edtechbooks.org/up>
- Hase, S., & Kenyon, C. (2013). *Self-Determined Learning. Heutagogy in Action*. An

- Imprint of Bloomsbury Publication P/C. <http://www.bloomsbury.com>
- Hase, S., & Kenyon, C. (2007). Heutagogy: A child of complexity theory. *Complicity: An International Journal of Complexity and Education*, 4(1), 111-119.
<https://edtechbooks.org.uyaw>
- Hase, S., & Kenyon, C. (2000). *From andragogy to heutagogy: Implications for VET*. Southern Cross University, EPublications @SCU. <https://bit.ly/2WpZZe6>
- Henley, D., & Lihoreau, T. (2005). *Classic FM the friendly guide to Mozart*. Hodder Education. Cox & Wyman Ltd.
- Henschke, J. A. (2016). A history of andragogy and its documents as they pertain to Adult basic and literacy education. *PAACE Journal of Lifelong Learning*, 25, 1-28
- Hergreaves, D. J. (1996). The development of artistic and musical development. In I. Deliege & J. A. Sloboda, (Eds.), *Musical beginnings: Origins and development of musical competence*, (pp.145-170). Oxford University Press.
- Hitchcock, G., & Hughes, D. (1995). *Research and the teacher* (2nd Ed.). Routledge.
- Holstein, J. A., & Gubrium, J. F. (1995). *The active interview*. Sage.
- Hoque, M. E. (2017). Three domains of learning: Cognitive, affective and psychomotor. *Education and Development Research Council*.
<https://www.researchgate.net//330811334>
- Hoque, M. E. (2016). The domains of learning: Cognitive, affective and psychomotor. *The Journal of EFL Education and Research*, 2(2) <https://www.edrcjefler.org>
- Huffer, C. R. (2001). *Teaching music in the secondary school*. Library of Congress Cataloging in Publication
- Hurford, P. (1990). *Making music on the organ*. Oxford University Press.
- James, B. (2012). The art of pianism meets science, sustainable performance: The use of arm weight. *Australian Journal of Music Education* (2012, No. 2, pp.92-101)
- Jiang, Y. (2019). Typical problems of piano playing of students majoring in music in normal University. *Advances in Economics, Business and Management Research*, (Vol. 96, pp.284-287). 2019 3rd International Conference on Education, Management Science and Economics (ICEMSE 2019). Atlantis Press. <http://creativecommons.org/licenses/by-nc/4.0/>.
- Jones, G. T. (1974). *Music theory: The fundamental concept of tonal music including notation, terminology, and harmony*. First Barnes & Noble Books Edition Published.
- Kamien, R. (2015). *Music an appreciation*. McGraw Hill Education, 2 Penn Plaza.

- Kapur, S. (2015). Understanding the characteristics of an Adult learner. *Jamia Journal of Education. An International Biannual Publication*, 2(1), 111-121.
<https://www.researchgate.net/publication/287488944>
- Kapur, S. (2015). Andragogy: The Adult learning theory. *Indian Journal of Adult Education. Indian Adult Education Association*, 76(2).
<https://www.resarchgate.net/publication/281373854>
- Kasilingam, G., Ramalingam, M., & Chinnavan, E. (2014). *Assessment of learning domains to improve students' learning in higher education*. Faculty of Engineering and Computer Technology, School of Physiotherapy, AIMST University.
- Kelley, L., & Sutton-Smith, B. (1987). A study of infant musical productivity. In J. C. Peery, I. Weiss Peery & T. W. Draper, (Eds.), *Music and Child Development*, (pp.35-53). Springer.
- Kenyon, C., & Hase, S. (2001). *Moving from Andragogy to Heutagogy in Vocational Education*. <http://www.avetra.org.au/abstracts>
- Kerman, J., & Tomlinson, G. (2000). *Listen* (4th Ed.). Von Hoffmann Press Inc.
- Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to Andragogy*. Cambridge. The Adult Education Company,
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Cambridge Adult Education
- Knowles, M. S. (1970). *The modern practice of adult education: Andragogy versus pedagogy*. Association Press.
- Kohn, L.T. (1997). *Methods in case study analysis*. The center for studying health system change. Technical Publication No. 2
- Kohs, E. B. (1961). *Music theory*, (vol. 2). Oxford University Press
- Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1973). *Taxonomy of educational objectives*. The classification of educational goals. Hand book II: Affective domain. David Mckay Co., Inc.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: An introduction to qualitative research interviewing* (2nd Ed.). Sage.
- Larkin, M., & Thompson, A. (2012). Interpretative Phenomenological Analysis. *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners* (pp.99-116). John Wiley & Sons Ltd.
<https://doi.org/10.1002/978119973249>
- Leavy, P. (2017). *Research design: Quantitative, qualitative, mixed methods*,

- Arts-based and community-based participatory research approaches.
The Guilford Press. <http://www.guilford.com>
- LeBlanc, A. (1981). *Effects of Style, Tempo, and Performing Medium on Children's Education*, 29, 143–156.
- Lehmann, A. C., Sloboda, J. A., & Woody, R. H. (2007). *Psychology for musicians: Understanding and acquiring the skills*. Oxford University Press. Inc.
- Lehmann, A. C., & Ericsson, K. A. (1996). Performance without preparation: Structure and acquisition of expert accompanying and sight-reading performance. *Journal of Research in Music, Psycho musicology*, 15, 1–29.
- Lindlof, T. R., & Taylor, B. C. (2011). *Qualitative communication research methods* (3rd Ed.). Sage.
- Mach, E. (1991). *Great contemporary pianists speak for themselves*. Dover.
- Mach, E. 1980. *Great pianists speak for themselves*. Vol. 1. Dodd, Mead.
- Mach, E. 1988. *Great pianists speak for themselves*. Vol. 2 Dodd, Mead.
- Macleod, F., & Golby, M. (2003). *Theories of Learning and Pedagogy: Issues for Teacher Development*, 7(3), 345-361.
<https://doi.10.1080/13664530300200204>
- Madell, J., & Hébert, S. (2008). *Eye movements and music reading: Where do we look next?* University of California Press. <https://doi.10.1525/mp.2008.26.2.157>
- Maehr, M. L., Pintrich, P. R., & Linnenbrink, E. A. (2002). Motivation and achievement. In R. Colwell & C. Richardson (Eds.). *The New Handbook of Research on Music Teaching and Learning*, (pp.348–372). Oxford University Press.
- Marty, J. P. (1988). *The tempo indications of Mozart*. Yale University Press
- McAuley, J. D., & Semple, P. (1999). *The effect of tempo and musical experience on perceived beat*. Aust J. Psychol. 51.
- McAuliffe, M. B., Hargreaves, D. J., Winter, A. J., & Chadwick, G. (2009). Does pedagogy still rule? *Australasian Journal of Engineering Education*, 15(1), 13-18. <https://doi.org/10.1080/22054952.2009.11464018>
- McDonald, D. T., & Simons, G. M. (1989). *Musical growth and development: Birth through six*. Schirmer Books.
- McPherson, G. E., & Lehmann, A. C. (2012). Exceptional musical abilities: Musical prodigies. *The Oxford Handbook of Music Education, Vol. 2* (2nd Ed.).
<http://doi.10.1093/oxfordhb/9780199928019.013.0003>

- McPherson, G. E. (2016). *Musical prodigies: Interpretations from psychology, education, musicology, and ethnomusicology*. Oxford University Press.
- Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New Directions for Adult and Continuing Education*, 89, 3-13. Jossey-Bass.
- Messenger, J. (1958). Esthetic talent. *Basic College Quarterly*, 4, 20–24.
- Miles, D. A. (2019). *Let's stop the madness part 2: Understanding the difference between limitations vs. delimitations*. <https://www.researchgate.net/publication/334279571>
- Monsaingeon, B. (2001). *Sviatoslav Richter: Notebooks and conversations*. Princeton University Press.
- Neuhaus, H. (1973). *The art of piano playing*. Praeger.
- Niecks, F. (1884). *A concise dictionary of musical terms: To which is prefixed an introduction to the elements of music*. 13th Impression. Augener's Edition No. 9180, Augener Ltd. The Library Brigham Young University Provo, UTAU
- Noyle, L. (1987). *Pianists on playing: Interviews with twelve concert pianists*. Scarecrow Press.
- Oakley, A. (1981). Interviewing women: A contradiction in terms. In H. Roberts (Ed.), *Doing Feminist Research* (pp.30–61). Routledge & Kegan Paul.
- O'Leary, O. (2004). *The essential guide to doing research*. SAGE Publications Ltd.
- Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. Pinter Publishers Ltd.
- Ortmann, O. (1925). *The physical basis of piano touch and tone: An experimental investigation of the effect of the player's touch upon the tone of the piano*. Psychological Laboratory of the Peabody Conservatory of Music. Trubner & Co., Ltd.
- Ozuah, P. O. (2005). First, there was pedagogy and then came andragogy. *Einstein Journal of Biology & Medicine*, 21(2), 83-87.
- Papageorgi, L., Hallam, S., & Welch, G. F. (2007). A conceptual framework for understanding musical performance anxiety. *Article in Research Studies in Music Education*. (2007, June). <https://doi.10.1177/1321103X070280010207>
- Pinterest (2021, November 9th). *Am I Too Old to Learn Piano? 5 Answers from Expert piano teachers*. <https://www.pinterest.com/am-i-too-old-to-learn-piano>

- Piston, W. (1962). *Harmony*. W. W. Norton
- Reigeluth, C. M., & Carr-Chellman, A. A. (Eds.). (2009). *Instructional-design theories and models, volume III: Building a common knowledge base (vol. 3)*. Routledge.
- Reimer, B. (1999). Facing the risks of the Mozart effect. *Music Educators Journal*, 86, 37-43.
- Renzulli, J. S. (1978). What makes giftedness? Re-examining a definition. *Phi Delta Kappan*, 60, 180–184. Research techniques and projects. How to Books Ltd.
- Révész, G. (1916). *Erwin Nyiregyházy: Psychologische Analyse Eines Musikalisch Hervorragenden Kindes*. Leipzig: Verlag von Veit. Translated as *The Psychology of a Musical Prodigy. International library of psychology, philosophy, and scientific method*. Brace & Company. 1925. Reprints: Blom, 1971; Routledge, 1999; [Whitefish, MT]: Kessinger Publishing, 2007.
- Ridley, D. (2002). *The literature review: A step-by-step guide for students*. (2nd Ed.). SAGE Publications Ltd. <http://www.sagepublications.com>
- Roulston, K., De Marrais, K., & Lewis, J. B. (2003). Learning to interview in the social sciences. *Qualitative Inquiry*, 9, 643–668. <https://doi.10.1177/1077800403252736>
- Rutto, D. K. (2017). Pedagogical theories. *International Journal of Scientific & Engineering Research*. 8(6), 2229-5518. <http://www.ijser.org>
- Sachs, C. (1953). *Rhythm and tempo. A study in music history*. Norton
- Saldana, J. (2014). Coding and analysis strategies. In P. Leavy (Ed). *The Oxford Handbook of Qualitative Research*, (pp.581-605). Oxford University Press
- Sanders, P. (1982). Phenomenology: A new way of viewing organizational research. *Academy of Management Review*, 7(3), 353-360.
- Sandor, G. (1981). *On piano playing: Motion, sound, and expression*. Schirmer Books.
- Sanjek, R. (1990). A vocabulary for field-notes. In R. Sanjek, (Ed.), *Field notes: The makings of anthropology*, (pp.92–121). Cornell University Press.
- Schleuter, S. L. (1997). *A sound approach to teaching instrumentalists*. (2nd Ed.). Schirmer Books.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books, Inc.
- Shah, R. K. (2021). *Revisiting Concept, Definition, and Forms of Pedagogy*, 7(0), 2395-4396. <https://www.ijariie.com>
- Shah, R. K. (2021). Conceptualizing and defining pedagogy. *IOSR Journal of Research*

- & *Method in Education*, 11(1), 06-29. <https://www.josrjournals.org>
- Shavinina, L. V. (2009a). A unique type of representation is the essence of giftedness: Towards a cognitive-developmental theory. In L. V. Shavinina, (Ed.), *International Handbook of Giftedness*, 231–257. Springer.
- Shavinina, L. V. (ed.) (2009b). *International Handbook of Giftedness*. Springer.
- Shepherd, G. (2003). *Teach yourself piano*. Hodder Headline Ltd.
- Simpson, E. J. (1972). *The classification of educational objectives in the psychomotor domain*. Gryphon House
- Slaboda, J. A. (1985). *The musical mind*. Clarendon Press.
- Smith, H.W. (1959). *Fish to philosopher*. Doubleday and Co, Inc.
- Smith, J.A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, research, & practice*. Sage
- Snitkin, H. S. (1997). *Practicing for young musicians: You are your own teacher*. Niantic, CT: HMS.
- Spradley, J. P. (1980). *Participant observation*. Harcourt Brace.
- Taylor, K. (198). *Principles of piano technique and interpretation*. Seven oaks, Kent.
- Thelen, E., & Smith, L. (1998). Dynamic systems theories. In R. Lerner, (Ed.), *Handbook of child psychology*, (6th Ed.). Wiley.
- Theofanidis, D., & Fountouki, A. (2008). Limitations and delimitations in the research process. *Perioperative Nursing*, 7(3), 155-163. <http://doi.org/10.5281/zenodo.2552022>
- Tischler, H. (1964). *Practical harmony*. Allyn & Bacon
- Tracy, S. J. (2013). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons, Ltd.
- Twoorko, P. (2020). Physiology and ergonomics of piano playing. *Kwartalnik Młodych Muzykologów UJ*, 47(4), 229-253. <https://doi.10.4467/23537094KMMUJ>
<https://www.ejournals.eu/kmmuj>
- Uszler, M., Gordon S., & Smith S. M. (2000). *The well-tempered keyboard teacher*, (2nd Ed). Schirmer Books.
- VandenBos, G. R. (2007). *APA dictionary of psychology*. (Ed.) American Psychological Association.

- Vanderstoep, S. W., & Johnston, D. D. (2009). *Research methods for everyday life: Blending qualitative and quantitative approaches*. Jossey-Bass A Wiley Imprint. <http://www.josseybass.com>
- Vandervert, L. R. (2009a). The appearance of the child prodigy 10,000 years ago: An evolutionary and developmental explanation. *Journal of Mind and Behavior*, 30(1/2), 12-32.
- Vandervert, L. R. (2009b). Working memory. The cognitive functions of the cerebellum and the child prodigy. In Shavinina, L. V. (ed.), *International Handbook of Giftedness*, (pp.295–316). Springer.
- Walker, A. (1987). *Franz Liszt: The Virtuoso years, (1811-1847), Vol. 1*. Cornell University Press
- Walters, J., & Gardner, H. (1995). The development and education of intelligences. In R. Fogotory & J. Bellanca, (Eds). *Multiple intelligences. A collection*. Melbourne Hawker Brownlow Education
- Wiley, J., & Sons (2014). *Piano for dummies*. (3rd Ed.). Hoboken.
- Wolcott, H. F. (2005). *The art of fieldwork* (2nd Ed.). Altamira Press.
- Woodward, M. (2015). *Learn how to play piano/keyboard for absolute beginners: A self-tuition book for adults and teenagers*. <http://gonkmusic.com>
- Wristen, B. (2005). *Cognition and motor execution in piano sight-reading: A review of literature*. Faculty publications. <http://digitalcommons.unl.edu/musicfacpub/5>
- Yin, R. K. (2011). *Qualitative research from start to finished*. The Guilford Press. <http://www.guilford.com>
- Yin, R. K. (1994). *Case study research, design and methods*, (2nd Ed). Sage Publications.
- Zhou, M., & Brown, D. (2015). *Educational learning theories*. (2nd Ed.) Education open textbooks, 1. <https://oer.galileo.usg.edu/education-textbooks/1>
- Zmeyov, S. I. (1998). Andragogy: Origins, developments and trends. *International Review Education*, 44(1), 103-108.

APPENDICES

APPENDIX I: Interview Guide with the H.O.D.

1. What are the Objectives of the UEW, Music Education Department?

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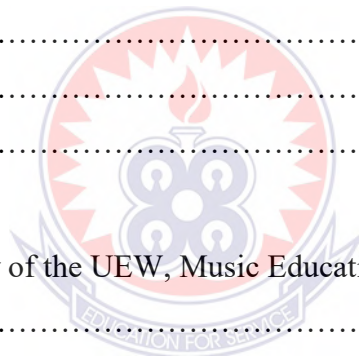
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2. What is the Philosophy of the UEW, Music Education Department?

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APPENDIX II: Lecturers' Interview Guide (One)

The interview was conducted at the UEW, in the Music Education Department from Monday, 4th March, 2019, to Wednesday, 13th March, 2019.

1. What are the academic backgrounds of level 100 students (BMus Ed, BMus, and DMus)?
2. What musical instruments do students who enroll unto the music programmes bring along for their studies?
3. What books do lecturers use to guide level 100 students for *keyboard skills*?
4. What keyboard practice approaches do lecturers use to guide level 100 students?
5. Currently, what are the requirements for assessing level 100 students for *keyboard skills*?
6. Do level 100 students encounter challenges in keyboard playing?
7. Can *keyboard skills* be monitor for the personal development of the adult student (learner)?
8. After keyboard tutorial, what next?



APPENDIX III: Lecturers' Interview Guide (Two)

PART I

1. Sex: Male Female
2. Professional designation
.....
3. Age: 41-50 51-60 61-70
4. Number of years for teaching *keyboard skills* in the Music Education Department
.....

PART II

1. How many lecturers teach *keyboard skills* in the Music Education Department?
.....
2. How many lecturers use upright pianos to teach *keyboard skills*?
One Two Three Four Five
3. How many lecturers use keyboard synthesizers with 88 keys to teach *keyboard skills*?
One Two Three Four Five
4. How many Piano Laboratories are built in the UEW, Music Education Department?
One Two Three Four
5. How many pianos/keyboards are available in each Piano Laboratory?
Piano Lab. 1;Piano Lab. 2:
Piano Lab. 3:Piano Lab. 4:
6. What are the main challenges of level 100 students (BMus Ed, BMus, and DMus) in terms of piano/keyboard playing?
.....
.....
.....
.....

APPENDIX IV: Level 100 Students' Interview Guide

The Interview was conducted at the UEW, in the Music Education Department from Monday, 4th March, 2019, to Wednesday, 8th May, 2019.

Interview guide for level 100 students (**BMus Ed**, **BMus**, and **DMus**).

(a) Venue for the Interview: UEW, Piano Laboratory One, Music Education Department.

(b) Interviewee: (c) Date for the Interview:

(d) Time for the Interview: (e) Duration for the Interview: 15-20 minutes

Section A: Personal biography (programme of study, level, age, gender, academic)

1. Student respondent's programme of study:
2. Level:
3. Student respondent's age group:
4. Gender:
5. Student respondent's former academic background:

Section B: Former musical life (musical group, musical instrument, years or months used to play the musical instrument)

6. Student respondent's former musical group:
7. Student respondent's principal musical instrument:
8. Number of years used to play that musical instrument:

Section C: Personal keyboard experience (number of years or months used to play the keyboard, practice methods, practice days per week, challenges in keyboard playing)

9. How long have you played keyboard as at the time of the interview? :
10. What books do you use for keyboard playing?
11. What are your practice methods?
12. Describe your practice sessions/days per week?
13. Explain your challenges in keyboard playing:

Section D: Commitment to lifelong keyboard playing & access to personal keyboard

14. State your commitment to lifelong keyboard playing
15. Do you own a personal keyboard?

APPENDIX V: Level 100 Students' Test Items

Select One Technical Exercise, One Classical Piece, and One Hymn Tune

1. Technical Exercises

Each student respondent chose one major scale

Three major Scales: key C major, key G major, and key F major with both hands for **1** octave (ascending & descending)

2. Classical Pieces

Eleven piano pieces in the keys of C major, G major, and F major were selected from the *Hours with the Masters: Primary to Elementary Volume 1*.

Each student respondent choose one classical piece: **(a)** *Minuet in G* by Bach; **(b)** *Melody Op. 68, No.1* by Schumann; **(c)** *Minuet in F, No.1* by Mozart; **(d)** *Allegretto in C, No.10* by Diabelli; **(e)** *Minuet in G* by Purcell; **(f)** *Rondo Militaire in G* by Pleyel; **(g)** *Sonatina in C, Op. 36, No.1* by Clementi; **(h)** *Ecossaise in G* by Beethoven; **(i)** *Allegro vivace from Sonatina in C* by Kuhlau; **(j)** *Study in C, Op. 47, No.19* by Heller; and **(k)** *L'Harmonie des Anges* by Burgmuller.

3. Hymn Tunes

Twenty-one hymn tunes in the key of C major, G major, and F major were selected from the *Methodist Hymn Book* (MHB).

Each student respondent choose one hymn tune from the **MHB**: 18, 23, 64, 129, 133, 199, 234, 242, 320, 414, 421, 488, 539, 608, 617, 677, 811, 818, 942, 944, and additional tune 23 (AT 23).

APPENDIX VI: Technical Exercises and Set Pieces for *Keyboard Skills*

Level 100: Semester 2

1. Technical Exercises

- a. Major Scales: key C major, key G major, and key F major with both hands for 2 octaves
- b. Minor Scales: key A minor, key E minor, and key D minor (harmonic or melodic) with both hands for 2 octaves
- c. Arpeggios: in the major keys and minor keys above with separate hands for 2 octaves

2. Classical Pieces

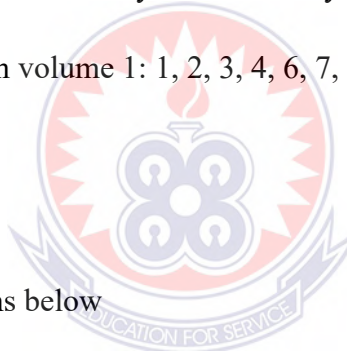
From *Hours with the Masters: Primary to Elementary Volume 1*

Select one piano piece from volume 1: 1, 2, 3, 4, 6, 7, 8, 10, 15

3. Hymn Tunes

Select any two of the hymns below

- a. Seventh Day Adventist Hymnal: 39, 103, 241, 250, 486, 500, 502, 521, 540, 543.
- b. Evangelical Presbyterian Church Hymnal: 177, 191, 196, 197, 222, 237, 557, 561, 609, 629, 636.
- c. Methodist Hymn Book: 18, 242, 285, 286, 289, 295, 320, 360, 372, 677, 817.



APPENDIX VII: KWARF (Keyboard Weekly Assignment Report Form)

KWARF (Keyboard Weekly Assignment Report Form)

1. Name of student:
2. Programme: (BMus Ed, BMus, and DMus)
3. Level: (100, 200, 300, 400)
4. Date: | Week: | Semester:
5. Type of activities: (technical exercises, classical pieces, hymns, other pieces)
.....
6. Practice session per day or per sitting: 30 minutes per day, 45 minutes per day, 60 minutes per day, 90 minutes per day.
7. Detail account of the daily practice activities:
 - a. Sunday:
.....
 - b. Monday:
.....
 - c. Tuesday:
.....
 - d. Wednesday:
.....
 - e. Thursday:
.....
 - f. Friday:
.....
 - g. Saturday:
.....
8. State and explain the major challenge/s you had during your practice sessions?
.....
9. Comments from the lecturer/instructor:
.....
.....



APPENDIX VIII: Keyboard Synthesizers (YAMAHA Digital Piano, P-105, with 88 keys) in the Piano Laboratory One at the UEW



APPENDIX IX: Keyboard Synthesizers (YAMAHA Digital Piano, P-105, with 88 keys) in the Piano Laboratory Two at the UEW



**APPENDIX X: An Upright Piano (BENTLEY) in the Piano Laboratory One, at the
UEW**



APPENDIX XI: A Student Playing a Piano Piece in the Piano Laboratory One, at the UEW



MODEL OF SIGHT-READING AND PERFORMANCE IN SOCIETY



FRANCIS ANANI NYANIN

MODEL OF SIGHT-READING AND PERFORMANCE-CONT PAGE

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APPENDIX XII

MODEL OF SIGHT-READING AND PERFORMANCE IN SOCIETY

6.0 Overview

Music making is not only about the physical activity where the pianist/keyboardist uses the eyesight, hands and fingers, and feet to develop skills. But it includes the mental activity such as listening, analyzing, creating internal mental picture, and recalling of information from memory. Acquisition of skills vary from one person to the other, and it has great influence upon individual performances.

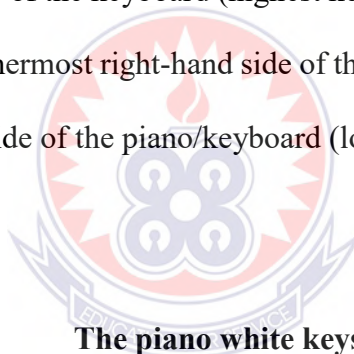
In piano/keyboard playing, the level of mastery is not static, but very dynamic. The more a person practice regularly, the more his/her skill level increases. The *Model of Sight-Reading and Performance in Society* shows three categories of people in the three levels. Thus; (i) people in the first level are some students, adults, and children with basic skill level of performance; (ii) the second level consists of some music students, non-music students, adults, and children with intermediate skill level of performance; and (iii) the third level consists of musicians/composers, few music students, non-music students, adults or amateurs with advance skill level of performance.

The *Model of Sight-Reading and Performance in Society* talks about; (1) the geography (structure) of the piano/keyboard; (2) music reading; (3) keyboard practice; (4) memory work; and (5) mental rehearsal (mental practice).

6.1 Geography (structure) of the Piano

The piano/keyboard is made up of white keys and black keys; the black keys are in groups of two, and groups of three. The white keys are named in ascending order using the first seven letters of the English alphabet (i.e., A, B, C, D, E, F, and G), and the keys are repeated in the same order (higher level or lower level). The nearest sound that bears the same letter name either above or below is called an *Octave*.

Play and name all the white keys on the piano/keyboard (i.e., C, D, E, F, G, A, and B). You should also listen to the corresponding sound of each key as you play them along. Begin from the furthestmost left-hand side of the keyboard (lowest key) to the furthestmost right-hand side of the keyboard (highest key). Then play in the reverse order by beginning from the furthestmost right-hand side of the keyboard (highest key) down to the furthestmost left-hand side of the piano/keyboard (lowest key).



The piano white keys

- *Key C*: The middle C is a white key, and it is situated near the middle part of the piano/keyboard. The middle C and all the Cs is next to D on the piano. In the groups of two black keys, key C is located on the left before the two black keys.
- *Key D*: D is a white key next to E. In the groups of two black keys, key D is located in the middle of the two black keys.
- *Key E*: E is a white key next to F. In the groups of two black keys, key E is located on the right side after the two black keys.
- *Key F*: F is a white key next to G. In the groups of three black keys, key F is located on the left side before the three black keys.

- *Key G*: G is a white key next to A. In the groups of three black keys, key G is located between the first black key and the second black key.
- *Key A*: A is a white key next to B. In the groups of three black keys, key A is located between the second black key and the third black key.
- *Key B*: B is a white key next to C. In the groups of three black keys, key B is located on the right side after the three black keys.

The geography of the piano/keyboard includes the octaves as well. Thus octaves: (i) C1, C2, C3, C4, C5, C6, C7, (ii) D1, D2, D3, D4, D5, D6, D7, (iii) E1, E2, E3, E4, E5, E6, E7, (iv) F1, F2, F3, F4, F5, F6, F7, (v) G1, G2, G3, G4, G5, G6, G7, (vi) A1, A2, A3, A4, A5, A6, A7, (vii) B1, B2, B3, B4, B5, B6, B7.

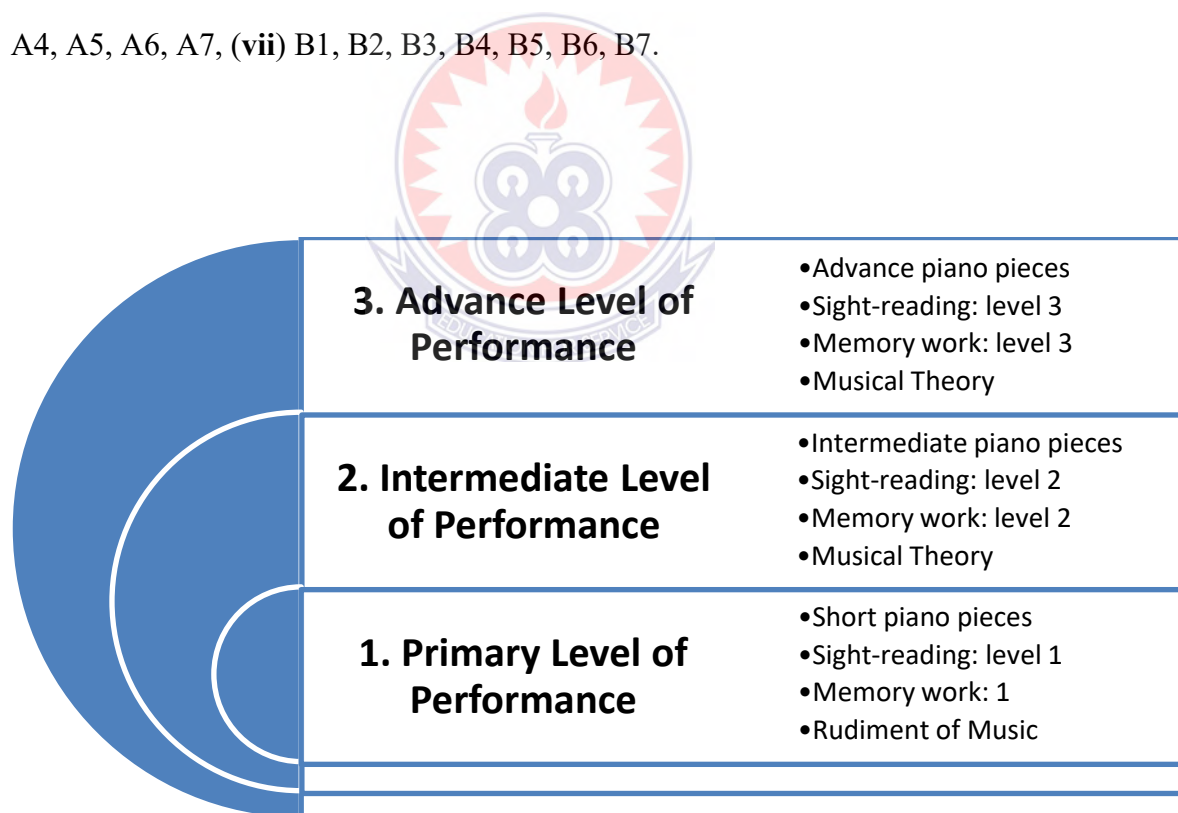


Figure 7: Model of Sight-Reading and Performance in Society

6.2 Music Reading

Sight-reading: The aspect of sight-reading applies to reading musical notation in general, and it does not only relate to sight-reading musical score/s for the first time (*prima vista*). Fourie (2004) in her article on the *processing of musical notation*, she suggested that a successful sight-reader can read the music score and mentally hear the sounds represented by the symbols. The processing thus involves recognition, understanding and mental transformation into inaudible sounds, or auditory images. Therefore, the ability to hear in the ‘*inner ear*’ is very important (Fourie, 2004, p.13).

Music reading refers to the reading of *musical scores (notation)*. There are three types of reading (i.e., *sight-reading, rehearsed-reading, silent-reading*). Each of them serves different purpose, and they are different in terms of their cognitive demands.

(i) **Sight-reading (sight-singing)** is also called in Italian as ‘*a prima vista performance*’ (means *at first sight*). It is the reading and performing of musical score/s that the performer has not seen before. *Sight-reading* simply means: playing the familiar musical notation, rhythms and dynamics that you know, but at this time, reproducing them in a contest or new compositions that has not been previously seen or heard before. The process is basically a matter of transfer from the known to the unknown, bringing to bear the familiar musical notation, and technical skills on unfamiliar composition.

(ii) **Rehearsed-reading** means sight-reading and at the same time performing an already familiar composition. During the performance of a rehearsed composition, the performer already has memory traits on the music structures and units. The performer recognizes the musical notation and expression, and execute them at a given pace.

(iii) **Silent-reading** means to sight-read silently in your brain, and do not play any musical instrument (i.e., piano, wood wind, brass wind, strings, percussion) to produce sounds, or use the voice to sing. For instance, silent-reading is compared to a pianist who scans through a new piece (music) before performance, or without performance. Skillful musicians, pianists/keyboardists, and music performers are able to do silent-reading by looking at the printed musical scores (staff notation) and hearing the sounds in their brains without playing it on the physical piano/keyboard, or singing.

The ability to hear the music in your brains is clearly similar to music reading, and it should be considered as a prerequisite for great performance. People who exhibit high level of sight-reading skills are musicians, pianists/keyboardists, and skillful performers.

6.3 Reading Homophonic Music

The pianist/keyboardist should cultivate the habit of reading *homophonic musical scores in vertical patterns* (i.e., downwards to upwards). In other words, the keyboardist should sight-read homophonic musical scores such as; block chords, hymn tunes, by beginning from the lowest note of the chord to upwards. The sight-reading is similar to arpeggio playing; Thus, *playing arpeggio from the lowest note of the chord to the upwards*. This ensures a good foundation of the chords, and it accustoms the eyes to follow a certain pattern. Later, when the keyboardist develops playing skills and experience, the eyes can begin to *wander more freely up or down* as it follows the line of the texture.

6.4 Reading Polyphonic Music

Playing polyphony: The excellence of a piano music is represented in both the rich organized content, and the rich music horizontal layers. However, it is said that one of the most productive, yet most difficult tasks is the formation of *multiple layers* of sound. Learning *polyphonic music* is the main means to play the level of music clearly, so we should pay enough attention to students from the beginning of learning polyphonic. When *playing polyphony*, one should make all parts of the voice smooth, and display their distinct levels (Jiang, 2019, p.285). The voice parts in *polyphonic* are usually very complicated. The performer needs to distinguish between the major and minor parts, guide the fingers with the ears to control the parts, and apply the same rule to each music by analogy (Jiang, 2019, p.285).

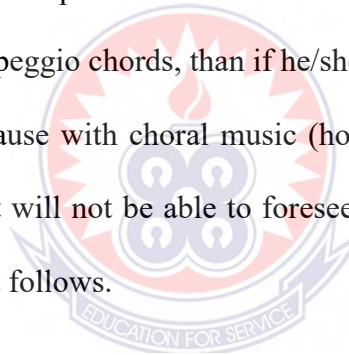
Polyphony is a musical setting which a number of independent voices (parts) are carried out in the course of a musical composition. These voices (parts) are entitled to equal significance, and in similar manner, alternately bring forth the themes and counterpoints (Giesecking & Leimer, 1972, p.118).

Numerous *Polyphonic* musical scores (notation) are often read in *horizontal structure*, or in a *zigzagging horizontal scan*. The pianist/keyboardist's eyes-fixation becomes longer as the music becomes more difficult to read. During sight-reading of *polyphonic music*, the ability to recognise individual patterns such as arpeggios, sequences, modulations, and scales are very important. Example of polyphonic music are; Baroque music (i.e., fugues, toccata); and some Contemporary music.

6.5 Perceptual Span and Eye-Hand Span

Sight-reading involves two mental strategies; namely perceptual span, and eye-hand span (eye-performance span). (i) *Perceptual span* is a term used to describe how far a reader can read ahead and grasp *chunks*. In other words, *perceptual span is the distance between the current point of performance, and the farthest point ahead where the eyes are looking;* (ii) *Eye-hand span* refers to how long a pianist continues to play the piano keys when the musical score has been covered, or has been removed from his/her sight. *Eye-hand span could be larger or shorter, depending upon the structure of the music.*

Supposing a pianist is sight-reading a *piano score* (notation), and instantly he/she recognizes broken chords that spans for two bars/measures. The pianist's eye-hand span will be longer to see the arpeggio chords, than if he/she was playing a choral style music (homophonic music). Because with choral music (homophonic), it is full of chords in succession, and the pianist will not be able to foresee the harmonic chord progression, and subsequent chords that follows.



6.6 Eye Fixation for Sight-Reading

Eye fixation for sight-reading: *Expert sight-readers* look ahead on the musical score as they play the piano, and they scan their eyes forward to read in detail the score ahead. *Expert sight-readers* at the piano tend to employ progressive and intermittent regressive eye movements (left to right) to clarify *notational and musical details*, and *fixations* (stopping points) that allow them to visually process both the bass clef and treble clef. The zigzag eye movement (left to right) observed by pianists may be idiomatic to piano

reading in light of the necessity for pianists to scan both *vertically* and *horizontally* across two staves to discern melodic and harmonic details (Wristen, 2005, p.48).

It is important to have a *systematic grading of skills*. In other words, begin to sight-read with the simplest music first, then progress gradually to sight-read difficult music. In sight-reading, the movement of the eyes move in a series of jumps, from one point to the other point, and its resting point is called *fixations*. The *eye fixation* is achieved primarily through the recognition of patterns. Therefore, a whole group of notes can be read in a *single fixation*, instead of reading individual notes.

The pianists should aim at familiarizing himself/herself with the conventional scales, arpeggios, chord patterns, and rhythmic work. Several types of musical reading are naturally influenced by prior knowledge on the type of music being performed. However, some Contemporary music make sight-reading difficult: especially, the music compositions of Alexander Scriabin, Bela Bartok (1881-1945), Arnold Schonberg (1874-1951), and Igor Stravinsky (1882-1971). With their type of music, each note in a chord or melodic groupings should be scanned individually, and played slowly.

6.7 Skillful Sight-Readers

Skillful sight-readers look on the musical score (notation), and search for information. They also scan expressions and dynamic markings. They have *larger eye-hand span*, and they are able to store *more information or larger chunks*. Skillful sight-readers are more familiar with patterns such as; scales, arpeggios, chord progressions and rhythms.

Also, they are able to efficiently recognise the melodies and rhythmic patterns in musical scores (notation) than less skillful sight-readers. The skillful sight-readers' eyes usually read ahead of their fingers. When they perceive difficult passages, their eyes move more slowly to take more detail chunk well in advance. But after they have played the difficult passage, they pick up the tempo again without any deviation in the tempo. They are able to do regular practice, and memory work.

People who exhibit high sight-reading skills are musicians, composers, pianists, keyboardists, skilled students, and performers. They are in the 3rd level (advance level of performance) and 2nd level (intermediate level of performance).

6.8 Less Skillful Sight-Readers

The less skillful sight-readers can read every consecutive musical scores (notation), and still make mistakes. As they move their fingers to search for the piano keys, they should do so without looking on the keys. The less skillful sight-readers should try to develop a *peripheral vision* (i.e., geography or structure) of the piano/keyboard, so that they can identify where their fingers are, while they still focus their eyes on the musical score (notation). With *peripheral vision*, they will be able to keep track of both-hands and fingers simultaneously. The less skillful sight-readers should not attempt to sight-read difficult music that are beyond their skill level.

Any time the eyes loose contact with the musical score and begin to search for what the fingers are doing on the piano keys; precious time is lost. The time lost could have been devoted to focus on the score to foresee the subsequent notation.

To begin with sight-reading, it will be difficult to move the hands and fingers blindly on the piano keys. But with *persistent practice*, and with the *eyes resolutely glued to the musical score* (notation), the hands and fingers will familiarize themselves on the piano keys. The less skillful sight-readers can occasionally glance at what the hands and fingers are doing; especially, when the fingers have to play a large leap or intervals. The *eye-hand span* can be trained to be larger than its normal conditions, so that it results in a good sight-reading skill.

With regular practice, the less skillful sight-readers will be able to develop their *eye-hand span* to read musical score (notation) more fluent with ease. People who exhibit low sight-reading skills are: beginner musicians, non-music students, adults, amateurs, and children. They are in the 1st level (primary level of performance).



6.9 Measures to Develop Sight-Reading Skills

Although, sight-reading is relatively easy to learn, but it should be practice regularly in order to improve. Since sight-reading depends more often on recognition of *structures*, it is closely related to *memory*. This means that you can develop sight-reading skills if you continue to practice it. Sight-reading should be practice every day (regularly). There are two methods used to develop sight-reading skills more rapidly. These are: (i) SR drill (sight-reading drill); and (ii) Reading more literature.

6.10 SR drill

The *SR drill (sight-reading drill)* is not meant for all music students. But it is only useful for level 100 students (i.e., beginner musicians, or adults) who have much difficulty in sight-reading musical scores (notation), and as a result, struggle with their fingers to look for the piano keys. All adult students/learners who fall within this category should be encouraged to do regular *sight-reading drills* (i.e., sight-reading exercises). The *SR drill* should be practice regularly for at least 10 minutes per day.

It should include identification of chords, scales, rhythmic patterns, pitch names, modulations, and so forth. The *SR drill* will enable the student or learner to recognise rhythmic patterns, and also develop associate motor skills, and improve sight-reading.

There are three methods that the adult student/learner can choose to practice rhythmic patterns. Thus, (i) by clapping the rhythmic patterns; (ii) by playing one of the piano keys repeatedly to depict the rhythmic patterns; or (iii) by tapping the lap/s with one hand to depict the rhythmic patterns. The *SR drill* can develop the *perceptual span* and *eye-hand span* of the adult student/learner.

It is important to note that the *SR drill* is not another name we give to *regular routine practice*. But, regular routine practice refers to the technical exercises (i.e., scales, arpeggios, etc.) that an individual chooses to practice regularly at the piano/keyboard during his/her practice sessions.

6.11 Read Literature

Hoffer suggested that when a person reads, the eyes does not read letter by letter or word by word, but by group of words. The better the reader, the larger the group of words encompassed in a single fixation of the eyes. The same principle applies to music reading (Hoffer, 2001, p.161).

Another method suggested to improve *sight-reading skills* is to develop a natural habit for *reading more books* (i.e., *read more literature*). This is a very useful and natural reading exercise that enhances *sight-reading skills*. When a person develops a natural habit for reading more books (i.e., *read more literature*), the person's eyes does not read letter by letter, or word by word. Instead, the eyes will read *group of words*.

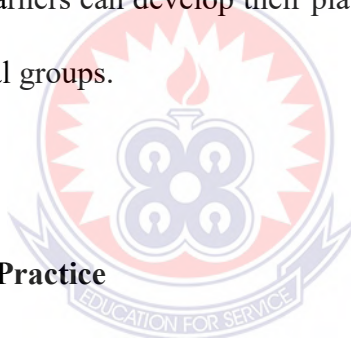
If the person is able to read fluently with ease, the eyes will be able to encompass a *larger group of words within a single fixation*. The same principle applies to music reading (i.e., sight-reading, or sight-singing). Therefore, it is always best for musicians, pianists/keyboardists, as well as adult students/learners to read more literature. Reading more literature will improve your *sight-reading skills*, and *memory work*.

The non-musician, or amateur reads more books and other literature, whilst the musician reads musical scores (notation) which contain lines and spaces, symbols, and expressions. The reading of musical notation can be complex, because a single note (minim, crotchet, quaver, etc.), or dotted note (dotted minim, dotted crotchet, dotted quaver, etc.) represents both its pitch as well as its rhythmic value. The rhythmic perception begins by distinguishing between long sounds and short sounds.

As a music unfolds, its rhythmic structure is not seen as a series of individual notation, but it is seen as a process in which smaller rhythms are grouped, and structured as integral parts of a larger rhythmic patterns. Sight-reading musical scores (notation) are also related to reading some literature or *language materials*.

6.12 Practice

Practice is a type of activity that the pianist (individual) does regularly to develop playing skills day by day. The main goal of piano/keyboard practice is to enable the individual to develop playing skills to play piano music and other favourite music, and perform them flawless. Adult students/learners can develop their playing skills, and play keyboard for various churches or musical groups.



6.13 The Stages of Piano Practice

Practice is a complex mental exercise that requires the pianist/keyboardist to develop skills under conscious control, and to accurately express the thoughts and emotions of the song (music). This requires preparation for practice. You would need: (i) a music dictionary to find out the meaning of every term in the music; (ii) a pencil to mark out the key points or difficult sessions; (iii) a metronome to keep you in regular tempo. Thus, your practice from slow tempo, and later to fast tempo; and (iv) a voice recorder to record the play for problem analysis (Jiang, 2019, p.286).

Usually, there are four stages in music practice, and every pianist/keyboardist is required to observe them in order to attain perfection. The stages are; (i) reading stage; (ii) grouping stage; (iii) polishing & performance stage; and (iv) maintenance stage.

- i) Reading stage: When you get a new music (piece), read through the music to identify its structure. Thus; analyse the new music to identify the form, scales, arpeggios, modulations, chords, rhythmic work, ornaments, and difficult sections. The analysis sometimes includes listening to audio & video recordings of the music at hand, so that you get the aural picture (representation).
- ii) Grouping stage: Break the music into small possible practice sections; then mark the music with rehearsal letters (i.e., A, B, C, D, E, F, G, H, etc.), and focus on one rehearsal letter at a time. For instance, group few bars/measures to represent:
(i) Rehearsal letter A (measure: 1-16); (ii) Rehearsal letter B (measure: 17-32);
(iii) Rehearsal letter C (measure: 33-48); (iv) Rehearsal letter D (measure: 49-64);
(v) Rehearsal letter E (measure: 65-80); (vi) Rehearsal letter F (measure: 81-96);
and so forth. Apart from the rehearsal letters, you can also break difficult passages into small group of bars/measures, and focus on them, one group at a time. A small group may consist of 2, 3, 4, 5, or 6 bars/measures. This depends upon the type of music, and level of difficulty of the music.
- iii) Polishing & performance stage: At this stage, you should practice and polish each section you identified with rehearsal letters (i.e., A, B, C, D, E, F, G, H, etc.), and iron out all identified difficult passages. When you have been able to practice each section perfectly well, the next step is to put all the sections together and perform them as a whole piece (music) up to a polished state. As the day of performance approaches, try to memorise the whole music by playing through for several times. Play the music at moderate tempo, then at slow tempo. After that, create a

casual performance and perform the music to an imaginary group, or to real audience. For instance, play the music (piece/s) for friends to listen, or play the music for other people to listen and criticise. After the casual performance, the next step is to polish the whole music (piece/s) by adding interpretational details (dynamic markings). Then during your last practice session, before you go for the real performance, play the whole music (piece/s) in three different tempos. Thus; (i) 1st time, play the music (piece/s) at the correct tempo; then (ii) 2nd time, play the music (piece/s) at moderate tempo; then finally (iii) 3rd time, play the music (piece/s) at slow tempo.

- iv) Maintenance stage: When you play a particular music (piece/s), and it gets to the maintenance stage, it may include slight modification in the interpretation (i.e., dynamics and ornaments), hand & finger technique, and mental rehearsal. *Mental rehearsal* is the ability to practice a whole music on an imaginary piano/keyboard in the brain away from the physical piano/keyboard. *Mental rehearsal* is very useful for pianists/keyboardists who are mentally fresh, and have the technical proficiency, and possess a vivid image of the music (piece/s). Maintenance of a music requires some degree of physical practice, and mental rehearsal to keep all the music (pieces) polished and fresh for decades. People in this category are musicians, composers, pianists/keyboardists, skilled students, and performers.

6.14 Big Hands and Small Hands

People with *big hands*, especially those with *fat fingers* have trouble when they play between the piano black keys. To curtail this problem, people with big hands or fat fingers should curl their fingers so that they can comfortably play the white piano keys in front of the black keys. When all the fat fingers are curled well, the fat fingers will generally be seen on the white piano keys, and they will not be hitting the black keys.

However, people with *small hands*, especially those with *shorter fingers* should stretch out their fingers when playing *octaves*. Pianists, adult students, and people with shorter fingers should do regular *palm stretching exercises*. When you begin to do palm stretching exercises, it may not yield much results within some few days. But if you continue to do it regularly, it will yield positive results to enable you to play *Octaves*.

Palm stretching exercises should be done regularly for a life time. It is more effective when you start to do it at a younger age when the muscles are still flexible. Also, adults with small hands or shorter fingers should do *regular palm stretching exercises*, because the ability to stretch out the small fingers *decreases with age*.

6.15 Importance of Practice

Practice: Many mistakes in piano performance are formed in the long-term low-quality practice. If we pay attention to the practice process and prevent these mistakes from happening, we can save time, energy and efficiency (Jiang, 2019, p.286).

Practice enables the pianist/keyboardist to play or perform a given music (piece) well. Practice also enables the pianist to establish a cognitive (mental) representation that supports the skills; thus, assimilate, manipulate, memorise, and retrieve the music in appropriate ways. Also, these representations allow mental skills and physical skills to be transfer from one music to the other, and from one difficult level to the next. This mechanism allows us to learn subsequent music (piece/s) faster, because certain note combinations and expressions can be anticipated. Also, the way a pianist practice a music at hand may vary. This depends largely upon the pianist's skill level, and the type of music he/she chooses to study. Piano practice should be a *regular activity*.

6.16 Importance of Deliberate Practice

De Pachmann (a concert pianist), in his eagerness to master the technic and literature of the piano, says that when Bach's *Prelude and Fugue* was on one occasion assigned him by his piano teacher, he went home and learned the whole twenty-four (24), which he was able to play in every key for the next lesson (Brower, 1915, p.284).

Practice involves motivating oneself to do it, even if the process itself is not always enjoyable. Colwell distinguished between formal practice (*deliberate practice*), and informal practice. Colwell argues that in *deliberate practice*, we set specific goals that lie to some extent outside our current level of performance, and we try to achieve those specific goals with great concentration (Colwell, 2006, p.65). Snitkin expounded that practice is a type of commitment to oneself to improve the developing skills from lesson to lesson (Snitkin, 1997, p.11).

Deliberate practice involves trying to exceed your previous limits or previous achieved skills, and it requires *full concentration* and *effort*. Therefore, it is possible to engage in these activities for a limited duration of time. Then when you become bored or tired, you should take some rest; and after recovery, you should resume your practice again. *Deliberate practice* is effortful, and it requires *high concentration*. As you continue to practice the piano/keyboard music (piece/s) and fatigue or boredom sets in, you should end the practice immediately.

However, if you insist and continue to practice with fatigue or boredom, you may end up playing mistakes, and *cultivating useless practice*. During resting time and sleeping time, the cognitive (mental) restructuring takes place, and this gives the brain time to digest the learning materials. Pianists/keyboardists can reproduce their interpretations of the music very accurately with respect to tempos and dynamics.

There are several strategies that musicians and pianists/keyboardists use to practice (study) music at hand, but they are all guided by effective self-determination, and regular practice. These people use appropriate techniques to address the problems.

6.17 Skillful and Less Skillful Performers

Skillful performers practice (study) to establish a clear mental image of the music they play. Their memory work include; (i) writing down some parts of the music away from the physical piano; (ii) analyzing the music away from the physical piano; and (iii) playing the music at different sections on an imaginary piano inside their brains. Some pianists/keyboardists after playing can commit the whole music into memory.

During piano/keyboard practice, the *skillful performers* put into consideration some aspects such as; hand & finger technique, melody, rhythmic work, visual patterns (scales, arpeggios), modulations, chord progression, and other relations. All these aspects work together to build a rich mental picture (image) of the music.

However, the *less skillful performers* do not do much memory work. They practice to develop hand & finger technique to play music, and they also know how the music continuous. From time to time, they memorise very short music (piece/s); but they cannot easily memorise long music as compared to the skillful performers.

6.18 Preparation towards Performance

Supposing that during your practice session, you made a mistake (*stubborn mistake*). In that case, you should fish out the *stubborn mistakes*, and devote some time to work on them. Before you begin to practice the difficult section/s (*stubborn mistakes*), remember not to do any fatigue work or strain yourself too much, but instead, you should relax and have enough rest. Break the difficult passages into small group of bars/measures. Use separate-hands to practice at slow tempo (speed), then coordinate with both-hands.

Before you go for the real performance, play the whole music (pieces) in three different tempos. Thus; (i) 1st time, play at nearly fast tempo once; then (ii) 2nd time, play at moderate tempo once; and finally (iii) 3rd time, play at slower tempo once. After these three practices (i.e., fast, moderate, slow), there should be no additional practice. Play the music (piece/s) with little expressions or no expressions. As much as possible, reserve all expressions and ornaments for the real performance.

6.19 Memory Work

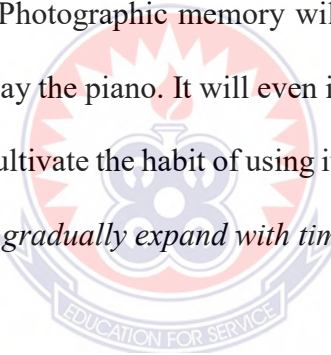
Memory work: The more you memorise piano music (piece/s), the easier it becomes to memorise them; because you can create more associations. Every new association you learn provides several new possible routes for recall. If you learn to memorise piano music, it will strengthen your memory, and your effective IQ will go up. Below talks about four types of memory: (i.e., theoretical, hand, keyboard, and photographic).

- i) **Theoretical memory:** Theoretical memory is based on the knowledge of *musical theory*. It enables the pianist to memorise music compositions. This includes: the scales, arpeggios, chord progressions, rhythm work, modulations, ornaments, expressions, analysis, and so forth.
- ii) **Hand memory:** Hand memory is a vital part of memory work. The hand & finger technique are developed to play the piano/keyboard keys without any conscious mind to play individual notes.
- iii) **Keyboard memory:** Keyboard memory will enable the pianist to memorise the sequence of the piano keys, and the hand motions as he/she continue to play the keys. Keyboard memory is not difficult. It can be acquired while you practice the music, and the memory is reinforced every time you play the piano keys.
- iv) **Photographic memory:** Photographic memory improves piano activity such as; compositions, sight-reading, theory, and analyses. You can begin a photographic memory with one-hand at a time. Memorise one bar/measure at a time, and do not add other bars/measures until all the preceding materials are well memorised. It will enable you to memorise aspects such as; the melodies, scales, chord progressions, rhythms, and so forth. If you apply photographic memory to every music you practice (study), you will be able to develop your photographic

memory. Sooner or later, you will discover that you have memorised a lot of music. The more you practice them, the easier it becomes, because there is no limit to the number of pages, or music that the human brain can store.

6.20 Usefulness of Photographic Memory

You can work on your *photographic memory* away from the physical piano/keyboard at any time, and at anywhere. You should start to read musical scores (notation) in your brain away from the physical piano as often as possible, until the music is permanently memorised. If you get lost in the middle of playing, you can restart by reading that section of the music in your brain. Photographic memory will enable you to read ahead of the musical score/s while you play the piano. It will even improve your sight-reading. Every pianist/keyboardist should cultivate the habit of using it. If you use photographic memory regularly, *your memory will gradually expand with time.*



6.21 Benefits of Memory Work

When you make effort to memorise variety of music; (i) it will improve your memory work in your daily life; (ii) it will improve your brain's capacity to memorise a lot of music; and (iii) it will slow down your memory loss with age. Also, memory work enables the pianist to: (i) learn new music quickly; (ii) play musically; (iii) acquire technique to play difficult music; and (v) eliminate nervousness, and play flawless. Once you are able to memorise one music, it will enable you to memorise future music too.

The memory function is extremely complex, and its complex nature makes intelligent people to memorise many things; because they can quickly think of useful associations. *Memory work affects intelligence, and good memory raises effective IQ.*

6.22 Mental Rehearsal

Piano/keyboard playing consists of the physical skills (i.e., hand & finger technique), as well as the mental skills (i.e., brain work, and listening). *Mental rehearsal* is simply the process of imagining, or playing the music in your brains. Or actually, it means the process of playing the music on an imaginary keyboard away from the physical piano. *Mental rehearsal controls practically everything we do in music.* It is used to solve the practical problems of piano/keyboard technique (methods) and performance/s. It also improves musicianship and increase intelligence.

A pianist/keyboardist can use mental rehearsal by play (rehearse) a whole music in the brain away from the physical piano/keyboard. Mental rehearsal will enable the pianist/keyboardist to double, or triple his/her practice time. Below talks about how; (i) pianists use mental rehearsal; and (ii) children listen to music.

- i) Pianists/keyboardists use mental rehearsal: When a pianist has practiced a whole piano music for some time, the body may be tired; especially when rest is required. But yet, the pianist brain may still be fresh. This is the time that mental rehearsal is helpful. When a pianist is thinking through some aspects of a piano music (i.e., scales, arpeggios, chord progressions, rhythmic work), the same brain area is activated to listen or produce music. It is best to do mental rehearsal with some physical practice at the piano. This reinforces the mental images, and hand

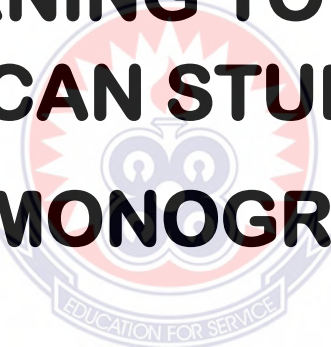
& finger technique. Pianists can possess a vivid image of the music they perform, and also do mental rehearsal in their brains away from the physical piano.

- ii) Children listen to music to develop their brains: Mental development is the main reason that has made some musicians, pianists/keyboardists, and parents to allow their children to frequently listen to classical music on *audio & video recordings*. These people also allow their children to listen to other Western Art music on TVs, You Tube, CDs, and other authentic sources. These people provide their children with a lot of classical music, and they also train them to recognise variety of musical compositions. For instance, listening to classical music such as the works of W. A. Mozart is believed to stimulate the brain.

6.23 Usefulness of Mental Rehearsal

- i) Mental rehearsal is one of the best antidotes against stage fright. For instance, when a pianist sits at the piano to play a solo piece (recital), or accompany a group of singers (choral), the music should originate in the brain of the pianist.
- ii) With mental rehearsal, the pianist just has to *coax the piano* with the hands & fingers to produce the music he/she wants to play.
- iii) The pianist can use mental rehearsal to practice several piano music at anytime, anywhere away from the physical piano. This is also called a *mental play*.
- iv) Mental rehearsal can develop your **brain** (IQ) to the extent that you will be able to memorise several piano music within the shortest possible time, and gain the confidence to do regular public performance.

**PIANO TEACHING AND
LEARNING TO ADULT
AFRICAN STUDENTS:
A MONOGRAPH**



BY

FRANCIS ANANI NYANIN

APPENDIX XIII

A MONOGRAPH OF PIANO TEACHING AND LEARNING TO ADULT AFRICAN STUDENTS

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7.0 Objectives

This work (*A Monograph of Piano Teaching and Learning to Adult African Students*) was purposely made for level 100 students (BMus Ed, BMus, and DMus), as well as students in levels 200, 300, and 400, who are determined to use self-tuition to develop keyboard playing skills. Especially, during weekends, holidays, and vacations, when students are not on campus to continue their tuition in *keyboard skills*.

This work will also serve as a guide to non-music students, and other people (i.e., adults and children) outside the UEW, who are determined to play the keyboard and develop their playing skills. Adult students are encouraged to follow the instructions so that they acquire the playing skills rapidly. Knowing the practice methods already means a reduction in learning time, and ample time for playing, instead of struggling with playing methods. This guide is designed to help the adult student/learner to learn the piano/keyboard *step by step*. The adult students/learners should practice regularly, and master each concept and skill before they move to the next step. Please, do not push yourself too fast, but set goals for yourself, and work hard to accomplish them.

Piano/keyboard practice and playing improves; aural & sight-reading, harmony, complex rhythms, analysis, memory work, performance skills, and so forth. By regular practice and perseverance, the Almighty God will enable adult students/learners to develop playing skills more rapidly, and also enable them to excel. Thank you.

7.1 Sitting Posture at the Piano

Siting posture: The pianist (learner) should sit well forward on the chair without a support for the back. The upper part of the body should incline slightly forward; the upper arm bent forward should hang loosely from the shoulder joint. The seat (chair) should be high enough to allow the lifted lower arm to be on a level with the piano keys (Giesecking & Leimer, 1972, p.13).

Sitting posture at the piano/keyboard: Make sure that you are seated comfortably at the piano/keyboard, and you are ready to play the piano keys. You should remember to play the piano with '*clean hands, and short fingernails*. Below talks about the steps;

- i) Sit at the front edge of the bench (chair): Position the bench (chair) close to the center of the piano, and adjust it at the right height. Do not sit in the middle of the bench (chair), but sit towards the front edge of the bench (chair) with your back straight and your weight forward. You should also sit at a comfortable distance away from the piano so that your body do not interfere with your elbows when they move towards each other in front of your chest. If this is comfortable, the bench (chair), and sitting position should be correct.
- ii) Plant your feet firmly on the floor, or pedals: Place your feet flat on the ground, or place your right foot on top of the pedal, while your left foot is on the ground.
- iii) The height of the bench (chair): Sit at the right height, and maintain a good posture. Preferably, the height of the bench (chair) should be low, as compared to the height of the piano keys.
- iv) Centre your body at the middle C: Sit with your back straight and your weight forward. Then center your body at the middle C or C4, if you are sitting at a

standard piano/keyboard with 7¼ Octave (88 keys). The standard keyboard could be an electronic keyboard synthesizer, an upright piano, or a grand piano. To locate the middle C, count the Cs in octaves. Begin from the furthest left-hand side of the standard piano/keyboard with 7¼ Octave (88 keys). Thus; C1, C2, C3, to C4. On the contrary, the middle C of a 5-Octave keyboard is the 3rd C. To locate the 3rd C, count the 1st C from the furthest left-hand side of the 5-Octave keyboard. Thus; 1st C, 2nd C, to 3rd C.

- v) Put your hands on the piano keys: Hold your palms above the piano, and do not rest them on the piano keys. As you begin to lower your palms, let your fingers touch near the center of the large area on the piano white keys. When your fingers are on the keys in playing position, the elbows should be seen slightly below the height of the hands. When your fingers are on the piano keys, your upper and lower arm should create an 'L' shape; approximately, a 90-degree angle. Then as you strike the piano keys, keep your finger joints curved.

The usefulness of low bench (chair): The advantages of sitting on a low bench (chair): (i) low bench makes it easier for you to lift your fingers; (ii) low bench makes it easier to sit with a *straight spine*, and to sit further away from the piano/keyboard.

7.2 Geography (structure) of the Piano

The piano/keyboard is made up of white keys & black keys, and the black keys are in groups of two and three. The white keys are named in ascending order, and it uses the first seven letters of the English alphabet (i.e., A, B, C, D, E, F, and G). The nearest sound that bears the same letter name either above, or below is called an *Octave*.

The *5-Octave* electronic keyboard synthesizers are mostly used to play Western Art Music compositions, Ghanaian Art Music compositions, Jazz music, Contemporary music, and so forth. Therefore, it means the *5-Octave* electronic keyboard synthesizers are used to play; Ghanaian popular music (highlife, gospel, choral, etc.), hymn tunes, easy piano pieces, and other intermediate piano grades. This is possible, because the range of the music (pieces) are within the perimeters of the *5-Octave* keyboards.

However, when the individual begins to advance in keyboard playing, it becomes useful to go for a piano ($7\frac{1}{4}$ octave with 88 keys). The $7\frac{1}{4}$ octave (88 keys) is the standard size for pianos, and its perimeter is so wide that it can play all types of *Piano music*, *Jazz music*, *Contemporary music*, and so forth without limits. There are various kinds of standardized pianos built by different manufacturing companies. Examples of pianos/keyboards ($7\frac{1}{4}$ octave) with specifications are; electronic keyboards, upright pianos, grand pianos, as well as electric pianos.

You should take your time to explore the piano keys bit by bit. By so doing, you will be able to identifying all the keys and their corresponding sounds, as well as their actual locations. The piano keys (black & white) are arranged in sequence.

- *Key C*: The middle C is a white key, and it is situated near the middle part of the piano. The middle C and all the Cs is next to D on the piano. In the groups of two black keys, key C is located on the left before the two black keys.
- *Key D*: D is a white key next to E. In the groups of two black keys, key D is located in the middle of the two black keys.
- *Key E*: E is a white key next to F. In the groups of two black keys, key E is located on the right side after the two black keys.

- *Key F*: F is a white key next to G. In the groups of three black keys, key F is located on the left side before the three black keys.
- *Key G*: G is a white key next to A. In the groups of three black keys, key G is located between the first black key and the second black key.
- *Key A*: A is a white key next to B. In the groups of three black keys, key A is located between the second black key and the third black key.
- *Key B*: B is a white key next to C. In the groups of three black keys, key B is located on the right side after the three black keys.

The geography of the piano/keyboard includes the octaves as well. Thus octaves: **(i)** C1, C2, C3, C4, C5, C6, C7; **(ii)** D1, D2, D3, D4, D5, D6, D7; **(iii)** E1, E2, E3, E4, E5, E6, E7; **(iv)** F1, F2, F3, F4, F5, F6, F7; **(v)** G1, G2, G3, G4, G5, G6, G7; **(vi)** A1, A2, A3, A4, A5, A6, A7; and **(vii)** B1, B2, B3, B4, B5, B6, B7.

You should play the piano, and name all the white keys (i.e., C, D, E, F, G, A, B). You should also listen to the corresponding sound/pitch of each piano key as you play them along. Use your right-hand to begin from the furthestmost left-hand side of the piano up to the highest key at the furthestmost right-hand side of the piano. Then play in the reverse order. Thus, begin from the furthestmost right-hand side of the piano, down to the furthestmost left-hand side of the piano.

After playing with the right-hand, use the left-hand also to play in the same order. Thus; use the left-hand to begin from the furthestmost left-hand side of the piano, up to the highest key at the furthestmost right-hand side. Then reverse with the same left-hand down to the lowest key at the furthestmost left-hand side of the piano.

Besides the exploration of the geography (structure) of the piano/keyboard, it is also important to have some background knowledge in the *rudiment of music*. The rudiment includes; the lines & spaces of the treble and bass staves, as well as ledger lines above and below, clefs, accidentals, notations (note values), major keys (sharp & flat), and minor keys (sharp & flat), rests, tempo markings, dynamics, and so forth.

Time signatures, the German classification: (i) simple duple time: [2/1, 2/2, 2/4, 2/8]; (ii) simple triple time: [3/2, 3/4, 3/8, 3/16]; (iii) quadruple time: [4/2, 4/4, 4/8]; (iv) compound duple time: [6/2, 6/4, 6/8, 6/16]; (v) compound triple time [9/4, 9/8, 9/16]; and (vi) compound quadruple time [12/4, 12/8, 12/16] (Niecks, 1884, p.24).

Time signatures: simple duple time (2/2, 2/4, 2/8); simple triple time (3/2, 3/4, 3/8); simple quadruple time (4/2, 4/4, 4/8); compound duple time (6/4, 6/8); compound triple time (9/4, 9/8, 9/16); compound quadruple time (12/4, 12/8, 12/16); and other Irregular time (5/4, 5/8, 7/4, 7/8).

The duration suggested to explore the piano/keyboard, as well as the rudiment of music should take about seven days (1 week). This will enable the adult learner to familiarize himself or herself with the; (i) names of the piano keys (black and white), and its corresponding sound/pitch; and (iii) some rudiments. However, when you begin to practice the piano lessons step by step, you can continue to learn the rudiments.

Please, note that at this stage, it is too early for the adult learner to jump out and start to use the '*Piano Beginner's Course Book*' to play music. When you are very conversant with the geography of the piano, and some rudiments; it becomes the starting point for *eye-hand coordination* and *effective sight-reading*.

7.3 Warm Up

Warming-up routine is a regular activity, and it forms part of the daily practice sessions. The warm-up exercise makes the ‘*muscles flexible*’ (stretched and relaxed), so that the hands & fingers are physically ready to practice, or play music. When you do *regular warm-ups*, it will create a good foundation for playing *difficult passages well*.

The suggested duration for *regular warm-ups* at the piano/keyboard should be about 10-15 minutes. Play major and minor scales in similar and contrary motions. Likewise, play *arpeggios*. Technical exercises will make the *brains active for daily practice*. They are also useful for building and maintaining a strong *piano technique*.

7.4 Routine Practice

Routine practice: Edwin Hughes (an American pianist and teacher in Munich), remarked that: *technic is the mechanical part of music making*. To keep it in running order, one must be constantly tinkering with it. Every intelligent piano player recognizes certain exercises as especially beneficial to the mechanical well-being of his playing; from these he/she will *plan his daily schedule of technical practice* (Brower, 1915, p.281).

Thuel Burnham (a pianist) says, for my practice hours, at least one is given to *technic; scales, arpeggios, octaves, chords, and Bach*. He (Thuel Burnham) continued that I believe in taking one selection of Bach, and perfecting it by transposing it in all keys, and polishing it to the highest point possible. So with *études*, it is better to perfect a few than to play at so many (Brower, 1915, p.281).

Mr. Ernest Schelling (a concert pianist) practice regularly at the piano. He mentioned *scales, trills, octave, and metronome* as his routine practice techniques. He said as for technical routine; of course I play *scales* a good deal and in various ways. When I go into training, I find the best means to attain velocity. Thus, to work with the *metronome*. One can't jump at once into the necessary agility, and the *metronome* is a great help in bringing one up to the right pitch. Then I practice *trills of all kinds*, and *octaves*. Yes, I agree that *octaves* are a most necessary and important factor in the player's technical equipment (Brower, 1915, p.14).

Personal time table: You must prepare a *personal time table* at home. On the time table, you should first consider your workloads (i.e., academic work), and other schedules within a typical day. When you have inserted your schedules for academic work and other related activities on your time table, the next step is to insert your '*practice sessions/days per week*'. In other words, you should insert the number of days per week you would devote for piano/keyboard practice.

It would be better if you can devote to; four (4), five (5), or six (6) *practice sessions/days per week* on your time table. At the initial stage, practice regularly for at least 40 minutes per day, or per practice sitting. However, when you begin to develop playing skills day by day, you would get the zeal to increase your practice time (duration) little by little.

Regular routine practice is very essential for effective skill development. The pianist/keyboardist who does not practice regularly (almost every day) can never achieve *utmost skill development*. You should devote few minutes to play *technical exercises*; particularly, technical exercises that would be beneficial for the day's practice session. The remaining time (duration) should be devoted to practice new music (piece/s), and other familiar music. You should not overload yourself with more materials per one practice session. But focus on two pieces, or three pieces per a practice session.

Do not confine yourself to one long piano music for a longer period of time during one practice session or practice sitting. When you play a long piano music per one practice session, it would make you feel *bored*, and *tired*. Instead, you should break the long piano music into sections, and focus on them one section at a time. In this situation, it is advisable to select few rehearsed short piano music (pieces) and play them too.

When you practice one long piano music for a longer period of time, per one practice sitting; (i) *monotony* will set in; (ii) *loose of concentration* will follow; and (iii) practice will become *fatigue*, and *boredom*. If you want to keep familiar music (piece/s) fresh and polished, you should regularly play through them in a moderate tempo during your practice sessions/days. This will enable you to; (i) perform the music at any given time; (ii) make the music fresh in your memory; and (iii) the playing will also become automatic. By so doing, the familiar music (piece/s) will never be forgotten; and they can be brought to *performance standards* within the shortest possible time.

7.5 Useful Books for Playing Piano

Below shows some materials used to begin piano/keyboard playing.

Table 30: Books for Playing Keyboard (Piano)

List of Books for Playing Keyboard/Piano	Category	Range of Playing Experience
i) Alfred's Basic Adult Piano Course Series vol. 1	<i>Adult self-tuition course book: Contains short pieces with fingering.</i>	<i>Suitable for adults with 0 to 3 months of playing.</i>
ii) William Smallwood's Pianoforte Tutor	<i>Contains: Rudiments, short pieces, chants, scales, and musical terms.</i>	<i>Suitable for adults with 0 to 12 months of playing.</i>
iii) Hours with the Masters (vol. 1-6) by Dorothy Bradley	<i>Piano course books (vol. 1-6): for (i)Elementary; (ii) Intermediate, and (iii)Advance levels</i>	<i>Suitable for all piano students, music students, and adults with 1 month and more of playing experience.</i>
iv) Hannon Series for Fingering Exercises	<i>Contains: scales with fingering exercises</i>	<i>Suitable for all pianists and keyboardists, and adults with 1 month and more of playing experience.</i>
v) Roman Catholic Church Hymnal	<i>All the hymnals contain hymn tunes, whilst the MHB, and the Church Hymnal contains both hymn tunes and chants.</i>	<i>Suitable for all pianists and keyboardists, and adults with 2 months and more of playing experience.</i>
vi) Methodist Hymn Book (MHB)		
vii) Seventh Day Adventist Hymnal		
viii) Baptist Hymnal		
ix) Presbyterian Tunes Book		
x) Presbyterian Church Hymnal		
xi) Evangelical Presbyterian Church Hymnal		
xii) Latter Day Saints Hymnal		

7.6 Dynamic Markings

Dynamic interpretation: In music, *dynamics* is defined as the *science of power applied to tones in different degrees*. It is this power that manifests itself in the *antithesis* of strong and weak of increased and decreased swelling of tones. It is the '*force*' which influences our senses, which helps us to express our feelings of happiness, nobleness and grandeur, anguish and sadness in music. Without dynamics, music would be less affected, inexpressive, uninteresting, and lifeless. Whereas if applied cleverly, it will lend expression and plasticity to a composition (Giesecking & Leimer, 1972, p.103).

The interpretation of the artist (pianist) is based essentially on his different conceptions of the dynamic degrees. Each *piano* (*p*), each *forte* (*f*), each *crescendo* (*cresc.*), each *diminuendo* (*dim*), and each *accent* sounds differently, no matter how often they are played by the same pianist. We can realize how greatly the delivery of a piece (piano music) depends upon the disposition of an artist (Giesecking & Leimer, 1972, p.104). *Dynamic shading* is a great art which demands much practice, diligence, and a constantly open ear. The pupil/learner should be taught the importance of dynamics as soon as possible (Giesecking & Leimer, 1972, p.105).

Dynamic markings are *expressive elements of music*. It helps musicians and pianists to create some variety and interest in music, and to communicate a particular expression or feelings. For instance, the middle of a musical phrase will normally be played loud (*f*) than the beginning or ending of the phrase (*p < f > p*). Table 31, and Table 32 below show some dynamic markings, and gradual changes in dynamics.

Table 31: Dynamic Markings

S/N	Symbols	Italian Names	Meaning in English
1	<i>mf</i>	<i>mezzo forte</i>	moderately loud (medium)
2	<i>f</i>	<i>forte</i>	loud
3	<i>ff</i>	<i>fortissimo</i>	very loud
4	<i>fff</i>	<i>fortisissimo</i>	very very loud
5	<i>mp</i>	<i>mezzo piano</i>	moderately soft (medium)
6	<i>p</i>	<i>piano</i>	soft
7	<i>pp</i>	<i>pianissimo</i>	very soft
8	<i>ppp</i>	<i>pianisissimo</i>	very very soft

Table 32: Gradual Changes in Dynamics

S/N	Abbreviation	Italian Name	Meaning in English
1	<i>piu p</i>	<i>piu piano</i>	more softer
2	<i>sub. p</i>	<i>subito piano</i>	suddenly soft
3	<i>piu f</i>	<i>piu forte</i>	more louder
4	<i>sub. f</i>	<i>subito forte</i>	suddenly loud
5	<i>fp</i>	<i>forte piano</i>	loud, followed immediately by soft
6	<i>pf</i>	<i>poco forte</i>	little loud
7	<i>cresc.</i>	<i>crescendo</i>	gradually increasing
8	<i>poco cresc.</i>	<i>poco crescendo</i>	little increasing
9	<i>molto cresc.</i>	<i>molto crescendo</i>	much increasing
10	<i>decresc.</i>	<i>decrescendo</i>	gradually decreasing
11	<i>dim.</i>	<i>diminuendo</i>	diminishing
12	<i>poco dim.</i>	<i>poco diminuendo</i>	little diminishing
13	<i>molto dim.</i>	<i>molto diminuendo</i>	much diminishing
14		<i>morendo</i>	gradually reducing in dynamic & tempo

Dynamic marking: *Accent* is; (i) the regularly recurring stress on certain parts of a bar/measure by which bars/measures and their divisions are articulated; (ii) the emphasis laid on certain notes with a view of articulating motives, phrases, periods; and (iii) the modifications of tone that aim at bringing out the intellectual and emotional contents of a composition (Niecks, 1884, p.64).

Accented note can be notated as: *sforzando* (*sfz*); *sforzato* (*sf*); or *forzando* (*fz*); which means ‘*forcing*’ or ‘*forced*’, or using the symbol (>) placed above or below a note-head. All the three accented names and symbols indicate the same expression. But sometimes, its expression may depend on the dynamic level or by the performer.

Accented mark: An *accented mark* (*articulation mark*) indicates a ‘*louder dynamic*’ and a ‘*stronger attack*’ on a single note. Below explains five articulation markings.

- i) Horizontal wedge: The horizontal wedge with the symbol (>) is an accent mark, and it indicates that the marked note should have an ‘*emphasize beginning*’ and then ‘*taper off*’ rather rapidly.
- ii) Vertical wedge: The vertical wedge with the symbol (^) is an accent mark. It signifies that a note should be played *Marcato* (Italian means *well marked*). *Martellato* (Italian means *hammered*) is another name for the *marcato* symbol (^), and it is used primarily by orchestra string musicians. It refers to a specific bowing technique used to create *Marcato*. Generally, *marcato* (^) is accepted to be as loud as an ‘*accent mark*’, and as short as a ‘*staccato*’.
- iii) Staccato mark: A dot (.) signifies that a note should be played *staccato*. It indicates that the last part of a note should be ‘*silenced*’ to create separation between it and the following note. For instance, a *crotchet note* with a dot (.) placed directly above, or below it should be played as a *Quaver note*, followed by a *Quaver rest*. The duration of a *staccato note* may be about half as long as the note value of the indicated note.

- iv) Staccatissimo mark: *Staccatissimo* is interpreted as shorter than staccato. For instance, a *staccatissimo crotchet note* should be played as a lightly articulated *semiquaver note*, followed by a *dotted quaver rest* (i.e., quaver and semiquaver).
- v) Tenuto: *Tenuto* (Italian means *to hold*) is a durational direction. It means *to 'Hold'* or *to 'sustain a note, or chord for its full length'*. There are three ways of notating tenuto: (i) the word '**tenuto**' is written above the passage to be played tenuto; or (ii) it is abbreviated '**ten**' written above the note, or passage to be played tenuto; or (iii) a horizontal line (–) is placed directly above, or below a note-head.

7.7 Distributed Practice (Spacing Practice)

Distributed practice: It is far more effective to use *several short practice sessions* to study (practice) a new piano music, than to cram (put together) the same learning material for one practice session or practice sitting. When you cram together more hours to practice a long piano music (piece) during one practice session (practice sitting), it will make piano/keyboard playing a difficult activity. In other words, it is more effective to devote one hour per day to practice a section of one long piano music, than to devote seven hours in one day to practice the entire same piano music.

More effective learning and high concentration takes place during some few minutes of practice. If the duration for playing the new piano music is increased, the corresponding *concentration* would be decreased, and vice versa. The duration (length of time) a person devotes to practice one piano music (piece) depends largely upon the person's proficiency level, and obvious difficulties in the piano music at hand.

Lack of progress in skill development is the main reason why some adult students, or learners quit piano/keyboard playing. So, the distributed practice (spacing practice) is a suggested steps to guide the adult beginner musician. It would enable the adult beginner musicians and other learners to practice piano music (piece/s), and other favourite music for self-enjoyment. Below talks about distributed practice.

- i)* New materials (new music): Do not select a new material (musical scores) by the fact that some colleague students are able to play them. But, you should select new materials that are within your level of playing ability. If you begin to practice new music (piece/s) that are too demanding, the difficulty level of the music may discourage you to continue.
- ii)* Long practice sessions: One long practice session/day per sitting is very bad. It will not help you to correct your mistakes and bad practice habits. The human brains can effectively absorb new materials, and even memorise them during several short practice sections or per practice sitting. During long practice sessions, *fatigue* and *boredom* may set in, and mistakes are more likely to be repeated. *If long practice sessions are not reverted, the mistakes will be fixed in the brain, and it will become a playing habit.*
- iii)* Short practice sessions: Several short practice sessions (practice spacing) are more effective, and it will enable you to correct your mistakes and bad practice habits. This is true, because the amount of *concentration* required to practice effectively is very high during short practice sessions.
- iv)* Maximum duration at the piano/keyboard: The maximum duration needed to practice a new piano music varies greatly. This depends on the length of time a person devotes to practice the piano music, and still maintain high concentration at the piano/keyboard; with full conscious mind to what the eyes, ears, hands &

fingers are doing with the piano music. Therefore, before effective practice can occur, you should adopt to several short practice sessions.

- v) **Difficult music:** If you realize that the new piano music you intend to play is too difficult, please consult your lecturer, instructor, or a musician to help you.
- vi) **Conditions that undermine progress:** Unhealthy conditions can impede, or slow down your skill development. Situations such as; laziness, tiredness, stress, hunger, sickness, lack of concentration, disturbances, etc., undermine progress. All these factors can impede your effective practice in skill development.
- vii) **Determination:** With patience, effective practice and perseverance, you will eventually master, and develop playing skills.



7.8 Piano Practice Methods

The importance of *piano practice methods* is to guide the pianist/keyboardist, to develop a complex mental and playing skills for a successful long-term skill development. Every *difficult music (piece)* a pianist selects to practice becomes a new adventure, or a new skill development for that pianist. Experienced pianists are able to play variety of music (pieces), because they have frequently practiced those skills and are able to learn new techniques very quickly. Every new technique that a pianist learns helps to complement other skills. The practice methods are very useful for pianists, adult students, amateurs, and children. Below talks about personal keyboard, and practice methods.

- i) **Personal Keyboard:** If you resolve to learn how to play the piano/keyboard, then you should purchase a personal piano/keyboard for regular practice. Regular practice will improve your techniques and playing skills day by day. There are numerous type of pianos/keyboards with specifications, and you can purchase a brand-new, or a slightly used piano/keyboard at affordable prices in shops. I recommend the 5-Octave keyboard synthesizers for adult students, adults, and children. This keyboard can play piano grade pieces for *elementary levels*, and *intermediate levels*, because the piano music (pieces) are within the perimeters of the 5-Octave. But for piano students, and other people who wanted to study serious piano music, I recommend the 7¼ Octave keyboard (88 keys).
- ii) **Break music into smaller sections:** Break the piano music into smaller sections. Mark the music with rehearsal letters (i.e., A, B, C, D, E, F, G, H, and so forth), and focus on them, one at a time. For instance; (i) Rehearsal letter A (measure: 1-16); (ii) Rehearsal letter B (measure: 17-32); (iii) Rehearsal letter C (measure: 33-48); (iv) Rehearsal letter D (measure: 49-64); and so forth.
- iii) **Analyse the musical score/s:** Before you begin to play a new piano music, you should first study the music. The analysis includes; the texture, scales, arpeggios, rhythms, chords, modulations, sequences, ornaments, and so forth.
- iv) **Technical Exercises:** Technical exercises such as scales, arpeggios, and other markings are found in numerous Western Art Music compositions, especially, *baroque*, *classical*, and *romantic music*. Practice technical exercises that are relevant to the new piano music you intent to play. For instance, if you find chromatic scales, arpeggios, or scales in the new music, this should prompt you to practice those technical exercises before you start to play the piano music.

- v) Sight-reading: You should consciously sight-read the musical scores (notation). When you consciously sight-read the musical scores, it will improve your eye-hand coordination, and enables you to play exact notation and expressions in the musical scores. When you begin to play a new piano music, make it a habit to keep to regular tempo.
- vi) Sight-reading challenges: Sight-reading can be improved by using easy piano books to begin. Always make conscious effort to sight-read the musical scores (notation). Begin your practice with separate-hands, and as you improve your skills, coordinate with both-hands slowly. Do not look on the piano keys as you continue to play the keys. But you can occasionally watch what your fingers are doing on the piano when you reach a leap, or play a wrong note/s or chord/s.
- vii) Change the complex rhythms: You can change a complex rhythm in a new piano music, and replace it with easy rhythm, especially, when you want to practice difficult passages. By so doing, you will reduce the difficulty level of the rhythm in the music. But, when you have develop the skill to play the notes and chords in the difficult passages, remember to fix back its real complex rhythms.
- viii) Memorise difficult sections: Devote ample time to practice the difficult sections. When you practice the difficult sections very well, the memory work becomes automatic. As a result, all difficult sections revert to be easier sections.
- ix) Change the articulation markings in the passage: Do not observe any articulation markings when you begin to practice a new piano music. The articulation markings will disturb you. But, you can add them later when you have practice, and have the confidence to play the whole passage fluently with ease.
- x) Sing the phrase/s in your brains: Memorise the phrase/s you intent to play. Sing the phrase/s that you intent to play in your brains, while you silently put your

fingers on the piano keys. Then when you begin to play the piano, you will realize that the music will flow just as you were singing it in your brains.

- xi) Sing the whole music (piece) in your brains: Memorise the whole piano music. Begin to sing the whole piano music in your brain as you simultaneously play the piano keys with your fingers along. It will be difficult for you to get lost or get a blackout (getting lost during performance) as you continue to play the keys. Once the music is fixed in your memory, it serves as a reliable accompaniment.
- xii) Break difficult passages into small group of bars/measures: Practice the difficult passages with separate-hands first. Then when you acquire the playing skills, coordinate with both-hands slowly. *Separate-hands practice* is a *prerequisite* for playing with *both-hands*, and also playing *difficult passages*. Break the difficult passages into small group of bars/measures. A small group may consist of 2, 3, or 4 bars. This depends upon the type of music, and the pianist's skill level.
- xiii) Break very difficult passages into small segments: Break very difficult passages into small segments, and focus on them, one segment at a time. A small segment consists of few notes, or chords in one or two measures. A segment practice is meant for playing very difficult bars/measures that have complex rhythms. When you want to practice a small segment with both-hands, begin by playing two notes or two chords at a time. Then as you continue to progress, add a note, or a chord to the previous notes/chords. Remember to keep to the same fingering. Practice slowly with both-hands, and focus on one segment at a time.
- xiv) Mark the piano music with fingering and dynamic markings: If the piano music you intent to play has no fingering markings, then you must write down your own fingering in the music. You must remember to mark the piano music with dynamic markings if there are no dynamic markings in the music.

xv) Practice with separate-hands: Begin a new music (piece) with separate-hands.

Separate-hands practice is one of the best methods used to master skills faster.

xvi) Slow practice: Begin a new music (piece) with slow practice. As you develop the skills to play the music, you should increase the tempo in a gradual manner. *Slow practice* will enable you to play *accurate notation* and *expressions*.

xvii) Practice with metronome: *Metronome* enables a pianist/keyboardist to maintain to a regular tempo. Therefore, adult learners should cultivate the habit of using the *metronome*. When you have practiced enough, and you want to play the whole music, you can set the metronome to keep you to a regular tempo.

xviii) Listen to audio & video performances: Cultivate the habit of listening to *audio & video performances* of Western Art Music compositions (i.e., baroque, classical, romantic) as part of your practice. This will enable you to hear and see how the music is performed by performers. It will also serve as a guide when you begin to practice the same piano music. Listening to *audio & video performances* can even motivates you to play the new piano music.

xix) Set specific goals at every practice session: Set specific goals when you sit at the piano/keyboard to practice. The specific goals will enable you to outline the activities you will do during a particular practice session. For instance, at one practice session, you can decide to play a major scale, a minor scale, a new piano music (piece), and two other familiar pieces, all within 1 hour (60 minutes). Setting specific goals will enable you to become more efficient, and enable you to develop your memory work and playing proficiency.

7.9 Scale Practice

The *major scale* (or *Ionian scale*) is made up of seven notes in succession, and the eighth note duplicates the first note as one *Octave*. The term *major scale* is also used to explain that the 1st, 3rd, and 5th degrees of the scale is a major triad. The sequence of ‘*intervals*’ between the notes of a major scale is: *whole, whole, half, whole, whole, whole, half*. The major scale can be sung to the *tonic solfa* in ascending and descending order. Thus: ascending *d r m f s l t d* and descending *d` t l s f m r d*.

Devote some time at the piano/keyboard to practice scales (i.e., major, minor, chromatic), and other technical exercises. This will enable you to acquire some basic techniques, and standard fingering for routine playing and sight-reading. Therefore, you should regularly practice technical exercises (i.e., major, minor, chromatic) until you are more familiar with their fingerings, and until their fingerings become automatic.

Practice scales (i.e., major, minor, chromatic) at slower tempo (speed), and you should maintain the same motion until you have complete control on the piano keys, and you are able to play accurate notation with ease. When you realize that your skills for playing the technical exercises are improving, you should increase the tempo.

The fingering for playing Scales (i.e., major, minor, chromatic) are usually written out in *Piano Course Books (beginner books)*, and other *Piano Books for Fingering Exercises*. This enables the learner to know where to place the fingers: thumb (1st finger), 2nd finger, 3rd finger, 4th finger, and 5th finger. Remember to stop playing the piano or keyboard as soon as you start to lose concentration. Scales and chromatic exercises are very useful for *finger control, velocity of movement, and melodic legato*.

There are two methods of using the *thumb* (1st finger) to play the piano keys. This depends on the situation. The first method is; (i) ***thumb under technique***; the *thumb* is curve under the palm of the hand, and it passes the 3rd finger & 4th finger for playing scales. *Thumb under technique* is useful for playing *slow tempos*, and *legato passages*.

The second method is (ii) ***thumb over technique***; with the *thumb over technique*, the *thumb* does not curve under the palm of the hand, but it is treated like any other finger (2nd, 3rd, 4th, and 5th fingers). *Thumb over technique* is useful for playing *chromatic scales*, *arpeggios (broken chords)*, *fast tempos*, and *difficult passages*.

Suitable fingering: Suitable fingering is a matter of individual choice. It depends on how the pianist/keyboardist is able to use the fingers to play the piano at faster tempo, or play difficult passages with ease, or play in a relaxed manner. Sometimes too, the size of the fingers (i.e., *big fingers* or *small fingers*) is the main reason that compels a pianist to determine his/her own fingering. When a pianist begins to play a piano music, and he/she realizes that there are no fingering markings, or that the editor's fingering markings are not applicable for him, he will do well to write his own fingering. Usually, a pencil is used to write fingering for scales, and other difficult sections at the outset.

The process for testing the '*validity of fingering markings*' in a musical score is very essential. *Fingering markings* for playing a section at *slower tempos* is often not practicable for playing at *faster tempos*. This is due to the *altered tensions* involved in *faster tempos*. Therefore, *suitable fingering markings* for a particular music is tested at the *actual tempo* at which the entire music, or section/s should be played. Fingering for scales are usually written in the same manner as fingering for other sections.

7.10 Major Scales Fingering and Tonal Pitches

Major scales: There are two modes of the *diatonic scale*; the *major scale* and the *minor scale*. Eight degrees form a complete diatonic scale, consisting of five tones and two semitones. The two semitones are in the *major mode* between the third and fourth degrees, and the seventh and eighth degrees. The eighth degree of the normal *diatonic major scale* is named as that of the first degree (Niecks, 1884, p.7).

Fingering: One of the most consummate masters of the piano is Ignace Jan Paderewski. He was a thoroughly trained master in technic and interpretation; one who knew his Bach, Beethoven, Chopin, Schumann, and Liszt. In an interview, he was particular on *fingering*. One point Ignace Jan Paderewski is very particular about is *fingering*. He often carefully *marks the fingering* for a whole piano piece; once this is decided upon, it must be kept too. He believes in employing a *fingering* which is most comfortable to the hand, as well as one which in the long run, will render the passage most effective. He is most sensitive to the choice of *fingering* the pianist makes, and believes that each finger can produce a different quality of tone (Brower, 1915, p.8).

Fingering for the right-hand ascending is played: *12312345 (12312341)*, then the right-hand descending is played; *54321321 (14321321)*. Some right-hand fingering is written; *12312341(5)*; and they are played; *12312341* or *12312345*. NB: Fingering for playing two octaves and more is written; *12312341*.

Fingering for the left-hand ascending is played: *54321321 (14321321)*, then the left-hand descending is played; *12312345 (12312341)*. Some left-hand fingering is written; *(5)14321321*; and they are played; *14321321* or *54321321*. NB: Fingering for playing two octaves and more is written; *14321321*.

Table 33: Fingering for Major Scales

	Major Key	Left-Hand Fingering	Right-Hand Fingering
0	C Major	(5)14321321	12312341(5)
1 Sharp	G Major	(5)14321321	12312341(5)
2 Sharps	D Major	(5)14321321	12312341(5)
3 Sharps	A Major	(5)14321321	12312341(5)
4 Sharps	E Major	(5)14321321	12312341(5)
5 Sharps	B Major	(4)13214321	12312341(5)
1 Flat	F Major	54321321	12341231
2 Flats	Bb Major	32143213	41231234
3 Flats	Eb Major	32143213	31234123
4 Flats	Ab Major	32143213	34123123
5 Flats	Db Major	32143213	23123412
6 Flats	Gb Major	43213214	23412312

Table 34: Sharp Major Key Pitches (1 Octave)

Keys	Tonic	Scales of Tones							
		(doh)	I	II	III	IV	V	VI	VII
Natural	C	C	D	E	F	G	A	B	C
1 Sharps	G	G	A	B	C	D	E	F#	G
2 Sharps	D	D	E	F#	G	A	B	C#	D
3 Sharps	A	A	B	C#	D	E	F#	G#	A
4 Sharps	E	E	F#	G#	A	B	C#	D#	E
5 Sharps	B	B	C#	D#	E	F#	G#	A#	B
6 Sharps	F#	F#	G#	A#	B	C#	D#	E#	F#
7 Sharps	C#	C#	D#	E#	F#	G#	A#	B#	C#

Table 35: Sharp Key Triads

Tonic (doh)	Chord I	Chord II	Chord III	Chord IV	Chord V	Chord VI	Chord VII
C	C E G	D F A	E G B	F A C	G B D	A C E	B D F
G	G B D	A C E	B D F#	C E G	D F# A	E G B	F# A C
D	D F# A	E G B	F# A C#	G B D	A C# E	B D F#	C# E G
A	A C# E	B D F#	C# E G#	D F# A	E G# B	F# A C#	G# B D
E	E G# B	F# A C#	G# B D#	A C# E	B D# F#	C# E G#	D# F# A
B	B D# F#	C# E G#	D# F# A#	E G# B	F# A# C#	G# B D#	A# C# E
F#	F# A# C#	G# B D#	A# C# E#	B D# F#	C# E# G#	D# F# A#	E# G# B
C#	C# E# G#	D# F# A#	E# G# B#	F# A# C#	G# B# D#	A# C# E#	B# D# F#

Table 36: Flat Major Key Pitches (1 Octave)

Keys	Tonic	Scale of Tones							
	(doh)	I	II	III	IV	V	VI	VII	VIII
1 Flat	F	F	G	A	Bb	C	D	E	F
2 Flats	Bb	Bb	C	D	Eb	F	G	A	Bb
3 Flats	Eb	Eb	F	G	Ab	Bb	C	D	Eb
4 Flats	Ab	Ab	Bb	C	Db	Eb	F	G	Ab
5 Flats	Db	Db	Eb	F	Gb	Ab	Bb	C	Db
6 Flats	Gb	Gb	Ab	Bb	Cb	Db	Eb	F	Gb
7 Flats	Cb	Cb	Db	Eb	Fb	Gb	Ab	Bb	Cb

Table 37: Flat Key Triads

Tonic (doh)	Chord I	Chord II	Chord III	Chord IV	Chord V	Chord VI	Chord VII
F	F A C	G B \flat D	A C E	B \flat D F	C E G	C E G	D F A
B\flat	B \flat D F	C E \flat G	D F A	E \flat G B \flat	F A C	G B \flat D	A C E \flat
E\flat	E \flat G B \flat	F A \flat C	G B \flat D	A \flat C E \flat	B \flat D F	C E \flat G	D F A \flat
A\flat	A \flat C E \flat	B \flat D \flat F	C E \flat G	D \flat F A \flat	E \flat G B \flat	F A \flat C	G B \flat D \flat
D\flat	D \flat F A \flat	E \flat G \flat B \flat	F A \flat C	G \flat B \flat D \flat	A \flat C E \flat	B \flat D \flat F	C E \flat G \flat
G\flat	G \flat B \flat D \flat	A \flat B E \flat	B \flat D \flat F	C \flat E \flat G \flat	D \flat F A \flat	E \flat G \flat B \flat	F A \flat C \flat
C\flat	C \flat E \flat G \flat	D \flat F \flat A \flat	E \flat G \flat B \flat	F \flat A \flat C \flat	G \flat B \flat D \flat	A \flat C \flat E \flat	B \flat D \flat F \flat

Scale practice: Do not begin *scale practice* with both-hands. *Scales* are played with a view to train the fingers, so that they do their work evenly and smoothly. Every tone of a scale must be struck with a certain vigor, and the ear must be carefully trained to hear the exact volume of sounds required. The student/learner must have an accurate knowledge of the notes appearing in the scale, in order to play them from memory. The student/learner must also acquaint himself/herself with the fingering; that is the use of the thumb (1st finger) and the 3rd and 4th fingers (Gieseking & Leimer, 1972, p.52).

After the thumb (1st finger) has been bent under, attention must be given to the 2nd finger, and in descending to the 3rd and 4th fingers. The pianist should give constant attention to (i) keeping watch over both-hands; and (ii) practice at short intervals every day. If the pianist practice the *scales* every day, he/she will acquire so great a technique in a few weeks that he/she will be able to play *scales* in a much better way (Gieseking & Leimer, 1972, p.53). All the twenty-six (26) *scales* should be studied, and the learner should be conversant with key signatures and fingering (Gieseking & Leimer, p.55).

Scale practice: Step 1: Use right-hand to practice scales in the treble clef for one octave, both ascending & descending. Step 2: Use left-hand to practice scales in the bass clef for one octave, both ascending & descending. Step 3: Use both-hands to practice scales (treble clef & bass clef) for one octave, both ascending & descending order.

Develop your skill to play key C major, key G major, and key F major scales for one octave. Use the same procedure to practice scales for two octaves, and more.

7.11 Major Scales

Key C major scale in similar motion for 1 octave



Key C major scale in contrary motion for 1 octave



Musical Excerpt 1: Key C Major Scale for One Octave

Key G major scale in similar motion for 1 octave



Key G major scale in contrary motion for 1 octave



Musical Excerpt 2: Key G Major Scale for One Octave

Key F major scale in similar motion for 1 octave



Key F major scale in contrary motion for 1 octave



Musical Excerpt 3: Key F Major Scale for One Octave

Fingering for playing key C major & key G major scales for two octaves

Fingering for the right-hand (key C major & key G major) ascending is played: *1231234, 12312345 (1231234, 12312341)*; and right-hand descending is played: *5432132, 14321321 (1432132, 14321321)*.

Fingering for the left-hand (key C major & key G major) ascending is played: *5432132, 14321321 (1432132, 14321321)*; and left-hand descending is played: *1231234, 12312345 (1231234, 12312341)*.

Scales practice for two octaves: Step 1: Use right-hand to practice scales in the treble clef for two octaves, both ascending & descending. Step 2: Use left-hand to practice scales in the bass clef for two octaves, both ascending & descending. Step 3: Use both-hands to practice scales for two octaves, in ascending & descending order. Use the same steps to practice key C, key G & key F major scales in contrary motion.

Key C major scale in similar motion for 2 octaves

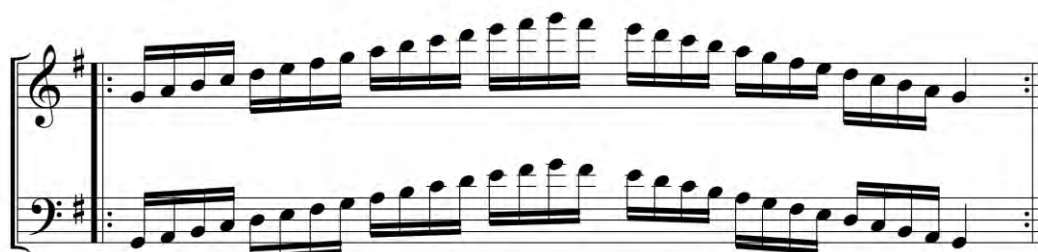


Key C major scale in contrary motion for 2 octaves



Musical Excerpt 4: Key C Major Scale for Two Octaves

Key G major scale in similar motion for 2 octaves



Key G major scale in contrary motion for 2 octaves



Musical Excerpt 5: Key G Major Scale for Two Octaves

Key F major scale in similar motion for 2 octaves



Key F major scale in contrary motion for 2 octaves



Musical Excerpt 6: Key F Major Scale for Two Octaves

7.12 Minor Scale Definition

The *natural minor*: The *minor scale* is not so easily described as the major. Its original is the *Aolian* Church mode, as the *Ionic* or *Iastian*, is that of the major. In this oldest and fundamental form, the semitones are between the 2nd and 3rd degrees, and the 5th and 6th degrees of the scale (Niecks, 1884, p.8).

The *minor scale* is very complex; because it has three scale patterns. Thus (a) *natural minor scale*; (b) *melodic minor scale*; and (c) *harmonic minor scale*.

The *natural minor scale* is the first and simplest. It is a diatonic scale, and it shares the same key signature as its relative major key. The natural minor is built by starting on the 6th degree (*submediant*) of its major scale, and the 6th degree becomes its *Tonic*. It uses the same natural notes as its major scale, both ascending & descending order, hence the natural minor. The *intervals* between the notes of a *natural minor scale* follow this sequence: *whole, half, whole, whole, half, whole, whole*. The *natural minor scale* can be sung to *tonic solfa* by using the major scale. Thus; ascending *l t d r m f s l* and descending *l s f m r d t l*.

The *melodic minor scale*: The basis of the minor harmonies, has, however, melodically a drawback; namely, the awkward interval of an augmented second (a tone and a chromatic semitone). Free from this drawback are the two forms of the minor scale distinguished by the *epithet melodic*; one of which is chiefly used in ascending, and the other in descending. This latter being the above-mentioned original form. But although, these melodic forms are chiefly used the one in ascending, and the other in descending (Niecks, 1884, pp.8-9).

The next is the *melodic minor scale*, and it shares the same key signature as its major key. The 6th degree (*submediant*) of the major scale become its *Tonic*. The *melodic minor scale* is unique in the sense that the 6th & 7th degrees (*submediant & leading note*) are raised by semitones (half tones) during ascending, but it restores back the 6th & 7th degrees during descending. The *melodic minor scale* can be sung to *tonic solfa* by using the major scale. Thus: ascending *l t d r m f e s e l* and descending *l s f m r d t l*.

Harmonic minor: But the harmonic tendency of modern music called for a leading note, a semitone between the 7th and 8th degrees of the scale. Thus, came into reality that form of the minor which is denominated the harmonic (Niecks, 1884, p.8).

The third type is the *harmonic minor scale*. It has the same notes as the natural minor scale, except that the 7th degree (*leading note*) is raised by one semitone (half tone), both ascending and descending order. So, the '*harmonic minor scale*' creates an '*augmented second*' between the 6th and 7th degrees. Because of this construction, the 7th degree of the harmonic minor scale functions as a *leading note* to its *Tonic*. It is also a common foundation for harmonies (chord) in minor keys. The *intervals* between the notes of a harmonic minor scale follow this sequence: *whole, half, whole, whole, half, augmented 2nd, half*. The harmonic minor scale can be sung to *tonic solfa* by using the major scale. Thus: ascending *l t d r m f s e l* and descending *l s e f m r d t l*.

7.13 Minor Scales Fingering and Tonal Pitches

Below explains minor keys fingering, relative minor keys, and their constitute pitches.

Table 38: Fingering for Minor Scales

Major Key	Relative Minor Key	Left-Hand Fingering	Right-Hand Fingering
C Major	A Minor	(5)14321321	12312341
G Major	E Minor	(5)14321321	12312341
D Major	B Minor	(4)13214321	12312341
A Major	F# Minor	43213214	23123412
E Major	C# Minor	32143213	23123412
B Major	G# Minor	32132143	34123123
F Major	D Minor	(5)14321321	12312341
Bb Major	G Minor	(5)14321321	12312341
Eb Major	C Minor	(5)14321321	12312341
Ab Major	F Minor	(5)14321321	12341231
Db Major	Bb Minor	21321432	21231234
Gb Major	Eb Minor	21432132	31234123

Table 39: Sharp Major Keys, and their Relative Minor Keys

S/N		Major Keys	Minor Keys
0	Natural	C Major	A Minor
1	1 Sharp	G Major	E Minor
2	2 Sharps	D Major	B Minor
3	3 Sharps	A Major	F# Minor
4	4 Sharps	E Major	C# Minor
5	5 Sharps	B Major	G# Minor
6	6 Sharps	F# Major	D# Minor
7	7 Sharps	C# Major	A# Minor

Table 40: Flat Major Keys, and their Relative Minor Keys

S/N		Major Keys	Minor Keys
1	1 Flat	F Major	D Minor
2	2 Flats	Bb Major	G Minor
3	3 Flats	Eb Major	C Minor
4	4 Flats	Ab Major	F Minor
5	5 Flats	Db Major	Bb Minor
6	6 Flats	Gb Major	Eb Minor
7	7 Flats	Cb Major	Ab Minor

Sharp major keys, and its relative minor: Use step-by-step methods to practice all the major scales, and minor scales in the keys listed below. Step 1: Use right-hand to practice scales in the treble clef for two or three octaves, both ascending & descending. Step 2: Use left-hand to practice scales in the bass clef for two or three octaves, both ascending & descending. Step 3: Use both-hands to practice scales (treble clef & bass clef) for two or three octaves, ascending & descending order.

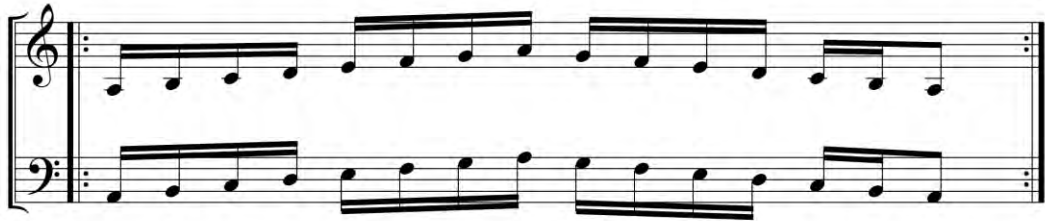
- 1) G Major: Constitute pitches for one octave (G, A, B, C, D, E, F#, G).
- 2) e minor: Constitute pitches for one octave (E, F#, G, A, B, C, D, E).
- 3) D Major: Constitute pitches for one octave (D, E, F#, G, A, B, C#, D).
- 4) b minor: Constitute pitches for one octave (B, C#, D, E, F#, G, A, B).
- 5) A Major: Constitute pitches for one octave (A, B, C#, D, E, F#, G#, A).
- 6) f# minor: Constitute pitches for one octave (F#, G#, A, B, C#, D, E, F#).
- 7) E Major: Constitute pitches for one octave (E, F#, G#, A, B, C#, D#, E).
- 8) c# minor: Constitute pitches for one octave (C#, D#, E, F#, G#, A, B, C#).
- 9) B Major: Constitute pitches for one octave (B, C#, D#, E, F#, G#, A#, B).
- 10) g# minor: Constitute pitches for one octave (G#, A#, B, C#, D#, E, F#, G#).
- 11) F# Major: Constitute pitches for one octave (F#, G#, A#, B, C#, D#, E#, F#).
- 12) d# minor: Constitute pitches for one octave (D#, E#, F#, G#, A#, B, C#, D#).
- 13) C# Major: Constitute pitches for one octave (C#, D#, E#, F#, G#, A#, B#, C#).
- 14) a# minor: Constitute pitches for one octave (A#, B#, C#, D#, E#, F#, G#, A#).

Flat major keys, and its relative minor: Use step-by-step methods to practice all the major scales, and minor scales in the keys listed below. Step 1: Use right-hand to practice scales in the treble clef for two or three octaves, both ascending & descending. Step 2: Use left-hand to practice scales in the bass clef for two or three octaves, both ascending & descending. Step 3: Use both-hands to practice scales (treble clef & bass clef) for two or three octaves, in ascending & descending order.

- 1) F Major: Constitute pitches for one octave (F, G, A, B \flat , C, D, E, F).
- 2) d minor: Constitute pitches for one octave (D, E, F, G, A, B \flat , C, D).
- 3) B \flat Major: Constitute pitches for one octave (B \flat , C, D, E \flat , F, G, A, B \flat).
- 4) g minor: Constitute pitches for one octave (G, A, B \flat , C, D, E \flat , F, G).
- 5) E \flat Major: Constitute pitches for one octave (E \flat , F, G, A \flat , B \flat , C, D, E \flat).
- 6) c minor: Constitute pitches for one octave (C, D, E \flat , F, G, A \flat , B \flat , C).
- 7) A \flat Major: Constitute pitches for one octave (A \flat , B \flat , C, D \flat , E \flat , F, G, A \flat).
- 8) f minor: Constitute pitches for one octave (F, G, A \flat , B \flat , C, D \flat , E \flat , F).
- 9) D \flat Major: Constitute pitches for one octave (D \flat , E \flat , F, G \flat , A \flat , B \flat , C, D \flat).
- 10) B \flat minor: Constitute pitches for one octave (B \flat , C, D \flat , E \flat , F, G \flat , A \flat , B \flat).
- 11) G \flat Major: Constitute pitches for one octave (G \flat , A \flat , B \flat , C \flat , D \flat , E \flat , F, G \flat).
- 12) e \flat minor: Constitute pitches for one octave (E \flat , F, G \flat , A \flat , B \flat , C \flat , D \flat , E \flat).
- 13) C \flat Major: Constitute pitches for one octave (C \flat , D \flat , E \flat , F \flat , G \flat , A \flat , B \flat , C \flat).
- 14) a \flat minor: Constitute pitches for one octave (A \flat , B \flat , C \flat , D \flat , E \flat , F \flat , G \flat , A \flat).

7.14 Minor Scales

Key A natural minor scale in similar motion for 1 octave



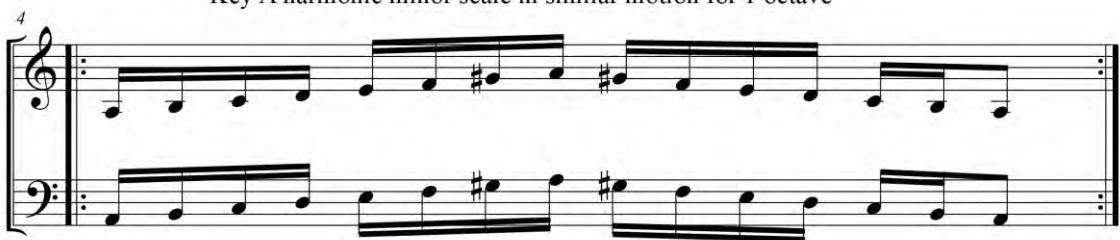
Key A natural minor scale in contrary motion for 1 octave



Key A melodic minor scale in similar motion for 1 octave



Key A harmonic minor scale in similar motion for 1 octave



Musical Excerpt 7: Key A Minor Scale for One Octave

Key E natural minor scale in similar motion for 1 octave



Key E natural minor scale in contrary motion for 1 octave



Key E melodic minor scale in similar motion for 1 octave



Key E harmonic minor scale in similar motion for 1 octave



Musical Excerpt 8: Key E Minor Scale for One Octave

Key D natural minor scale in similar motion for 1 octave



Key D natural minor scale in contrary motion for 1 octave



Key D melodic minor scale in similar motion for 1 octave



Key D harmonic minor scale in similar motion for 1 octave



Musical Excerpt 9: Key D Minor Scale for One Octave

Key A natural minor scale in similar motion for 2 octaves

Musical notation for the Key A natural minor scale in similar motion for two octaves. The piece is written in treble and bass clefs. The melody in the treble clef starts on G4 and ascends to G6, while the bass line in the bass clef starts on G2 and descends to G1. Both lines use eighth-note patterns.

Key A natural minor scale in contrary motion for 2 octaves

Musical notation for the Key A natural minor scale in contrary motion for two octaves. The piece is written in treble and bass clefs. The melody in the treble clef starts on G4 and ascends to G6, while the bass line in the bass clef starts on G2 and descends to G1. The two lines move in opposite directions.

Key A melodic minor scale in similar motion for 2 octaves

Musical notation for the Key A melodic minor scale in similar motion for two octaves. The piece is written in treble and bass clefs. The melody in the treble clef starts on G4 and ascends to G6, while the bass line in the bass clef starts on G2 and descends to G1. The scale includes a raised 6th degree (F#) in the ascending direction.

Key A harmonic minor scale in similar motion for 2 octaves

Musical notation for the Key A harmonic minor scale in similar motion for two octaves. The piece is written in treble and bass clefs. The melody in the treble clef starts on G4 and ascends to G6, while the bass line in the bass clef starts on G2 and descends to G1. The scale includes a raised 7th degree (F#) in the ascending direction.

Musical Excerpt 10: Key A Minor Scale for Two Octaves

Key E natural minor scale in similar motion for 2 octaves

Musical notation for the Key E natural minor scale in similar motion for 2 octaves. The piece is in 2/4 time and the key signature has one sharp (F#). The melody and bass line both move in a similar, stepwise fashion across two octaves.

Key E natural minor scale in contrary motion for 2 octaves

Musical notation for the Key E natural minor scale in contrary motion for 2 octaves. The piece is in 2/4 time and the key signature has one sharp (F#). The melody and bass line move in opposite directions (contrary motion) across two octaves. A measure number '3' is written above the first measure of the treble clef.

Key E melodic minor scale in similar motion for 2 octaves

Musical notation for the Key E melodic minor scale in similar motion for 2 octaves. The piece is in 2/4 time and the key signature has one sharp (F#). The melody and bass line both move in a similar, stepwise fashion across two octaves, with the melodic minor scale's characteristic raised 6th degree (D#) clearly visible. A measure number '5' is written above the first measure of the treble clef.

Key E harmonic minor scale in similar motion for 2 octaves

Musical notation for the Key E harmonic minor scale in similar motion for 2 octaves. The piece is in 2/4 time and the key signature has one sharp (F#). The melody and bass line both move in a similar, stepwise fashion across two octaves, with the harmonic minor scale's characteristic raised 7th degree (D#) clearly visible. A measure number '7' is written above the first measure of the treble clef.

Musical Excerpt 11: Key E Minor Scale for Two Octaves

Key D natural minor scale in similar motion for 2 octaves

Musical notation for the Key D natural minor scale in similar motion for 2 octaves. The piece is written in D minor (one flat) and 2/4 time. It consists of two staves, treble and bass clef. The melody in the treble clef starts on D4 and ascends to D6, while the bass line in the bass clef starts on D3 and descends to D1. Both lines use eighth-note patterns for the first two octaves.

Key D natural minor scale in contrary motion for 2 octaves

Musical notation for the Key D natural minor scale in contrary motion for 2 octaves. The piece is written in D minor (one flat) and 2/4 time. It consists of two staves, treble and bass clef. The melody in the treble clef starts on D4 and ascends to D6, while the bass line in the bass clef starts on D3 and descends to D1. The two lines move in opposite directions.

Key D melodic minor scale in similar motion for 2 octaves

Musical notation for the Key D melodic minor scale in similar motion for 2 octaves. The piece is written in D minor (one flat) and 2/4 time. It consists of two staves, treble and bass clef. The melody in the treble clef starts on D4 and ascends to D6, while the bass line in the bass clef starts on D3 and descends to D1. The scale uses the melodic minor form, with a raised 6th degree (B natural) in the ascending line.

Key D harmonic minor scale in similar motion for 2 octaves

Musical notation for the Key D harmonic minor scale in similar motion for 2 octaves. The piece is written in D minor (one flat) and 2/4 time. It consists of two staves, treble and bass clef. The melody in the treble clef starts on D4 and ascends to D6, while the bass line in the bass clef starts on D3 and descends to D1. The scale uses the harmonic minor form, with a raised 7th degree (C natural) in the ascending line.

Musical Excerpt 12: Key D Minor Scale for Two Octaves

7.15 Chromatic Scale Practice

Chromatic scale: This word *chromatic* is derived from the Greek (*chroma*, or *colour*), has a twofold meaning. In modern music, progressing by semitones, *chromatic* in distinction from *diatonic chromatic notes* are notes of the diatonic scale altered by sharps, flats, or naturals. A *chromatic scale* is one which proceeds throughout by semitones (Niecks, 1884, p.98).

Chromatic scale is a non-diatonic scale with white & black keys entirely of semitones (half tones) with equal distance apart. The chromatic scale (**twelve-tone-scale**) has 12 notes with white & black keys within one octave. It is often used dependent upon major keys, or minor keys in ascending or descending order. For instance, in key C major, the chromatic scale is usually notated with sharps during ascending. Thus: C, C#, D, D#, E, F, F#, G, G#, A, A#, B, C, and its tonic-solfa equivalent is: *d, de, r, re, m, f, fe, s, se, l, le, t, d'*. In the descending order, the chromatic scale is notated with flats. Thus, in the key of C major, the descending order is: C, B, Bb, A, Ab, G, Gb, F, E, Eb, D, Db, C, and its tonic-solfa equivalent is: *d', t, taw, l, law, s, saw/fe, f, m, maw, r, raw, d*.

In major keys or minor keys, the chromatic scale begins on its *Tonic Key*. For instance; chromatic scale in key E major begins on E, chromatic scale in key G major begins on G, chromatic scale in key A minor begins on A, and so forth.

The most important consideration for chromatic scales is the fingering, because there are so many ways of fingering. Below shows the standard fingering for key C Major chromatic scale for 1 octave. The right-hand ascending is played; *1313123131312 (45)*, then descending is; *(54) 2131313213131*.

Similarly, fingering for the left-hand ascending is played; *1313132131321*, then descending is; *1231312313131*. The chromatic scale can be played beginning from any white key or black key. In that sense, the fingering for that scale is altered, due to the change of key. One variation of this is the fingering; *1212123121234*, which enables a little faster tempo/s (speed), and legato. Fingering; *1212123121234* is more comfortable for people with big hands & fat fingers. NB: When you want to practice chromatic scales in any key, do not use the thumb (1st finger) on any black keys.

The usefulness: Chromatic scale does not define any specific key, but (i) It gives a sense of *motion* and *tension*; (ii) It is used to *colour* or *embellish the tones of major scales* and *minor scales*; and (iii) It is used to *evoke grief*, or *loss* in minor keys.

Chromatic scale practice:

Step 1: Use right-hand to practice chromatic scales in the treble clef for two or three octaves, both ascending & descending. Step 2: Use left-hand to practice chromatic scales in the bass clef for two or three octaves, both ascending & descending. Step 3: Use both-hands to practice chromatic scales (treble clef & bass clef) for two or three octaves, both ascending & descending order.

When you have developed the skills to play chromatic scales for two octaves, the next step is to play them in contrary motion. Use the same procedure to practice chromatic scales for three octaves and four octaves.

Key C major chromatic scale in similar motion for 1 octave



Key C major chromatic scale in contrary motion for 1 octave



Musical Excerpt 13: Key C Major Chromatic Scale for One Octave



Key C major chromatic scale in similar motion for 2 octaves

The image shows two systems of musical notation for a chromatic scale in C major. The first system (measures 1-3) shows the scale in similar motion, ascending in both the treble and bass staves. The second system (measures 4-6) shows the scale in similar motion, descending in both the treble and bass staves. The notes are: C4, C#4, D4, D#4, E4, E#4, F4, F#4, G4, G#4, A4, A#4, B4, B#4, C5, C#5, D5, D#5, E5, E#5, F5, F#5, G5, G#5, A5, A#5, B5, B#5, C6, C#6, D6, D#6, E6, E#6, F6, F#6, G6, G#6, A6, A#6, B6, B#6, C7, C#7, D7, D#7, E7, E#7, F7, F#7, G7, G#7, A7, A#7, B7, B#7, C8.

Key C major chromatic scale in contrary motion for 2 octaves

The image shows two systems of musical notation for a chromatic scale in C major in contrary motion. The first system (measures 8-10) shows the scale in contrary motion, ascending in the treble staff and descending in the bass staff. The second system (measures 11-13) shows the scale in contrary motion, descending in the treble staff and ascending in the bass staff. The notes are: C4, C#4, D4, D#4, E4, E#4, F4, F#4, G4, G#4, A4, A#4, B4, B#4, C5, C#5, D5, D#5, E5, E#5, F5, F#5, G5, G#5, A5, A#5, B5, B#5, C6, C#6, D6, D#6, E6, E#6, F6, F#6, G6, G#6, A6, A#6, B6, B#6, C7, C#7, D7, D#7, E7, E#7, F7, F#7, G7, G#7, A7, A#7, B7, B#7, C8.

Musical Excerpt 14: Key C Major Chromatic Scale for Two Octaves

7.16 Arpeggio Practice

Broken chords: *Broken chords* should be played in a manner similar to scales. When passing the fingers under or over, the rolling movement should come in evidence. The fall of the hand on the piano keys help to balance the fingers. Under no circumstances should the 4th finger be spared. Many pupils/learners try this by using the 3rd finger. It is a good practice to use the 4th finger in place of the 3rd finger. With few exceptions, the 3rd of the arpeggio in the left-hand should be played with the 4th finger (Giesecking & Leimer, 1972, p.55).

In an interview, the interviewer asked Wilhelm Bachaus; how shall one practice so as to make the most of the time and accomplish the best results? Wilhelm Bachaus (a pianist and teacher), whose consummate technic we have so often admired explains two practice techniques (*scales* and *arpeggios*).

He said; I am old-fashioned enough to still believe in *scales* and *arpeggios*. Some of the players of the present day seem to have no use for such things, but I find them of great importance. This does not necessarily mean that I go through the whole set of keys when I practice the *scales*. I select a few at a time and work at them. I start with ridiculously simple forms; just the thumb under the hand and the hand over the thumb. A few movements each way, but these put the hand in trim for *scales* and *arpeggios*. I practice the latter about half an hour a day. I have to overhaul my technic once or twice a week to see that everything is in order. *Scales* and *arpeggios* come in for their share of criticism. I practice them in various touches, but often in *legato*, as that is more difficult and also more beautiful than the others (Brower, 1915, p.280).

Arpeggio (from Italian means *to play a harp*) is a broken chord in which the notes that combine to make a chord are played, or sung in succession in ascending or descending order, instead of playing them simultaneously. The range of an arpeggio chord (broken chords) may span more than one octave. Arpeggio should first be practice slowly with separate-hands, before you coordinate both-hands. Most often, arpeggios (broken chords) are played by beginning from the lowest note in succession.

Arpeggio practice is similar to scales practice. The movement of the thumb is important, and it needs careful attention. For instance, when you practice key C major arpeggio using the right-hand, the thumb (1st finger) plays key C, while the 2nd finger plays E. Then the thumb (1st finger) moves quickly as far as it can stretch, and it is held suspended until the 3rd finger plays G. As soon as the 3rd finger plays G, the thumb is stretched further forward to reach C, one Octave high. Every effort should be made to achieve this with a minimum wrist movement and without any movement of the elbow. Start to descend by playing key C, one Octave with the thumb, then stretch the 3rd finger immediately over to play G, then the 2nd finger plays E, and the thumb plays C.

Arpeggios are played with '*thumb over*' just like scales. The ascending fingering for the left-hand is; *5421421* for 2 octaves, and the right-hand is; *1231235* for 2 octaves. The reverse of the fingering is for descending. If you want to play fast arpeggios, use (i) *Cartwheel Motion*; and (ii) *Finger Stretch (finger splits)*.

Cartwheel motion: The *cartwheel motion* is very useful for people with small hands (short fingers). *Cartwheel motion* expands the reach of the fingers to almost twice of its normal length. Cartwheel motion also enables the pianist/keyboardist, or the learner to expand the fingers without making any jumps.

Finger stretch (finger splits): For instance, with the right-hand; stretch the thumb (1st finger) & 2nd finger very wide, and repeat the same with the 2nd finger & 3rd finger in a ‘V’ *Shape* as wide as you can, but comfortable. Similarly, use the left-hand to stretch the thumb (1st finger) & 2nd finger very wide, and repeat this with the 2nd finger & 3rd finger in a ‘V’ *Shape* as wide as you can, but comfortable.

The wide stretching of two fingers in a ‘V’ shape is called *finger stretch (finger splits)*. This can expand any pair of fingers to almost twice the normal distance. The ‘*finger stretching exercises*’ are very useful, especially: (a) for people with *small hands* and *shorter fingers*; and (b) for people with *stiff fingers*. Techniques such as; (i) *flat finger positions*; (ii) *cartwheel motions*; (iii) *finger stretch*; and (iv) *thumb over technique* are useful for playing *fast arpeggios*.

Arpeggio practice:

Sep 1: Practice with the right-hand only (ascending & descending).

Step 2: Practice with the left-hand only (ascending & descending).

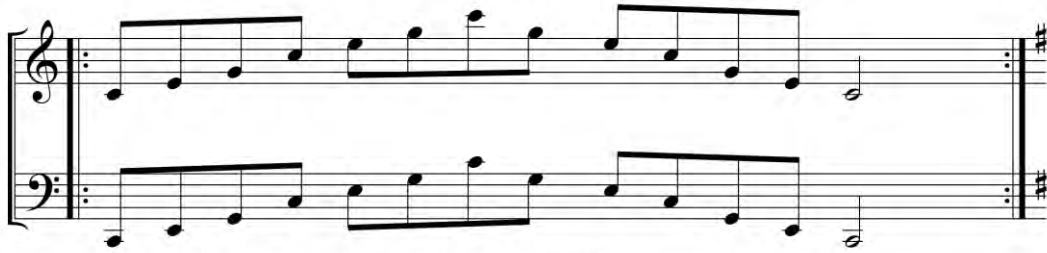
Step 3: Practice with both-hands ascending only,

Step 4: Practice with both-hands descending only.

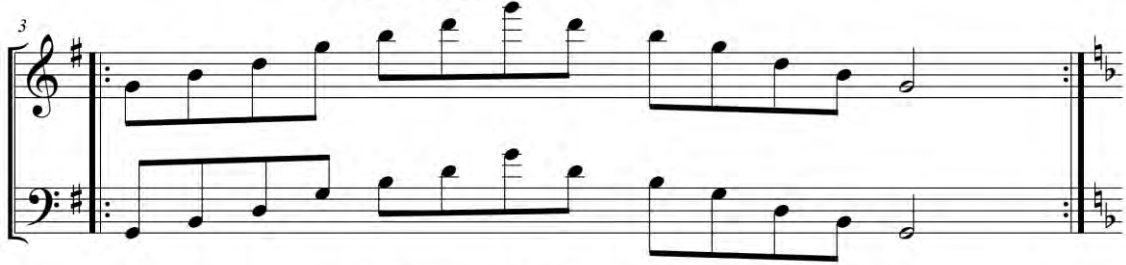
Step 5: Practice with both-hands ascending & descending order.

Use the steps above to practice major keys. For instance, key G major, D major, A major, E major, and so forth; and key F major, Bb major, Eb major, Ab major, and so forth.

Key C arpeggio for 2 octaves



Key G arpeggio for 2 octaves



Key F arpeggio for 2 octaves



Musical Excerpt 15: Key C, G & F Majors Arpeggio for 2 Octaves

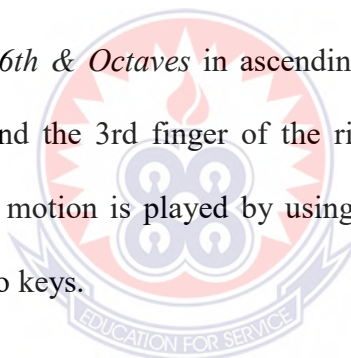
7.17 Glissando Practice

Glissando (from Italian *glissando* is abbreviated *gliss*) is a *glide* from one pitch to another. The *glissando* is indicated by following the initial note with a *line*, sometimes *Wavy*, in the desired direction. For instance, a pianist or keyboardist can use his/her *fingertip* to glide across the white piano keys to produce a C major scale, or even over the black keys to produce an F# major pentatonic scale.

Glissando scales: Play *glissando scale* with the right-hand ascending. Use the ‘*finger nail* of the *3rd finger*’ (middle finger) to glide on the piano keys. Hold the *3rd finger* flat on the piano keys with the right-hand turned over, so that it lies in line with the piano/keyboard. During descending order, use the ‘*finger nail* of the *thumb*’ (1st finger) to *curve* under the right-hand. As you continue to *glide* on the piano keys, hold the right-hand in normal position.

Play *glissando scales* with the left-hand in ascending order. Use the ‘*finger nail* of the *thumb*’ (1st finger) to *curve* under the left-hand. As you continue to *glide*, hold the left-hand in normal position. For descending order, use the ‘*finger nail* of the *3rd finger*’ (middle finger) to *glide* on the piano keys.

To play *glissando 6th & Octaves* in ascending order, use both the thumb (1st finger) of the left-hand, and the 3rd finger of the right-hand to play the piano keys simultaneously. Glissando motion is played by using the right-hand, and left-hand to glide smoothly on the piano keys.



7.18 Staccato Practice

Staccato: (from Italian means *detached*) is a form of musical articulation marking. It shows that the duration of a note or passage of notes should be played shortened (detached). In musical notation, *staccato* is represented by a dot (.) placed directly above, or below a note-head; and it indicates that the note, or group of notes should be played in a short detached, and resulting in shorter notes duration.

In simple definition, *staccato* means to drop the hand/s so that the fingers hit the piano/keyboard keys, and bounce off the keys rapidly, so that it produces brief sound/s with no sustain. *Staccato notes* playing require that the fingers should move up and down in a rapid manner. Below shows three types of staccato motions.

- i) Finger staccato: *Finger staccato* is played light and detach, and it is useful for playing ‘soft notes’ such as, *mezzo piano (mp)*; *piano (p)*; *pianissimo (pp)*; and ‘fast notes’ such as semiquaver/s or demisemiquaver/s.
- ii) Wrist staccato: This is useful to play *piano (p)*; and *pianissimo (pp)* passages.
- iii) Arm staccato: *Arm staccato* gives a heavy feeling, and it includes arm rotation, and up & down movements of the arms. *Arm staccato* is also useful for playing ‘loud passages’ such as *forte (f)*; *fortissimo (ff)*; and *variety of chords*.

Scales and *arpeggios* that have staccato markings (.) should be practice with wrist action. All the fingers should be curved in the same manner as playing major scales, or minor scales on the piano/keyboard. As the tempo (speed) of the music increases, the distance in height to which the hand/s or finger/s raised from the piano keys is equally reduced.

Practice all the three types of staccato motions (*finger staccato*, *wrist staccato*, *arm staccato*), and acquire the skill to play each of them. Then when you sit at the piano/keyboard to play familiar pieces, or practice new pieces with staccato markings, you can adopt to one or two of the motions. A lot of pianists frequently use ‘*staccato motions*’ for playing *faster tempos*.

7.19 Legato Practice

Playing legato: Legato means ‘*tying together*’ of two notes, but it excludes the ‘*sounding together*’ in the joined consecutive single notes (Giesecking & Leimer, 1972, p.113).

Legato (from Italian means ***tied***, or ***bind together***) is a form of musical articulation marking. It shows that a group of notes should be played, or sung *smoothly* in a connected manner. In musical notation, *legato* is either indicated by the word ***legato***, or indicated by a ***slur*** (i.e., an *ark*, or a *curved line*) placed directly above, or below a group of notes. *Legato* is played by connecting the *first note* and *successive notes*, or connecting the *first chord* and *successive chords* smoothly connected together.

When the pianist plays the first note or the first chord, the fingers are not lifted entirely from the piano keys. But the fingers are held on the keys, until the second and subsequent notes or chords are also played smoothly without any break. *Legato* playing is a skill you should adopt. Therefore, it is very important to choose a simple music (piece/s) that you have played before, and use that music to practice *legato*. For instance, choose a hymn tune, a patriotic song, a simple piano piece, and so forth.

During the initial stage of *legato playing*, you should choose one familiar music and practice it slowly. Move your hands & fingers in a motion that depicts legato playing. You should also listen and watch *audio & video performances* of Western Art music, such as classical music, and choral music performances. This will enable you to recognize how pianists or keyboardists use their skilled fingers to play *legato*, and how singers use their voices to sing hymn tunes in *phrases*, and *legato*.

7.20 Appoggiatura

Long appoggiatura: With regards to the length of the *long appoggiatura*, the following three rules have to be remembered: (i) when the *principal note* is divisible into two equal parts, the *appoggiatura* receives one of them; (ii) when the *principal note* is dotted, and not divisible into two equal parts, the *appoggiatura* receives the value of the note without the dot or dots; and (iii) when the *principal note* is tied to a shorter note of the same pitch, the *appoggiatura* receives the value of the whole of the long note. Also, J. S. Bach, W. A. Mozart, and other composers made use of a shortened or shortest long appoggiatura (always written as a small sized quaver or semiquaver), which is equal in length to a third, a fourth, and even less, of the *principal note* (Niecks, 1884, pp.39-40).

Long appoggiatura is equal in length to three fourths ($3/4$) of the *principal note*. This lengthening was sometimes indicated by a dot after the small note. The notation of the long appoggiatura was invented and served the older masters for no other purpose than that of concealing the then forbidden unprepared *introduction of dissonances*. After W. A. Mozart, composers began to give up the *small sized notes* for *full-sized notes*, and to use the former only occasionally for *long appoggiaturas* of no great length, and for the so called shortest long appoggiatura (Niecks, 1884, p.40).

Appoggiatura (from Italian means *to lean upon*) is a musical ornament. It is often written as ‘*a grace note*’ attached to ‘*a principal note*’ and printed in small character, usually without the oblique stroke. Sometimes too, some composers use to notate appoggiatura with ‘*full-size notes*’ that looks like the full-size of normal musical notation. With this kind of notation, it reduces any ambiguity for pianist/keyboardist.

The *appoggiatura notation* is observed on *accent*, and it delays the appearance of the expected note (*principal note*). The appoggiatura notation is naturally ‘one degree higher’ than the ‘principal note’, or ‘one degree lower’ than the ‘principal note’. If the appoggiatura note is lowered, it may chromatically be raised. The appoggiatura note is played like a melodic note, and it often suspends the principal note by taking away some of its note-value. Usually, it subtracts half the note-value of the *principal note*.

However, in a simple triple time (3/4 time) or compound time (4/4 time), the appoggiatura may take away two thirds (2/3) of the total note value of the *principal note*. The *appoggiatura* is sometimes called *a long appoggiatura*; and *acciaccatura* is also called ‘*a short appoggiatura*.’ Appoggiatura is often used to express *emotional yearning* in music compositions.

7.21 Double Appoggiatura



Double appoggiatura: The *double appoggiatura* consists of *two short grace notes* prefixed to a *principal note* (Niecks, 1884, p.41).

Double appoggiatura (from Italian *appoggiatura doppia*) is an ornament composed of ‘*two short notes*’ (usually printed in small size semiquavers), and it precede a *principal note*. One of the two short notes is placed above the *principal note*; whilst the other short note is placed below the *principal note*. The first short note may be placed at any distance away from the principal note, but the second short note is close to the principal note. *The double appoggiatura* has no fixed duration, or note value. They depend upon the note value of the principal note.

For instance, if the duration of the principal note is long (a minim), the double appoggiatura is played slower, but if the duration of the principal note is short (a crochet), the double appoggiatura is played faster. Therefore, the time span required to play the double appoggiatura is subtracted from the note value of the principal note. Great composers such as Wolfgang Amadeus Mozart (1756-1791), and Ludwig Van Beethoven (1770-1827) used double appoggiatura in some of their compositions.

7.22 Acciaccatura

Short appoggiatura: The *short appoggiatura*, also called ***acciaccatura*** is now always written as a small sized quaver or semiquaver note with a stroke crossing the stem and the hook. The *short appoggiatura* should not take up much of the time of the *principal note* (Niecks, 1884, p.39).

Acciaccatura (short appoggiatura) is a grace note with a line through its stem. It comes on the beat by taking time from the principal note. Playing the acciaccatura on the beat, signifies majority of common practice during the 18th Century; and it was adopted as a general practice on the whole for playing early piano/keyboard music.

During the 19th Century, a lot of pianists, and performers adopted the practice of playing acciaccatura before the *beat*. They explained that *it gave a clearer and neater results*. But, to avoid confusion of its execution, I have chosen one example that signifies a common practice during the 18th Century. Thus; play the *acciaccatura* on the *accent note*; the acciaccatura takes some duration from the *principal note*.

7.23 Trill

Playing trills: The acquiring of a round and even *trill* depends on the ear, and on the relaxation of the muscles. Many students/learners find it difficult to play *trills*. It takes the pianist many years to practice *trills* before he/she can successfully accomplish it. But, concentration works wonders; keep your ears open, and pay careful attention to the alternating tones of the *trill*. Play *trill* in exact tempo (speed), neither too quick nor too slow. It is necessary to study every possible fingering for the *trill*, especially with the 3rd and 4th fingers, through which the weakness of the 4th finger will be improved (Giesecking & Leimer, 1972, p.57).

The turn: The appellation **turn** describes the nature of the ornament which winds round the *principal note*. *The turn* forms a group of *four* or *five notes*, in which the *principal note* appears *two* or *three times*, and alternates with the *auxiliary notes* a degree *above and below it*. Sharps, flats, and naturals below this sign refer to the *lower auxiliary note*, whilst sharps, flats, and naturals above this sign refer to the *upper auxiliary note*. Formerly, these accidentals were also placed before and after the sign, and for both *auxiliary notes* above it. Sometimes too, they were not marked at all, and the performer has to decide for himself/herself whether other notes than those belonging to the key had to be introduced into the *turn*. The execution of the *turn* depends; (i) on the Era of the music in which it occurs; and (ii) on the position of the sign. When it stands above the note, the *turn* is executed at once, when it stands sideways the *principal note*, it is sustained for some time. Nowadays, the *turn* is often executed with the *principal note*, even though the sign stands above it (Niecks, 1884, p.42).

The *shake*, or *trill*, is a quick and even alternation of a *principal note* with an *auxiliary note*. The degree of quickness with which it should be executed depends on the type of music composition, the place of the performance, and the nature of the voice or instrument. In olden times, the *shake* always begun with the *auxiliary note*. Both Brossard (1703) and Walther (1732) state in their dictionaries that in singing or playing a *shake*, one begins with the higher and ends with the lower note (Niecks, 1884, p.43).

Generally speaking, unless an *appoggiatura* be prefixed, the *shake* nowadays begins with the *principal note*. But whether a *shake* begins, or does not begin with the *principal note*, it must end with it. Unless very short, a *shake* is generally concluded with a *turn*, which, however, becomes superfluous when the *shake* is followed by certain progressions of notes. For instance, if the *turn* is often indicated by *two small notes* after the written *principal note*. The sign for the *shake* is *tr*. Sharps, flats, or naturals above the sign of the *shake* refer to the *upper auxiliary note*; whilst the sharps, flats, or naturals below the sign of the *shake* refer to the *lower auxiliary note* (Niecks, 1884, p.44).

Trill (or *shake*) was used during the 16th, 17th, 18th, and 19th Centuries. It is a musical ornament that consists of a rapid alternation between two adjacent notes, usually a semitone or a tone apart. In modern musical notation, a *trill* is generally indicated by the letter (*tr*), written directly above the trilled note. Some Baroque and early Classical music composers have written *trills* in some of their compositions, and the *trills* are sometimes followed with a *wavy line*. Both the '*tr*' and the '*wavy line*' are necessary, especially when the trill is expected to be extended for more than one note, or tied notes. There are two ways of executing a trill. Thus; *Diatonic (tr)*, and *Chromatic (tr)*.

(i) **Diatonic trill:** Diatonic trill is played by rapid alternation between the written note (*principal note*), and the note directly above the principal note (*auxiliary note*).

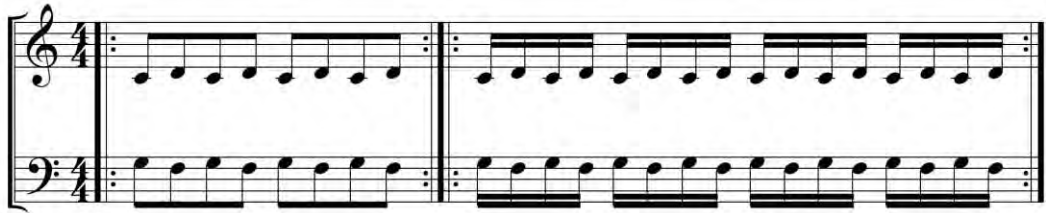
(ii) **Chromatic trill:** Chromatic trill is *modified* by an *accidental*. It is played by rapid alternation between the written note (*principal note*), and the *auxiliary note*. Usually, the auxiliary note is ‘*a semitone*’ (half tone) written directly above the *principal note*.

Some Western Art Music compositions written after the period (Era) of W. A. Mozart (1756-1791), usually perform the trill (**tr**) by beginning on the *principal note* (written note), then the ‘*auxiliary note*’ (i.e., note above the principal note).

But, if the note preceding the *trill* (**tr**) is above the ‘*principal note*’ (written note), then the execution of the *trill* should begin on the ‘*principal note*’ (written note), followed by the ‘*auxiliary note*’ (i.e., note above the principal note). To avoid ambiguity, some musicians and composers have indicated in their compositions on how the (**tr**) should be executed. Thus; whether the *trill* should begin on the ‘*principal note*’, or on the ‘*auxiliary note*’. This enables pianists/keyboardists and performers to play the (**tr**), and subsequent (**tr**) in music compositions as direct interpretation from composers.

Without any specific interpretation of **trills**, the strict rule is to begin trills on the ‘*auxiliary note*’ (i.e., note above the principal note), before the *principal note*. These days, **trills** are executed by beginning on the ‘*Auxiliary Note*’ (i.e., note above the *principal note*), before the ‘*Principal Note*’ (i.e., written note). Playing **trills** by this technique often produces the effect of *harmonic suspension* which resolves to the *principal note*.

Finger exercise for trills



Musical Excerpt 16: Trill Exercise for Both-Hands

Many pianists practice trills (*tr*) by playing them against a moving bass. To begin your practice, treat the notes constituting the (*tr*) first as *quavers*, then as *semiquavers*, then as *demisemiquavers*, and finally, accelerate the alternating notes at faster tempo/s against each bass note. Thus; use the right-hand to play the trill (*tr*) in rapid alternation with fingering; 232323. If you want to play *faster trills*, the fingers should lie quietly on the piano keys, with small finger lifts, and also with a relaxed wrist. Another example is to play (*tr*) with both-hands. Thus; use the 1st fingers (thumb), and the 2nd fingers of both-hands to execute (*tr*) simultaneous in contrary motion.

Tremolo, or tremolando (from Italian means *trembling*) are practiced exactly the same way as *trill (tr)* practice. NB: *Trills* provide *melodic, harmonic, and rhythmic* interests, especially in Western Art Music compositions, Jazz music, and so forth.



7.24 Mordent

The **single mordent** consists of three notes. Thus the; (i) principal note; (ii) lower auxiliary note; and (iii) principal note. But the **double mordent** consists of five notes. Thus the; (i) principal note; (ii) lower auxiliary note; (iii) principal note; (iv) lower auxiliary note; and (v) principal note. The first four notes (i.e., principal, lower auxiliary, principal, and lower auxiliary) have to be played quickly, whilst the last note (i.e., the principal) must be sustained. Both kinds of *mordent (single mordent and double mordent)* are frequently preceded by a *long appoggiatura*. Nowadays, this ornament is generally written out in full (Niecks, 1884, p.47).

Mordent: The ***inverted mordent*** is also called *passing shake*, in German (*Pralltriller* and *Schneller*), consists of three notes. Thus, the; (i) principal note; (ii) upper auxiliary note; and (iii) principal note, of which the first two (principal note, and upper auxiliary note) should be played quickly, and the third (principal note) has to be of longer duration than the preceding ones (Niecks, 1884, p.46).

Mordent has two options for its interpretation. Thus; (i) Mordent is played as a rapid alternation between a *principal note* (i.e., indicated note), and the *upper mordent* (i.e., note above the indicated note), and back again to the *principal note* (indicated note); or (ii) Mordent is played as a rapid alternation between a *principal note* (indication note), and the *lower mordent* (note below the indicated note), and back again to the *principal note* (indicated note). Like trills (*tr*), a mordent can chromatically be modified with small symbols; *flat* (**b**), or *sharp* (**#**), or *natural*.

During the Baroque Era, a mordent was called a *lower mordent*, and an upper mordent was called a *Pralltriller*, or *Schneller*. However, during the 19th Century, the ‘*mordent*’ was generally applied to what is now called the *upper mordent*, and the ‘*lower mordent*’ became known as *inverted mordent*.

Upper mordent, or Pralltriller: The *upper mordent*, or *pralltriller* consists of a three-note groups, namely, (i) *principal note*; (ii) *upper auxiliary note*; and (iii) *principal note* repeated. The three notes of the *upper mordent* can be combined to form a *triplet in fast-moving passages*.

7.25 Piano Pedaling

The pedal: A key or lever acted on by the foot, a contrivance by which a player communicates with the internal mechanism of an instrument. The most important instruments with pedals are the organ, pianoforte, and harp (Niecks, 1884, p.190).

Left pedal for grand pianos: In grand pianos, the left pedal mechanism acts in the following manner: Every hammer is shifted when the pianist (player) treads on the left pedal, so that only one of the three component strings (*which are uniformly tuned for the production of one sound*) is touched by the hammer. The down tread of the left pedal is indicated by the Italian designation as *Una corda* (i.e., one string). The designation '*tre corde*' (i.e., three strings) means that the foot should again be raised. Naturally, the damper is most effective when the hammer strikes only one string. It is obvious that the character of sound (referring to the grand piano) is somewhat influenced by the application of the left pedal. (Giesecking & Leimer, 1972, p.140).

Left pedal for upright pianos: The left pedal (or *sordino pedal*) *diminishes* the sound. In the *pianettes* (i.e., *upright pianos*), this mechanism works mostly in the following manner: The hammers are brought closer to the strings when the pianist (player) treads on the left pedal. The strings, therefore, are struck with comparatively less force, since the hammer has less swing. The produced tone will therefore, sound *softer*. The left pedal is used in certain situations where an extreme *piano* (*p*) is desirable. The left pedal of the *pianette* (i.e., *upright piano*) only weakens the tones, but the character or sound remains unchanged (Giesecking & Leimer, 1972, p.140).

American pianist, Arthur Rubinstein once said that *the pedal is the soul of the piano*. The use of pedals is influenced by many aspects, and it is the most difficult and flexible part of the performance. Normal University students only need to master two kinds of commonly used pedaling: (i) *rhythmic pedaling* and (ii) *syncopated pedaling* (Jiang, 2019, p.285).

Rhythmic pedaling was commonly used during the Baroque Period and early Classical works. Step on the pedal with the harmony or downbeat, release before the next harmony appears, and then pedal with the next harmony or downbeat, and so on. This rhythmic pedaling is relatively simple for students to learn at the beginning.

Syncopated pedaling; the pedaling starts later than finger movements, and the pedal is quickly changed before the next harmony, which can make sound rich and continuous and clean and clear. However, this pedal method is difficult to master. For that in addition to hand and foot skills, students need to have a certain harmony knowledge, and on this basis, advances to establish the texture shape of sound type. The beauty of Western Art music is built on stereo hearing, so we should ask students to understand Western music through harmony knowledge, to acquire the correct pedaling to enrich sound. (Jiang, 2019, pp.285-286).

- i) Pedal for legato effects: *Chords* belonging to the same harmony (in different positions) for which it is necessary to use the same fingers consecutively, cannot be played *legato* without the aid of pedal. The gaps which arise from such fingering may be lessened by the gliding and sliding of the fingers (Giesecking & Leimer, 1972, p.135).

- ii) Pedal for chromatic scale progressions: *Chromatic tone progressions* can imply harmonic modulations. If such tone progressions demand pedaling, the pedal should also be changed when a change of key takes place (Giesecking & Leimer, 1972, p.133).
- iii) Pedal for fugue (contrapuntal music): When pedaling *fugues*, discretion is necessary. For instance, in the playing of a *fugue*, wherein an exact execution of four (4) voices (or 4 parts) is utterly necessary, the pedal must be used very discriminately. Incorrect pedaling may cause five (5) or more notes to intermingle, which will be unsuitable in four-part settings. Therefore, in rendering a *fugue*, the pedal should only be used for necessary ties which cannot be accomplished by the fingers alone. When using the pedal, short treads are sufficient (Giesecking & Leimer, 1972, p.136).
- iv) Pedal for extreme finger expansions: We often come across long sustained melodic notes, sounding simultaneously with other figurations, and melodic passages; as for instance, in ‘*vocal transcriptions*’ by Liszt. Sometimes, these compositions demand such extreme finger expansions that it is utterly impossible to hold certain melodic tones with the fingers. Therefore, the pedal must aid in accomplishing these ‘holds’ should any accumulation of dissonances ensue through such pedaling. It is self-evident that the pedal is always necessary in such emergencies, and that it need not be indicated by a pedal signature (Giesecking & Leimer, 1972, p.136).
- v) Pedal for vocal transcription: When we pedal a *vocal transcription*, our main purpose should be the carrying out of the ‘*singing tone*’ as far as the *melody* is concerned. Naturally, the full value of each *melodic tone* must be considered, particularly, when both the melody and accompaniment are played with one hand.

The pedal will aid the pianist (player) in the proper rendition of the aforesaid tones. Here again, it will be difficult to avoid the disturbing dissonances (Giesecking & Leimer, 1972, p.137).

- vi) Straight fingers: When rendering a *singing tone*, do not bent the fingers too much. But rather, *straighten the fingers enough* so that the flat part of the first joint of the fingers rest upon the piano keys (Giesecking & Leimer, 1972, p.110).

The technique used to indicate '*pedal markings*' and '*pedaling*' in music compositions are usually left to the discretion of composers, pianists/keyboardists, performers, and the editors of the music. Composers, such as Claudio Monteverdi (1567-1643); Arcangelo Corelli (1653-1713); Antonio Vivaldi (1678-1741); Johann Sebastian Bach (1685-1750); George Frideric Handel (1685-1759); and their Contemporaries did not write *pedal markings* in their original compositions.

This is due to the fact that the great masters mentioned above; (i) wrote music for the *Clavichord*, and *Harpsichord*, and these musical instruments were not made with the *sustain pedal* at that time; and (ii) music of the great masters were largely *polyphonic* in texture, and the use of sustain pedal made polyphonic music sounds blur.

But, some music editors have added a limited number of '*Pedal Markings*' in some of the great masters' compositions, and the '*pedal markings*' are considered optional to the pianists and performers. The *sustain pedal* became very useful during the 19th, 20th, and 21st Centuries; especially in Western Art music compositions, as well as Contemporary music compositions that were written during that Era.

Great composers who added ‘*pedal markings*’ in their compositions were Franz Joseph Haydn (1732-1809); Ludwig Van Beethoven (1770-1827); Frederic Chopin (1810-1849); Robert Schumann (1810-1856); Franz Liszt (1811-1886); and so forth. Nowadays, piano/keyboard manufacturing companies have built-in three pedals for the grand pianos, upright pianos, and some electronic pianos/keyboards. The three pedals are, (i) soft pedal (*una corda*); (ii) practice pedal (*sostenuto*); and (iii) sustain pedal (*damper*).

- i) Soft pedal (*una corda*): When the soft pedal is depressed, it softens the *notes* or *chords*, and it also *changes the tone*.
- ii) Practice pedal or celeste pedal (*sostenuto*): Modern upright pianos, and some electronic keyboards use the ‘*practice pedal*’. In three-pedal pianos, the practice pedal is located in the middle. When you want to practice a piano music (piece), you can depress the *practice pedal* (middle), and shift it into a ‘*locking position*’. This makes the piano to sound very soft beyond the standard soft pedal.
- iii) Sustain pedal (*damper*): The *sustain pedal* is often called ‘*the Pedal*’, because among the three pedals, it is the most frequently used. The *sustain pedal* has three main functions. Thus; (i) it increases and beautify the tones; (ii) it effects or facilitate legato; and (ii) it fuses successive sound groups. When the ‘*sustain pedal*’ is depressed, it enables the pianist to sustain the intended chords or notes. As a result, it produces a *smooth playing* (*legato playing*).

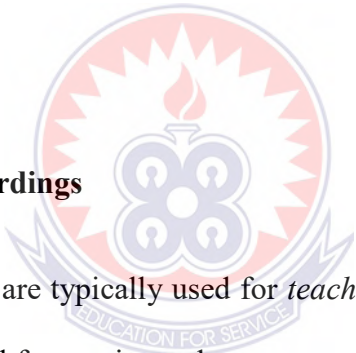
Position and movement of the foot: When the ‘*sustain pedal*’ is not in use, the position of the right foot should not be altered; but it should be ready for prompt action. During its operation (*sustain pedal*), the toe of the right foot depresses the pedal-liver, while the heel rest firmly on the floor.

The sustain pedal: The '*sustain pedal*' has two techniques, and each of them produces different effect. First technique; (i) the pianist (player) has to depress the *sustain pedal*; (ii) when the *sustain pedal* is depressed, the pianist (player) plays the piano notes, chords, or arpeggio. Effects; this makes the piano to produce *many sounds*.

Second technique; (i) the pianist plays the piano notes, chords, or arpeggio; (ii) when the fingers are still holding the piano keys down, the pianist depresses the *sustain pedal*. Effects; this enables the pianist to *sustain a particular note, chords, or arpeggio*.

The usefulness of the sustain pedal (*damper pedal*): The sustain pedal sustains (i) *arpeggios (broken chords)*; (ii) *individual chords*; and (iii) *selected notes*.

7.26 Audio & Video Recordings

The logo of the University of Education, Winneba, is a circular emblem. It features a central lamp with a flame, surrounded by a sunburst pattern. Below the lamp are four stylized human figures holding hands. The text 'UNIVERSITY OF EDUCATION' is written in a circle around the top, and 'EDUCATION FOR SERVICE' is written at the bottom.

Audio & video recordings are typically used for *teaching & learning*, and for *personal assessment*. They are useful for music teachers, composers, pianists/keyboardists, music students, non-music students, adults, amateur, and children. There are two main types. Thus; (i) audio & video recordings made by pianist/keyboardist; and (ii) audio & video recordings made by professional performers.

(i) *Audio & video recordings made by pianist*: One of the methods used to improve playing skills is to record your own-self sitting at the piano/keyboard, and playing a music (piece/s). When you play the piano music and you record it for listening, it will really show your actual strengths, and weaknesses at the piano/keyboard.

Supposing you have been invited to perform some '*piano pieces*' (*Piano recital*); or accompany '*a group of singers*' (*Choral group*) during a Music Festival which is scheduled to take off in one month (4 weeks) time. To begin with your preparation, you should devote time for regular practice. Step 1: Select all the piano pieces (*piano recital*) you intent to play during the Music Festival. Or select all the pieces you intent to play to accompany the *group of singers (choral group)* during the Music Festival. Step 2: Practice all the piano music (pieces) you select for the *piano recital*; practice the pieces one at a time. Or Practice all the piano/keyboard music you intent to play to accompany the group of singers (*choral group*); practice the pieces one at a time.

When you have practiced the piano music (i.e., *piano recital*, or *choral music*) for a while, that practice is not enough for performance. You need to make a quick self-assessment. One of the best ways to make a quick self-assessment, is to record your own-self playing the piano music (piece/s). Use a multi-purpose mobile phone for your *audio & video* recordings. When you have successfully recorded your own-self playing, do well to play the piano music for listening, and for self-assessment.

Using a multi-purpose mobile phone to record your own-self sitting at the physical piano/keyboard, and playing the music is regarded as '*the best judge*'. Because, it will reveal your actual strengths, and weaknesses at the piano.

When you listen to your own-self playing the piano/keyboard on audio & video, you will be surprise to realize how good, or bad your performance is. Because, the same music you often play on a physical piano/keyboard may sound very differently. Your own *audio & video* performance will reveal your real tempos, rhythms, mistakes, or getting a blackout (getting lost entirely while playing) at some unforeseen measures.

Listening to your own-self playing on audio & video will reveal most of your major problem spots. It will also reveal how you react in real performance. When you have practiced enough, they are not regarded as polished pieces. They are only regarded as polished piano music (piece/s) *when you play and record the piece/s satisfactorily*. Pianists/keyboardists, music students, non-music students, amateurs, and learners should cultivate the habit of recording their own-self playing the piano. This is also regarded as a practice activity, because it can be used for personal assessment.

(ii) ***Audio & video recordings made by professional performers***: One of the best methods used to improve and develop piano/keyboard playing skills, is to regularly listen and watch real performances on ‘*audio & video recordings*’. There are numerous *audio & video* performances on TVs, CDs, and the Internet. When you search on *You Tube*, you will find several types of Western Art music compositions, dated as far back as the Baroque Era, and Classical Era. Recent music include 20th Century music, Ghanaian Art music compositions, Contemporary music, and so forth. Supposing you want to play a new classical music, you can get firsthand information on audio & video. This will enable you to know the texture, rhythms, scales, modulations, chords, and so forth.

Audio & video recordings are useful for analyses: Listening to *audio & video recordings* of a particular music will enable you to analyse the music. The analysis would include; the texture, tempos, rhythms, scales, modulations, dynamics, and so forth. *Audio & video recordings* will also enable you to memorise the music in your *brain*, and see how the pianist use the fingers. So, it will be recorded like a picture in your brain. Sooner or later, you will be motivated, and begin to gather courage and say to yourself; ‘*I will practice this piano music (piece), and play it just like the pianist/keyboardist.*’

The *Audio & video* recordings are also used to develop ear training and mental imagery. However, listening and watching music performances on TVs, DVDs, or audio & video recordings should not mislead you to imitate the manner that some skillful pianists use to play piano music with gestures to win audience attention. In other words, do not re-create exactly how you watch some artists on TVs, DVDs, or videos playing the piano. You should not deliberately replicate artists' style of playing, because that will hinder your gradual skill development. Music is *artistic*, and everyone is *unique*. Therefore, you should be *natural* and *creative* in your own style of playing.

7.27 Sight-Reading

Four basic elements of music must be present during sight-reading performance. Thus; (i) *Rhythm* (duration, patterns, accentuation); (ii) *Melody* (pitch, stepwise, leap); (iii) *Harmony* (chord structure, chord progressions); (iv) *Context* (form, expressive markings, musical structure). The way in which these basic elements combine and interacts within a musical score contributes to the complexity of sight-reading task (Wristen, 2005).

Successful sight-readers employ certain patterns of eye movements to efficiently decode scores. The need to look at the musical score must be balanced with the need to look at one's hands and fingers to accurately place them on various parts of the keyboard so that correct pitches can be played (Wristen, 2005, p.46).

Reading musical notation (score reading) is an essential skill for every music student of Western Classical music, and a useful skill even for those involved in non-score reading musical styles such as blues (Madell & Hébert, 2008, p.159).

The teaching of sight-reading should become a component of piano teaching in its own right, as much as the teaching of verbal reading skills is a component of early learning in general. Teaching methods and exercises that are designed to stimulate the relevant brain areas and facilitate the creation of appropriate brain maps for sight-reading should be developed and introduced at an early age (Fourie, 2004, p.17).

Sight-reading simply means, reading familiar musical notation and familiar expressions on unfamiliar musical composition (score) that the pianist or keyboardist has never seen, never heard, or never practiced before. There are two factors to be considered before you start to sight-read. Thus; (i) *short term notice*; and (ii) *long term notice*.

(i) **Short term notice:** This depends largely upon the fixed date/time set for the performance. For instance, if the new music (piece/s) has to be perform instantly, or perform after few hours, then the pianist/keyboardist has to sight-read the music instantly, and play it with few missing notes. Likewise, if the new music is not too difficult, the adult learner can sight-read, but he/she will play the music at a slower tempo.

(ii) **Long term notice:** This depends largely upon the fixed date/time set for the performance. For instance, if the fixed date set to perform the new music (piece/s) is scheduled for one week or more, the preparation is different. A lot of pianists have developed strategies and techniques for playing long piano pieces, and difficult pieces. They usually begin to practice at a slower tempo. But, when they develop the strategies and finger techniques, they play the music (piece/s) flawless and with confidence.

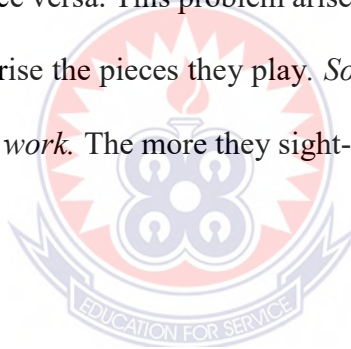
On the contrary, adult learners can also practice long piano music (piece/s), and difficult piece/s. But, it will take them a longer period of regular practice before they acquire the skills to play the piano music well.

The process of sight-reading is basically a *transfer from the known to the unknown*, bringing to bear the familiar musical notation and expressions (ornaments), on *unfamiliar music*. This involves the ability to observe the texture, modulations, scales, chords, rhythms, and so forth. Look for several easy piano music (pieces): It is easier to practice familiar pieces, or begin sight-reading with easy pieces. Beginner piano course books have short pieces, and they are good for beginning sight-reading skills. Regular sight-reading will enable you to familiarize yourself with common concepts.

- i) Learn musical concepts: Learn Alberti accompaniments, major & minor scales, arpeggios, chords, modulations, ornaments, and so forth. When you begin to sight-read musical scores, it will enable you to understand the *concepts of reading group of notes*. During sight-reading, you should make an effort to memorize the measures/bars with high notes and low notes, as they appear on the scores.
- ii) Scan through the musical scores (notation): Before you begin to sight-read new music, cultivate the habit of scanning through them. This will enable you to identify the sections (i.e. difficult passages) that need much attention.
- iii) Devote time for mental rehearsal: Devote part of your practice time to do mental rehearsal, especially, at difficult passages. Sight-read the music, and as you familiarize yourself with the details, add mental rehearsal. The mental rehearsal will enable you to play the piece/s at any section without the musical score.
- iv) Keep your eyes focus on the musical scores: Do not look on the piano keys, or what the hands & fingers are doing on the keys. But occasionally, you can glance at what the hands & fingers are doing, especially, when the fingers have to play a large jump, or a large interval. Try to develop a peripheral vision on the piano, so that you can know where the fingers have reached while you continue to play. Peripheral vision will enable you to keep track of the hands & fingers.

- v) Feel the keys with your fingers: As you continue to play the music, do well to feel the piano keys with your fingers. It is important to develop *a good eye-hand coordination*. Stay focus, and develop the skills for reading the musical score/s.
- vi) Fingering markings: Fingering markings on musical scores are generally helpful. A lot of them are the best fingering markings. At times, it may be difficult to use an indicated fingering. Some *fingering markings* are tested when you have practiced the music for a while, and you want to play at *faster tempos*.
- vii) Musical scores with no fingering markings: When you realize that there are no fingering markings at the difficult passages; or the editor's fingerings are not suitable for you, please do not be upset. When this happens, please do well to use a *pencil* to mark out *your own fingerings* at the *difficult passages*, and other relevant sections that need fingering markings. At slower tempos the fingering markings may be OK, but at faster tempos, it may not be practicable. Due to the *altered tensions* involved in *faster tempos*, *it is important to test fingering markings at the actual tempo of the music*. When you test your fingering markings at a *faster tempo*, and it is OK, it becomes a *logical fingering* for that particular music. People with *big hands* and *fat fingers* sometimes have problems playing between the piano black keys. When this happens, it will be necessary for those people to write out their own set of fingering markings. If people with *small hands* and *shorter fingers* have difficulty, they can write out their own.
- viii) Strategies to minimize mistakes: (i) Play the precise rhythms in the music; (ii) if you cannot consciously sight-read all the musical notation, do well to maintain a continuous melody, and omit the accompaniment; (iii) practice regularly those parts that are too difficult to sight-read. Many pianists sometimes simplify the music they play. They eliminate the ornaments in the music.

- ix) Practice sight-reading: Sight-reading is not difficult, but it should be practice regularly in order to improve. The concept of sight-reading depends on *recognition of structures*, and this is closely related to *memory work*. Cultivate the habit for sight-reading regularly, so that you become a good sight-reader.
- x) Practice the piano music slowly at every practice session: It is always best to store the music in an orderly manner in the brain. Therefore, before you end every practice session, do well to play over the music slowly. Practice slowly as soon as possible, so that the little mistakes you made during fast play can be erased. *Slow play will reorganize* the music and store it in your *memory*.
- xi) Challenges of skillful sight-readers: Many good sight-readers tend to be poor memorizers, and vice versa. This problem arises, because good sight-readers find little time to memorise the pieces they play. *So, they end up sight-reading at the expense of memory work*. The more they sight-read; the less they memorise.



7.28 Starting to Play a New Piano Music

There are different ways by which pianists/keyboardist, and performers use to begin a new music. This depends mainly upon the type of music they intent to practice, the difficulty level of the music, as well as the time scheduled (i.e. short notice or long notice) to perform that music. Many pianists have adopted strategies and techniques to enable them to practice new piano music, and perform them flawless.

Below shows some guide to enable adult students/learners to practice new music.

- i) Get a copy of the new music: Before you begin to practice a new piano music, you must get a copy of the music by '*hard copies*' or '*soft copies*'. You should scan (read) through the new music to see if it is within your skill level.
- ii) Listen to performance recordings: Performance recordings will enable you to get a first-hand information of the complete music. The *first-hand information* will enable you to identify the texture, chords, rhythms, modulations, and so forth. For instance, '*first-hand information*' can be compared to someone who wants to go for an expedition, or search for information and return back after few days. It is important to seek for first-hand information from someone who has travelled to that place before, and has even lived there. The person who has lived there before is acquainted with the culture and occupation of the inhabitants.
- iii) Listen and watch audio & video recordings: First-hand information will *motivate* you to practice the new music. It will also enable you to *develop aural skills*, so that when you begin to practice the music and you get lost, *your aural skills* will alert you. Adult learners and amateurs should cultivate the habit of listening and watching *audio & video recordings* of new music they intend to play.
- iv) Get new music from different sources: There are three main sources by which an individual can listen to new music. Thus; (i) Listen and watch *audio & video* performance; (ii) Get a pianist/keyboardist to play the new music, and record it on your smart phone; and (iii) Score the new music on *finale* (*finale* is a software used to score musical notation and expressions). *Audio & video recordings* are used to develop *aural skills* and *motivate you* to play new music.
- v) Warm up your fingers: Warm up your fingers by playing technical exercises, such as scales and arpeggios. This will enable you to play with good fingering.

- vi) Analyse the new music: Analyse the structure of the new musical score. The structure of the new music will alert you to determine your practice procedure, and the estimated duration (days or weeks) needed to practice the whole music to a polished state. Difficult passage/s should form part of the analysis.
- vii) Break difficult passages into small measures/bars: Practice slowly with separate-hands, before you coordinate with both-hands. *Separate-hands practice* is the prerequisite for playing with *both-hands*, and also *playing difficult passages*. Group the difficult passages into small measures/bars (2, 3, 4, or 5).
- viii) Break very difficult passages into small segments: A segment consists of few notes or chords in one or two measures/bars. A small segment practice is meant for playing very difficult measures with complicated rhythms. Begin with separate-hands and practice slowly with 2, 3, 4 notes or chords at a time. Then as you acquire the skills, add a note or chord to the previous notes/chords.
- ix) Adopt to short practice sessions: Adopt to short practice sessions for at least 30 to 45 minutes per sitting. Your concentration will be higher during short practice sessions. *High concentration* leads to *effective practice*.
- x) End your practice session with slow practice: It is always best to store the music in an orderly manner in the brain. When you have practiced for some time, and you want to end the practice, please remember to play over the music (piece/s) slowly. *Slow play* will *erase the little errors you made during fast play, and reorganize the music, and store it in your memory*.

7.29 Difficult Passage Practice

Yefim Bronfman suggested that ‘It is easier to *perfect technical difficulties* when you think of them musically’. Dealing with difficult passages is personal. If you practice a *difficult passage* and it still does not come out, or if you notice no development, Yefim Bronfman suggests that it is best to leave (stop practice) that difficult passage alone for a while. Do not worry about it. Practice what you can do, and not what you cannot do. You should force yourself to grow to a certain extent, but you should not drive yourself crazy doing it (Uszler, et al., 2000, p.358).

Concentration: Fanny Bloomfield-Zeisler was a student of Leschetizky. She gave a practical suggestion concerning the importance of *concentration* when someone sits at the piano to practice. Bloomfield-Zeisler suggested that: Concentrate during every second of your practice. To concentrate means to bring all your thinking power to bear upon one central point with the greatest possible intensity. Without such concentration, nothing can be accomplished during the practice period. One hour of concentrated thinking is worth weeks of thoughtless practice...A famous thinker has said: ‘The evidence of superior genius is the power of intellectual concentration’...When studying, remember that practice is simply a means of cultivating habits. If you play correctly from the start, you will form good habits. But, if you play carelessly and faultily, your playing will grow continually worse (Cooke, 1999, pp.92-93).

Concentration: In a long conversation with Ernesto Consolo (an eminent pianist and instructor), he advised that at the very bottom and heart of this subject of mastery lies *concentration*. Ernesto Consolo said: Without *concentration*, little of value can be accomplished. Students think if they sit at the piano and ‘practice’ a certain number of hours daily, it is sufficient. A small portion of that time, if used with *intense concentration*, will accomplish more. One player will take hours to learn a page or a passage, which another will master in a fraction of the time (Brower, 1915, p.18).

Youri Egorov (a concert pianist) explained that *pianissimo* (*pp*) is his second practice technique. Youri Egorov said: I like to practice *pianissimo*. This forces more *concentration*, and you pay more attention to what you are doing. I think, because you have to listen more carefully. Consequently, I keep everything *pianissimo*...When you are playing a lot of the same notes, the *pianissimo* is helpful, because the sameness of the tone comes through (Uszler, et al., 2000, p.357).

It is very common to find difficult passages intertwined in many Western Art music compositions, such as Baroque, Classical, and Romantic music. When you want to play one of such compositions (music), you should first analyse the music, and look for appropriate techniques/methods to play the difficult passages. With regular practice, all difficult passages will turn to be easy, and you will have the inner joy (intrinsic motivation), and confidence to play the composition. Below talks about approaches used to practice difficult passages.

- i) Break difficult passages into small group of measures/bars: You should first read through the musical scores, and identify all the problematic sections. Put them into small group of measures/bars, and focus on them one group at a time. The suggested groupings are 2, 3, 4, 5 or 6 measures; depending upon the level of

difficulty of the music. However, when a section becomes *very difficult to play*, group that section into segments and devote much time to work on them. This will enable you to correct your mistakes within few practice sessions.

- ii) Practice the difficult passages first: Difficult passages are the sections you need *high concentration*, and *more practice time*. Develop your hands & fingers for technique and new motions. Begin with *separate-hands practice*, because it is a prerequisite for playing the *difficult passages*. If the difficult passages are well polished, the duration to play the complete music will be minimum.
- iii) Practice the easier sections later: Do not devote much of your practice time to work on the easier sections. If you do so, all the *easier sections* will continue to remain easy, whilst the *difficult sections* continue to remain *difficult*.
- iv) Slow practice is very essential: Begin with slow practice. *Slow practice* refers to the span of time (duration) you will use to practice the music. Thus, from *one note to the next note*, or *from one chord to the next chord*. There are two options: (i) Use a *clock seconds' duration to regulate your practice speed*. For instance, use a *clock click* to represent a *crochet beat*, a *minim beat*, or a *dotted crochet beat*. (ii) Use your *mental imagination to double the notes* you want to practice. For instance, play a *quaver beat* as the note value of a *crochet*; or play a *crochet beat* as the note value of a *minim*, and so forth.
- v) End our practice session with slow tempo: *Slow play* will store the music in an orderly manner in the *brain*. Before you end every practice session, remember to play over the music slowly. *Slow practice will erase all the little errors you made during fast play, and reorganize the music and store it in your memory*.

7.30 Separate-Hands Practice

Before you begin to practice a new music, you should read through it, and identify all the problematic sections. The essence of *separate-hands practice* is to enable the learner, or individual to acquire *hands & fingers technique faster*, so that all *difficult sections* with *complex rhythms* become easier to play. Below talks about; *separate-hands practice*.

- i) Adopt to separate-hands practice: Some Baroque musical compositions such as *fugues, preludes, and toccatas* are *polyphonic* in texture. For instance, a *fugue* may contain 2 voices, 3 voices, or even 4 voices, with *complex rhythms* all incorporated in one composition. Also, many Classical music (piece/s) selected for intermediate level and advance level have *problematic rhythms*. Moreover, numerous Contemporary compositions are full of *complex chords* structure and *rhythms*. All these types of music with its multifaceted polyphonic texture, rhythmic patterns, and unpredictable difficulties are the reasons why you must begin a new music with separate-hands practice. Many great composers, pianists, amateurs, and performers have adopted to separate-hands practice.
- ii) Practice the difficult passages first: Devote much time at the piano/keyboard to practice the difficult passages first. It is best to learn one skill at a time, than to learn two skills simultaneously. If you learn two different skills simultaneously, the *difficulty in one skill will prevent progress in the other*. In other words, it is best to begin difficult passage/s practice with separate-hands. When you develop the skills to play with separate-hands, the next step is to coordinate with both-hands. With effective practice, you will acquire *hands & fingers technique* to play the difficult passages with ease. Separate-hands practice will enable you to learn *separate tasks* better.

- iii) Separate-hands practice: Use separate-hands to practice a difficult passage. (i) Step 1: Use the right-hand to practice the notes or chords in the treble stave for some time, or until the right-hand begins to get tired. Stop playing and use the left-hand. (ii) Step 2: Use the left-hand to practice notes or chords in the bass stave for some time, or until the left-hand becomes sluggish or begins to get tired. Repeat the same process all over again with separate-hands.
- iv) Separate-hands strengthens the left-hand: Pianists/keyboardists who do not practice with separate-hands will always have a *stronger right-hand* against a *weaker left-hand*. Notes in the right-hand of piano music are more demanding, because it plays the melodic lines, scales, trills, glissando, and so forth. But, the left-hand does not play more notes as compared to the right-hand. The left-hand tends to play notes or chords that require more strength, and it becomes slower in tempo and sometimes heavy. To curtail this situation, the separate-hands practice will give more exercise to the left-hand as well as the right-hand.
- v) Both-hands practice: *Separate-hands practice* is the prerequisite for playing with *both-hands*, and playing *difficult passages*. When you have practiced a passage with separate-hands, and you have acquired skills for *hands & fingers techniques*, the next step is to coordinate slowly with both-hands.

Usefulness of separate-hands: (i) It is used to increase *finger speed* and *brain speed*, and also enables you to *acquire technique for learning new music quickly*; (ii) It improves *memory work*: thus, you can play all the *difficult passages from memory*; and (iii) It is one of the best antidotes used to play all *difficult passages flawlessly*, and with ease.

7.31 Both-Hands Practice

When you acquire the skills to play with *separate-hands*, the next step is to *coordinate with both-hands slowly*. But, if you cannot use separate-hands to play the new piano music at a faster tempo, it means your hands & fingers technique has not developed enough. The *human brain* can easily work to handle one task at a time with one hand or separate-hands, than to use both-hands to handle multiple tasks simultaneously.

Multiple tasks require separate-hands: Multiple tasks is the main reason why learners or individuals ought to use *separate-hands* to practice new piano music, before they coordinate with both-hands. This is true, because both-hands practice demands a *higher level of concentration*. Below talks about practice methods for both-hands.

- i) **Begin your practice with separate-hands**: Pianists/keyboardists who begin to practice difficult passages without preceding separate-hands practice can end up with undetected mistakes in tempo or rhythms. If the learner or individual takes a short cut method, and begins to practice problematic passage/s with both-hands, he/she will run into problems such as (i) *developing stress*; (ii) *the right-hand will tend to play faster than the left-hand*; (c) *misinterpretation of complex rhythms*; (d) *difficulty to maintain a regular faster tempo*. But, if the new piano music is not difficult, then the learner or individual can skip the separate-hands practice.
- ii) **Begin difficult section/s with separate-hands practice**: Begin your practice with separate-hands. Group the difficult passage into small measures/bars (2, 3, 4, 5, or 6). Play the notes or chords slowly with both-hands. But, if the difficult passage/s tend to be very problematic, then I advise the learner to use segment practice. Small segments practice is meant for playing very problematic measures or bars with multifaceted rhythms. When you want to practice a segment with

both-hands, begin by playing 2, 3, or 4 notes or chords at a time. Then as you begin to acquire the skills, add note by note to the previous notes; or chord by chord to the previous chords.

- iii) Rhythms in treble stave and bass stave: It is often difficult to play piano music with both-hands when the rhythms in the treble stave are different from the rhythms in the bass stave. *Multifaceted rhythms* with *syncopations* make hands coordination very difficult. This requires a lot of *practice* and *concentration*. Use separate-hands to acquire hands & fingers technique faster. Separate-hands will make hands coordination easier.
- iv) Maintenance of music to polish stage: Develop hands & fingers technique to play the new piano music, so that after some weeks or months, the music will still be fresh in your memory. When you have practiced the new piano music and have acquired playing skills, include it to the piano pieces you intend to practice later. You need regular and effective practice to maintain high proficiency.

Play the whole piano music (piece/s) slowly when you want to end your practice: It is always best to store the music in an orderly manner in the *brain*. Therefore, before you end every practice session, remember to play over the whole music slowly so that the little errors you made during fast play can be erased. As a result, *the slow play will reorganize the music and store it in your memory*.

7.32 Slow Practice

Slow practice: The question is often put to pianists; do you deem it necessary to work for *velocity*, or do you practice compositions much at the required speed? *Many pianists practice very slowly.* This was William H. Sherwood's custom. Harold Bauer believes that when the passage is thoroughly comprehended, it can be played at the necessary rate of speed. Bachaus testifies that he seldom works for *velocity*. He says that if he masters the passage, he can play it at any required tempo (speed). I never work for *velocity* as some do, he remarked. I seldom practice *fast*, for it interferes with clearness. I prefer to play *more slowly*, giving the greatest attention to clearness and good tone. By pursuing this course, I find that when I need *velocity* I have it (Brower, 1915, p.284).

Clarence Adler counsels pupils (learners) always to begin by *slow practice*. Faster tempo will develop later, subconsciously. *Velocity* is only to be employed after the piano music has been thoroughly learned. Thus, when every mark of expression is observed; all fingerings are mastered; accents are mastered; and dynamic marks are mastered. You would scarcely believe how *slowly* I practice myself (Brower, 1915, p.285).

De Larrocha expounded that she sometimes has to play a piano piece *very slowly* to solidify the *memorization* of the parts. Playing slowly helps to check note accuracy and phrasing. Because when you play in slow motion just as you view a movie running slowly, you will be able to see every detail, and at the same time, reinforce the memory. The memorization of the phrases, cadences, and form are very important to Alicia De Larrocha (Uszler, et. al., 2000, p.359).

Slow practice: Slow practice seems the best way to begin. Because practicing piano key strokes at fast tempo (speed), or loudly too early may have the risk of preventing the acquisition of skillful movement coordination (James, 2012, p.99).

Rudolf Firkusny (a concert pianist) frequently adhered to '*slow tempo*' when he sits at the piano to play a new music (piece). Rudolf Firkusny said: I do advice practicing in a *slower tempo*. I think it's a good idea, because in the first place, you can overcome some bad habits which can creep into your playing. Secondly, when playing *slowly*, you can *concentrate more* on the function of the fingers and on the quality of tones than you do at a faster pace (Uszler, et. al., 2000, p.356).

Jorge Bolet (a concert pianist) normally adhered to two piano techniques. The first is *slow practice*. Jorge Bolet stated that: The first job is to learn the notes and whatever else is written down about the music on the score; the minimum here is getting the fingers to play the correct notes and play them in tempo. So, you can't start out at top speed; you must first do everything *slowly*. In fact, I play very slowly at first; I practice very slowly, because I think it is the only way of impressing myself. During practice I have to make sure that every finger movement is well fixed; that's impressing myself... I must have that mechanical accuracy, and for mechanical accuracy the only way to practice is slowly, so as not to miss any of the nuances in the score; after all, the piece (music) is written in many ways (Mach, 1988, p.28).

When you play a new music at a faster tempo, there is the likelihood that you will *lose concentration* and *play wrong notes*, or *get blackouts*. One of the primary causes of *blackouts* and playing wrong notes during performances is that the *brain runs very faster* than usual, and it makes you think about many things at the same time.

This extra thinking introduces new things that confuses the *brain* and *disrupts piano playing*. For that reason, learners or individuals should not practice new music at *faster tempos*, lest it leads them to *get blackouts* (i.e., getting lost during performance), or *play wrong notes*, and as a result *becomes a bad playing habit*. Below talks about: approaches/methods for slow practice, and the usefulness of slow practice.

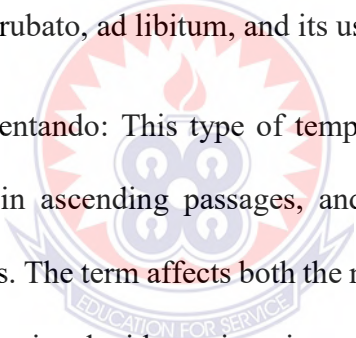
- i) Let your eyes read ahead of your fingers: During slow practice, you should let your eyes read about few notes or one measure/bar ahead of your fingers. When you think ahead of the music, you will be able to anticipate the difficulties such as multifaceted rhythmic patterns, and notation that are ahead of you. Reading ahead will enable you to have control over the performance, and also be able to analyse the structure of the music as you play along.
- ii) Practice at a slower tempo: There are three simple methods used to determine slower tempos; (i) play in succession, one note or one chord per click of clock seconds. In other words, the speed of a clock seconds should be used to determine the pace of a slow tempo; (ii) another option is to double the notes. Thus; determine to play semiquavers as quavers, quavers as crotchets, dotted quavers as dotted crotchets, and crotchets as minims; and (iii) in case you play a grand piano, or an upright piano, you can put a metronome on top of the piano and regulate it to a slow tempo. However, a lot of piano/keyboard manufactures such as electronic pianos and keyboard synthesizers have built-in metronomes. You only need to press a small knob which is placed somewhere on top of the electronic pianos or keyboard synthesizers to operate the metronome. Slow practice will enable you to improve your memory and hands & fingers technique. This is the right time you need to work on jumps. When your technique for playing the music begins to develop, do well to regulate the metronome to a faster tempo.

- iii) Always end your practice session with slow play: During your practice session, the last play-through of the music should be *slow*. Especially, when you want to practice for *speed*, *memory*, or *performance preparation*. Supposing you just played one of your favourite music at faster tempo, and you want to preserve the music in a perfect condition, you need to play the whole music slowly. Another example is when you are preparing for a solo performance (i.e., piano recital), or accompany a group of singers (choral music), or performance with a group of instrumentalists (orchestra), it is important to practice all the music you intent to perform at a moderate tempo. Then when you want to end your practice session, you should play the whole music slowly, especially, during the week before the performance. The slow play will improve your *memory work*. The last play-through during practice has strong effect on the *hands & fingers*, because each play-through partially erases preceding play-through.
- iv) Stop playing when you begin to lose concentration: Stop playing the piano as soon as you begin to lose concentration, or begin to play wrong notes.

Usefulness of slow practice: (i) It *improves relaxation* and gives *correct dimension of finger movements* on the piano keys; (ii) It reinforces *memory work*, because there is time for the played notation to travel from the fingers to the *brain*, and back again before the succeeding notation is played; (iii) It is a good *protection against blackouts*; (iv) It is one of the best ways to *erase bad habits* that were picked up during fast practice, and (v) It is used to test whether you really learned the music perfectly well.

7.33 Tempo Rubato Practice

Tempo rubato (Italian means *in robbed time* or *stolen time*) refers to the expression and dynamic freedom of a music by slightly increasing the tempo (speed), and then reducing the tempo of the music at the discretion of the pianist/keyboardist, soloist, or conductor. *Tempo rubato* applies to any *irregularity of rhythms* or *tempo* in the musical score. The term applies to a more *marked type of fluctuation*, and the time length covered is much the same as if no *fluctuations* had taken place. Therefore, the *slight accelerando* is being more or less compensated by the *slight ritardando*, and vice versa. In other words, the stolen time is repaid again. Tempo rubato is a Romantic Musical type, and composers such as Frederick Chopin (1810-1886) used it in some of his compositions. Below talks about three types of tempo rubato, *ad libitum*, and its usefulness.

- 
- i) *Accelerando & rallentando*: This type of tempo rubato is achieved by a slight increase in tempo in ascending passages, and a slight decrease in tempo in descending passages. The term affects both the melody and accompaniment. This type of rubato is associated with music written during the Romantic Era.
 - ii) *Tenuto & agogic accents*: *Tenuto* is a durational direction used in musical notation which means, to hold (sustain) a note for its full length. Its interpretation can be combined with dynamic directions affecting loudness. *Tenuto* marking indicates that a note or group of notes should receive some degree of emphasis. *Agogic accent* means accentuate by lengthening the affected notes. Thus, using small changes of *rhythm/s* and *tempo* for expression. For instance, if the rhythm of a music consists of equal crotchet notes, they should not be played in the same duration. The highest note in the phrase should be the longest note (sustain note), while the duration of the other notes/chords are shortened.

iii) Melodic rubato: When a pianist adhered to *melodic rubato*, the melodic notes are displayed away from its corresponding notes in the accompaniment, while the accompaniment of the melody is kept to a strict regular tempo. In other words, the tempo (speed) of the melody is flexible, while the accompaniment is kept in a strict regular tempo. Sometimes, the regular tempo of the accompaniment will keep on adjusting to the corresponding melody when necessary. For instance, a pianist may use a certain freedom to play the *melodic rubato* with the right-hand, while the left-hand plays the accompaniment in strict regular time.

Ad libitum: (from Italian means *at liberty*, or *at pleasure*, or *as you desire*) is abbreviated as *ad lib*, and it indicates a modification of the tempo (speed) at the discretion of the pianist/keyboardist, soloist, or conductor. The term *ad libitum* is also associated with expression, and free playing of the piano/keyboard.

Usefulness of tempo rubato: (i) Western Art Music performers (i.e., pianists, soloists, and conductors) frequently use *tempo rubato* to show *emotional expressions*; (ii) tempo rubato is used as a sense of *improvisation freedom* for performance; (iii) tempo rubato can be used at *cadences*; and (iv) it can be used at a performance climax. When the climax approaches, there is a tendency for the tempo to increase, and after it has passed the climax, there is a tendency to reduce the tempo.

7.34 Metronome Practice

Metronome is a device that produces audible clicks or sounds at a regular interval. A lot of musicians/composers, pianists/keyboardists, and performers use the *metronome* to maintain a *regular tempo* during their practice, and playing.

In 1815, Johann Maelzel patented a *metronome* with a scale which looked like a swinging pendulum as a tool for musicians. He started to manufacture the *metronome* under his own name in 1816. Johann Maelzel's metronome was under the title: '*Instrument/machine for the improvement of all musical performance*', called a *Metronome*. In 1817, Ludwig Van Beethoven (1770-1827) was said to be the first notable composer to use the metronome to indicate specific markings in his music.

Metronome tempo can be adjusted from 40 BPM to 208 BPM (*beat per minute*). Thus: 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 63, 66, 69, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120, 126, 132, 138, 144, 152, 160, 168, 176, 184, 192, 200, 208. A *tempo marking* is a term used to indicate a range of tempos and associate character. For instance, *vivace* can indicate a tempo marking between 152 BPM to 176 BPM.

Metronome markings: Composers, pianists, and performers use metronomes during their practice sessions to enable them to develop and maintain a sense of regular tempo. For instance, a musician or pianist who has the tendency to speed up during practice or performance can slightly adjust the *beat per minute* (BPM) setting to keep him/her in regular tempo. Another mark that denotes tempo is M.M. (i.e., Maelzel's Metronome). M.M. is often followed by a note value and a number (e.g., M.M. d=60).

Below describes three types of metronome: (*mechanical, electronic, and software*), its applications, importance, technique, and its usefulness.

- i) Mechanical metronomes: A mechanical metronome uses an adjustable weight on a pendulum rod to control its tempo. The weight slides up the pendulum rod to decrease the tempo, or slides down to increase the tempo. The pendulum swings back and forth to keep to a constant tempo, whilst a mechanism inside the metronome produces a clicking sound. Mechanical metronomes do not need a battery or electricity for its source of energy. But, it gets energy from a spring wound clockwork device.
- ii) Electronic metronomes: Many modern metronomes are electronic devices, and it use a quartz crystal to maintain accuracy, as compared to those used in wrist watches; (i) the simplest electronic metronomes have a dial or buttons to regulate the tempo/s; (ii) the sophisticated metronomes can produce two or more distinct sounds. Its tones can differ in pitch, volume, or timbre to demarcate downbeats from other beats, as well as compound and complex time signatures; (iii) some electronic pianos and keyboard synthesizers have built-in metronomes.
- iii) Software metronomes: Software metronomes work as stand-alone on smart mobile phones, computers, or on other sources. In recording studio applications such as film scoring, a software metronome can provide a clicking track.

Metronome applications: Composers and pianists/keyboardists can install a wide range of *metronome applications* on their smart mobile phones, and avoid carrying a physical metronome for their practice sessions, or preparation towards performance.

Importance of metronome: (i) it helps musicians, pianists/keyboardists, students, and learners to keep to regular tempo; (ii) it keeps the meter consistent by placing the beats in their proper positions in the music; (iii) it helps the learner to find fix problems; (iv) you can regulate the metronome from very slow tempos to very fast tempos to suit your practice and playing; (v) metronome develops a good sense of regular tempo and timing in your playing, and in your brain; and (vi) pianists who play *artistically* are those who often use the metronome to aid their practice.

Metronome technique: Metronome techniques are: (i) set the metronome to go on silence for some few measures/bars, and listen if you are still keeping to constant tempo when the metronome comes on again; (ii) set the metronome to go on silence for a longer period of time, and listen if you are still keeping to constant tempo; (iii) set the metronome to click on every 1st beat (strong beat) of every measure/bar. Then set it to click on every 2nd beat (weak beat) of every measure/bar, then set the metronome to click on every 4th beat of every measure/bar, and so forth; and (iv) if you want to be a fine pianist or keyboardist, you should be able to use the metronome during your practice and playing. This will keep you in regular tempo (slow, moderate, and faster tempos).

Excessive use of the metronome: When the metronome is used continuously for a longer period of time, especially, during one long practice session for 25 minutes or more, the *human brain will become bored for its continuous usage*. This will cause the pianist or learner to *rebel against the constant regular tempo clicks*. When the *human brain* can no longer accommodate the excessive usage of the metronome clicks, it tends to set its own tempo (speed) which is faster or slower than the actual metronome tempo.

Usefulness of the metronome: (i) metronome is an excellent practice tool for musicians, composers, pianists/keyboardists, and performers, because it provides a regular perfect tempos; (ii) metronomes enable musicians, composers, pianists/keyboardists and performers to develop and maintain precise rhythms; (iii) metronome prevents the tendency to slow down or speed up in specific passages, and it develops evenness and accuracy in rapid passages; and (iv) a lot of musicians, composers, pianists/keyboardists, and performers consider the *metronome* as an *indispensable instrument*.

Table 41 below shows some tempo markings. They are listed from *grave* to *prestissimo*.

Table 41: Tempo markings

S/N	Tempo Marking	Meaning in English Language
1	<i>Grave</i>	very slow
2	<i>Largo</i>	slow and broadly
3	<i>Lento</i>	slowly
4	<i>Larghetto</i>	rather broadly
5	<i>Adagio</i>	slowly with expression
6	<i>Andante</i>	at a walking pace
7	<i>Andantino</i>	slightly faster than andante
8	<i>Andante moderato</i>	slightly slower than moderato
9	<i>Moderato</i>	at a moderate speed
10	<i>Allegretto</i>	faster than moderato
11	<i>Allegro moderato</i>	slightly slower than allegro
12	<i>Allegro</i>	fast, quickly, and bright
13	<i>Molto allegro</i>	slightly faster than allegro
14	<i>Vivace</i>	faster, and lively
15	<i>Allegro vivace</i>	very fast
16	<i>Presto</i>	very, very fast
17	<i>Prestissimo</i>	extremely fast (as fast as possible)

7.35 Tonal Musical Chords in Common Use

Playing chords: It is difficult to render a melody with expressions, if both the *melody* and *accompanying chord tones* are played with the same hand. The *melodic tones* should be two (2) degrees, or three (3) degrees stronger in sound than the accompanying tones. The *chord tones* should not drown the *melodic tones*, nor should one of them be played too feeble, or be missed. The *melodic tones* should stand out like bright shining lights. Perfect technique and control of the fingers are obtained only by careful training and ear (Giesecking & Leimer, 1972, p.56).

Playing octaves: *Octaves* can be executed through plain finger work, and if the fingers become fixed, they can be played from the wrist, from the elbow, as well as from the shoulder. *Octaves* are played from the elbow more frequently, the wrist being somewhat fixed (Giesecking & Leimer, 1972, p.115).

Playing fortissimo octaves: *Fortissimo (ff)* octaves are usually played from the shoulder, although *pianissimo (pp)* octaves can be played in the same manner. In playing *legato octaves*, the gliding of the thumb (1st finger) and the little finger (5th finger) are essential factors. Absolute *legato octaves* for one hand are excluded, since they can be played with the thumb (1st finger) and 5th finger only. Where large hands are concerned, the thumb must glide, leaving the *legato* work entirely to the 4th and 5th fingers (Giesecking & Leimer, 1972, p.115).

A *chromatically altered chord* is a chord which contains one or more notes foreign to the key to which it belongs, one or more notes proper to the key being sharpened or flattened a semitone (Niecks, 1884, p.98).

The throw and stroke: The throw is accomplished through muscular strength, which transfers the weight of the hand to the lower and upper arm alternately. A throwing motion ensuing the fixed fingers strike down the piano keys. The combined mode of *touch* and *throw*, plus *stroke*, has become very popular among pianists. Because it permits every imaginable nuance from *fortissimo* (*ff*) to *pianissimo* (*pp*), and is also a means of *warding off fatigue*. The *throw and stroke* are the usual modes of touch which result from the free fall (Giesecking & Leimer, 1972, p.108).

‘*Musical chords*’ and ‘*Scales*’ go hand in hand. This is true, because several types of musical chords are built from *major scales* and *minor scales* (*natural, melodic, harmonic*). There are several types of 5th chords, 7th chords, 9th chords, 11th chords, and 13th chords, constructed for major, minor, dominant, augmented, diminished, etc.

Musical chords are built out of ‘*superimpose thirds*’, and it could be in root position, or in inversions. Some of them are chromatic altered chords, and they use sharp (#) symbols to raise notes, and flat (b) symbols to lower notes. For instance, a pianist or a keyboardist could play *chromatic altered chords* (*varied harmony*) to produce unusual sounds for instrumental music. Likewise, in *choral music* (*vocal music*), an organist or a keyboardist can play some ‘*chromatic altered chords*’ to express life situations such as; happiness, sadness, despair, depression, meditation, and so forth. Below shows tonal musical chords in common use.

- 1) *Major triad:* chord structure (1, 3, 5). A major triad consists of a root note, a third note, and a fifth note. They consist of notes in a major scale. Major chords sound brighter, and they are pleasant to the ear.
- 2) *Major 6th chord:* chord structure (1, 3, 5, 6). Major 6th consists of a major triad with an added major 6th note.

- 3) *Major 7th chord*: chord structure (1, 3, 5, 7). Major 7th consists of a major triad with an added major 7th note.
- 4) *Major minor 7th chord*: chord structure (1, 3, 5, b7). Major minor 7th consists of a major triad with an added flatted 7th note.
- 5) *Major 9th chord*: chord structure (1, 3, 5, b7, 9). Major 9th consists of a major triad with a flatted 7th note, and an added major 9th note.
- 6) *Minor triad*: chord structure (1, b3, 5). This chord consists of notes in a minor scale. Minor chords sound darker and emotional.
- 7) *Minor 6th chord*: chord structure (1, b3, 5, 6). Minor 6th consists of a minor triad with an added major 6th note.
- 8) *Minor major 7th chord*: chord structure (1, b3, 5, 7). Minor major 7th consists of a minor triad with an added major 7th note.
- 9) *Minor 7th chord*: chord structure (1, b3, 5, b7). Minor 7th consists of a minor triad with an added flatted 7th note.
- 10) *Tonic/dominant triad*: chord structure (1, 3, 5). Tonic and dominant triads; include major, minor, augmented, diminished, and suspended chords.
- 11) *Dominant 7th chord*: chord structure (1, 3, 5, 7). Dominant 7th chord consists of a major triad with an added 7th note. However, there are several types of seventh chords.
- 12) *Dominant 9th chord*: chord structure (1, 3, 5, 7, 9). Dominant 9th consists of a major triad with an added superimposed 7th and 9th notes. The 9th chord can be altered.
- 13) *Dominant 11th chord* : chord structure (1, 3, 5, 7, 9, 11). Dominant 11th consists of a major triad with an added superimposed 7th, 9th, and 11th notes. It is possible to alter the 11th chord.

- 14) *Dominant 13th chord*: chord structure (1, 3, 5, 7, 9, 11, 13). Dominant 13th consists of a major triad with an added superimposed 7th, 9th, 11th, and 13th notes. The 13th chord can be altered.
- 15) *Augmented triad*: chord structure (1, 3, #5). An augmented triad consists of a root note, a third note, and an augmented fifth note. Augmented chords are sometimes used for specific transitions.
- 16) *Augmented major 7th chord*: chord structure (1, 3, #5, 7). An augmented major 7th consists of a sharp (#) 5th note (raised 5th), and a regular 7th note.
- 17) *Augmented minor 7th chord*: chord structure (1, 3, #5, b7). An augmented minor 7th consists of a sharp (#) 5th note (raised 5th), and a flatted 7th note
- 18) *Diminished triad*: chord structure (1, b3, b5). A diminished triad consists of notes in a minor scale. Diminished chords sound mysterious or confused, but they add good flavour to instrumental music. The chords are also used in choral music, especially when singing *Descant*, or *Unison*.
- 19) *Half-diminished 7th chord*: chord structure (1, b3, b5, b7). A half-diminished 7th chord consists of a flatted 3rd note, a flatted 5th note, and a flatted 7th note.
- 20) *Diminished 7th chord*: chord structure (1, b3, b5, bb7). A diminished 7th chord consists of a flatted 3rd note, a flatted 5th note, and a double flatted 7th note.

7.36 Memory Work

Memory work: There is no universal way for *memorizing* a piano piece (music). Each individual must find out by experiment which is most suited to his/her individual case. There are three (3) types of *memory work* in regular use. Thus; (i) with some pianists *visual memory of the printed page plays the principal role in memorizing*; (ii) with others *visual memory of the notes on the piano keyboard*; and (iii) with still others *ear-memory, or memory of the harmonic progressions*. I believe in making the pupil (learner) familiar with all these different ways. He/she may find out which one is most helpful to him (Brower, 1915, p.134).

Memory work: At the present stage of pianistic development, an artist (pianist) does not venture to come before the public and “*use his notes.*” No artist who values his reputation would attempt it. *Everything must be performed from memory*; solos, concertos, and even accompaniments (Brower, 1915, p.286).

Arthur Schnabel (a concert pianist) stated that *memory work* is one of his practice techniques. In regards to *memorizing* piano compositions; Arthur Schnabel said I do it phrase by phrase, and at the instrument, unless I am traveling or unable to get to a piano, in which case I think it out from the notes. If the piano piece is very difficult, I take a short passage of two or three measures and play each hand separately, and then together. But generally, I play the passage complete; say half a dozen times with the notes, and then repeat it the same number of times from *memory*. Perhaps the next day I have forgotten it, so the work has to be done over again. The second time, however, it generally sticks (Brower, 1915, p. 52).

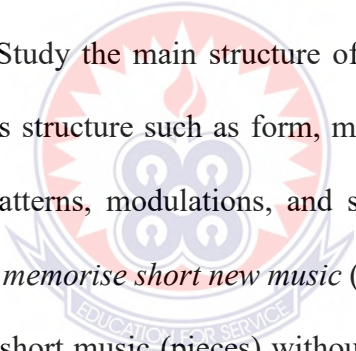
Memory work: Michael von Zadora (a pianist and teacher), said suppose you have a difficult passage to learn by heart, the ordinary method of committing to *memory* is to play the passage over and over, till the fingers grow accustomed to its intervals. The only way to master that passage is to analyze it thoroughly; know just what the notes are, the sequences of notes, if you will, their position on the keyboard, the fingering, the positions the hands must take to play these notes. So that you know just where the fingers have to go before you put them on the piano keys. When you thus thoroughly understand the passage or piece, have thought about it, lived with it, so that it is in the blood, we might say, the fingers can play it. There will be no difficulty about it and no need for senseless repetitions (Brower, 1915, p.289).

Brower (1915) explains how to maintain a large volume of piano pieces (music) in a *polished state*: In order to keep a large repertoire (i.e., piano music) going at the same time, one must have a *weekly practice plan*, which will allow for a frequent repetition of the pieces (music). Those piano pieces (music) which have been recently added to one's list will require more frequent repetition, while those which have been played for a longer period may be left for an occasional brushing up (Brower, 1915, p.135).

To individuals who wish to become pianists, I would say, *keep your memory active through constant use. Be always learning by heart; do it systematically, a little at a time. So it will be a daily progress. So your repertoire will continue to build up* (Brower, 1915, p.292).

Memory work (memorizing pieces) is important component of consciousness. The more you memorise new music, the easier it becomes to memorise, because you can create more associations. In memory work, every new association you learn provides numerous new possible routes for recall. If you study (practice) to *memorise music (piece/s)*, it will *strengthen your memory*, and your *effective IQ will go up*. Finger memory is not very difficult to obtain. It is developed by using the required fingers to hit the piano keys, and spacing the fingers automatically as you continue to play the music.

Do not focus your attention only on the technical and physical aspects of finger memory, but you should also consider the shape and growth of the music itself. Below talks about: the steps to memory work, and the usefulness of memory work.

- 
- i) Preliminary stage: Study the main structure of the music (piece) you intent to practice. Analyse its structure such as form, melody, texture, scales, arpeggios, chords, rhythmic patterns, modulations, and so forth. The best way to begin memory work, is to *memorise short new music (piece/s)*. Try as much as possible to memorise a few short music (pieces) without much effort, then start to build confidence to improve upon your memory work. When you begin to develop the skills to memorise new pieces, you will be able to memorise familiar pieces as well. *Slow practice* is one of the approaches used to test for memory work. During your practice session, sight-read the musical score/s frequently for some time. Then *put the musical score/s away and begin to practice slowly to a section*. *Good memory work can raise your effective IQ*.
 - ii) Memory work step 1: A music (piece/s) can be justified for public performance, only when you have been able to practice and play the piece/s flawless from memory. It is important to play over the piece/s frequently to master all the difficult passages. Begin a new music with *slow practice*, and as you begin to

develop hands & fingers technique to play with both-hands, the next step is to increase the tempo bit by bit. Make conscious effort to memorise short sections of the music. When you practice the music with *high concentration* in *slow tempos*, you will be able to *soak the details of the music in your memory*. Practice and play the whole music (piece/s) with *high concentration* when your *brain* is free from *physical activities*. When you have successfully memorise a new music (piece), it implies that you are heading towards the final stage.

- iii) Memory work step 2: During the final stage of memory work, the hands & fingers technique, expressions, ornaments, tempos, as well as the pedaling effects are brought to a polished level. Play through the whole music (piece/s) frequently to keep it in a refined state for longer period of time (several weeks, months, or years). Remember to play the entire music from memory once or twice every week. With regular practice and determination, you will be able to memorise a lot of short pieces within a couple of days or weeks. As you play the music from memory, *your brain must read ahead of where your fingers are playing*.
- iv) Contemporary music: A lot of Contemporary music (piece/s) are full of multifaceted rhythms. When you want to memorise Contemporary piece/s, practice them regularly, may be twice or thrice per every week. With regular and effective practice, all the difficult piece/s can be memorized.
- v) Temporal memory & permanent memory: Memory work requires two storages:
- (i) *temporal memory*: when a pianist/keyboardist practice a new piece for few days, the music is stored (recorded) in the temporal memory;
 - (ii) *permanent memory*: when the pianist/keyboardist plays the same piece slowly for many days or weeks, the piece moves from the temporal memory and embedded into the permanent memory. Every music you memorise successfully will enable you to

memorise future music as well. The memory function is extremely complex, and its complex nature is the reason that has made *intelligent people to become good memorizers. Intelligent people are able to think of similar associations.*

vi) Memory work develop the human brains: When you memorise piano/keyboard music; (i) it will improve your memory work in your daily life; (ii) it will slow down your memory loss with age; and (iii) it will improve your brain's capacity to memorise more. If you continue to practice regularly with *high concentration*, it will enable you to become a *memory expert*, and you will get the confidence to *perform piece/s flawless from memory. Memory affects intelligence and good memory work raises the effective IQ.*

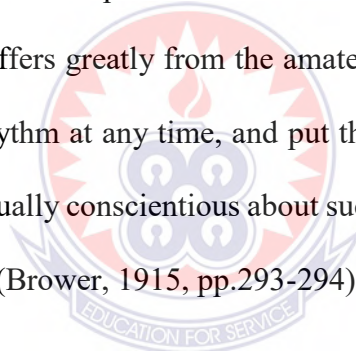
vii) End your practice session with slow play: It is always best to store the music in an orderly manner in the *brain*. Therefore, before you end every practice session, remember to *play over the piece/s slowly* so that the little errors you made during fast play can be erased. As a result, the *slow play will reorganize the music and store it in your memory.*

Usefulness of memory work: (i) *slow practice* is one of the methods used to memorise music (piece/s) faster; (ii) piece/s that are memorised well should be played cold. In other words, do not play any technical exercises such as scales, or arpeggios to warm up the fingers. But, begin to play the piece/s right away. This is one of the methods used to strengthen memory work, and enable you to do public performance; and (iii) memory work will enable you to learn music faster, play musically, acquire techniques, perform flawlessly, and eliminate nervousness.

7.37 Types of Stress in Rhythms

Stress in Rhythms: To express rhythms correctly, one should first understand the type and position of the stress. There are three types of stress: (i) the *beat stress*, that is, the law of strength of the beat; (ii) the *tone stress* caused by the structure, line, syncopation of musical sentence, the entrance of sound patterns; and (iii) the *genre stress*. Not all the stress is on the first note behind the bar line. Many mazurkas of Chopin stress on the second beat, and Gavotte on the third beat. The stress should also be dealt accordingly with the specific situation of the music (Jiang, 2019, p.285).

Rhythm is one of the pianist's most important assets. The pianist cannot do without it. It might be said that the possession of a well-developed rhythmic sense is one point in which the artist differs greatly from the amateur. The latter (amateur) thinks of nothing, and breaks the rhythm at any time, and put them at places that suits his fancy. But the artist (pianist) is usually conscientious about such matters, because his time sense is more highly developed. (Brower, 1915, pp.293-294).



7.38 Mental Rehearsal

Mental aptitude is used for many purpose, including solving problems. It is very useful in human activities such as; academics, music, sports & games, doing house chores, and in all professional works. *Mental rehearsal (mental practice)* is simply the process of *imagining or playing the music in your brain*, or even actually playing it on an *imaginary keyboard*. *Mental rehearsal controls practically everything we do in music*. For instance; music theory, composition, memory work, analysis, performance, and so forth.

A lot of pianists/keyboardists use *mental rehearsal* during performance. Mental rehearsal and memory work is inseparable, because one cannot function fully without the other. Mental rehearsal enables the pianist/keyboardist to play the music away from the physical piano/keyboard at anywhere, anytime. It also provides a clear understanding of the structure of the music, because you can analyse the composition in your brain. You can even do mental rehearsal (practice) without a physical piano/keyboard at faster tempos than the tempos that the fingers can even manage to play.

A lot of pianists/keyboardists use *mental rehearsal* to practice a whole music in their *brains* away from the physical piano. They just sight-read the musical notation and use mental rehearsal to practice the music internally. This saves time, because you can practice at anytime, anywhere away from the physical piano, and it can greatly increase your effective practice time. Even if the piano is not available, you can still do effective mental rehearsals. This will greatly strengthen your *memory work*, and *IQ*.

When adult learners and individuals make conscious effort to do regular mental rehearsal, it will enable them to develop the music in their brains. When you sit at the piano to play, you should actively anticipate the music you want to produce from the piano which is the ultimate mental rehearsal, and the best way to execute a good performance. If you want to develop and become a *memory expert*, then you should use your memory to practice some piece/s *away from the physical piano/keyboard*.

7.39 Preparation towards Piano Performance

Students need to know something about some musicians or composers such as Johann Sebastian Bach, Scarlatti, Franz Joseph Haydn, Wolfgang Amadeus Mozart, Ludwig van Beethoven, F. F. Chopin, Franz Liszt, Robert Schumann, Pyotr Ilyich Tchaikovsky, Debussy, Maurice Ravel, and Sergei Vassilievitch Rachmaninoff. Students should also understand the composer's background and composer's temperament, and conduct a study of it with the art history of piano music, so as to interpret a work correctly, comprehensively and perfectly. Any accomplished pianist came through in this way, step by step, so students should never aim too high (Jiang, 2019, p.286).

Regular practice: A repertoire (piano piece/s) once committed to must be constantly kept in repair. The public player (public performer), in his seasons of study, generally has a regular system of repetition, so that all compositions can be done over at least once a week. One artist (pianist) suggests that the week be started with the classics and concluded with modern compositions and concerted numbers. Thus, each day will have its allotted task. The piano pieces (music) are not merely to be played over, but to be overhauled. All the weak places should be treated to a dose of *slow, careful practice*, using the printed pages. Artists (pianists) on tour, where consecutive practice is difficult or unattainable, always carry the printed notes (musical scores) of their repertoire (piano pieces) with them, and are ceaselessly studying, repairing, polishing their phrases, and thinking out their effects (Brower, 1915, p.292).

One of the greatest American teachers of *piano touch* was Dr. William Mason. He made an exhaustive study of this subject. His own *piano touch* was noted for its clear, bell-like, elastic quality. Dr. William Mason remarked on one occasion that: In regard to playing in public, it is possible I may be so nervous that I can hardly walk to the piano. But once I have begun to play, I shall hold the audience still enough to hear a pin drop, simply by the beauty of my *touch* and *tone*. Dr. Mason's touch specialties were "pressure" and "elastic or "drawing-off" touches. He found these gave both weight and crisp lightness to the tones. (Bower, 1915, p.276).

Tworoko (2020) expounded that most of the blood flows out of the muscle along with the toxic metabolites. In the relaxation phase, blood flows in, supplying the muscle with necessary *nutrients* and *oxygen*. Any disturbances in this process, such as too long and too frequent contractions, and rare relaxation, cause *hypoxia* and *deposition of toxins*. Muscle relaxation after pressing the piano keys is therefore important for the effective work of our *playing apparatus* (hand & fingers).

Tworoko is of the view that; Achieving the desired results in piano playing obviously calls for systematic practice. However, we must remember that our body's functioning depends on the principles of physiology and its endurance is limited. Our staying power is to a large extent, an individual quality. We should be aware, though, that each organism needs *mental* and *physical rest*. Despite our amazing powers of regeneration, once the number of hours spent at the piano exceeds the threshold of endurance, we risk strain, fatigue, and pain. Such symptoms are quite common in pianists, and if they persist, this may lead to injury (Tworoko, 2020, p. 249).

The piano stands out: The *piano* attracts learners, and directs them for training; (i) the piano has a richer repertoire as compared to many other musical instruments; (ii) the piano develops polyphonic hearing; (iii) the piano has a broader sound range (i.e., from lowest sounds to highest sounds); (iv) it is easy to play the piano in accompaniment (Barsamyan, 2019, p.462).

Preparation towards piano performance: A lot of musicians and pianists are able to do regular public performance. They practice regularly, and they use techniques and strategies to enable them to perform long and difficult music compositions within the shortest possible notices. In similar manner, the adult learners should be guided with several strategies. Below explains preparation towards performance.

- i) Select piano piece/s within your playing aptitude: Select piano music (piece/s) that are within your skill level (playing ability). In other words, select simple easy music. But, do not select music (piece/s) that are too difficult to practice or perform. Whenever you successfully practice and play the music at hand, it will motivate you to practice several pieces to develop your skills.
- ii) One week before the public performance: During the week preceding the public performance, you should play over the piece/s at moderate tempo (speed), then at slow tempo before you end every practice session. Generally, use moderate tempos and slower tempos during your practice sessions, because that are the tempos that will enable you to play at ease, and get enough time to read between the notation. At slower tempos, you will be able to read each note or chord, and also create a clear picture of the music in your memory. But, if the piece/s are difficult, then you should begin your practice with separate-hands. Practice slowly and preserve the same hands & fingers technique for faster tempos.

- iii) Do not practice one long music during one practice session: Do not practice one long piano piece such as *Sonatas* during one practice session. It is best to group the music into sections, and label them with rehearsal letters (i.e., A, B, C, D, E, F, and so forth), and focus on them one group at a time. Use separate-hands to practice the difficult passages before you coordinate with both-hands. Do not be too anxious during your practice, but take your time to practice every section flawless. Remember that a lot of the playing mistakes *originate in the brain*. Therefore, before you end every practice session, play over the whole music *slowly* so that the little errors you made during *faster plays* can be erased.
- iv) Do not learn new materials during the last week before performance: Make it your habit to play the performance music (piece/s) ‘*cold*’ during the last week before performance. Technical exercises are most often used for *warming the fingers*, and *developing hands & fingers* technique. Therefore ‘*cold practice*’ simply means begin your practice without preceding technical exercises (i.e., scales, arpeggios). Also, avoid learning new piece/s during the last week before performance. This statement does not mean that you should limit yourself to the performance pieces only. If you want some variety, you can play any familiar piece/s that you have previously played before. However, learning new music (piece/s) during the last week before the real performance is not advisable. Because the new piece/s will often cause you to learn or develop new hands & fingers technique. As a result, the new hands & fingers technique will adversely *affect* or *alter* how you play the real performance pieces. Usually, you will never notice that it has adversely affected bits of your *finger motions*, until the day you perform the piece/s and wonder how some new mistakes crept in.

- v) Create room for casual performance: *Casual performance* is one of the effective ways to assess your performance piece/s among a small group of people. For instance, you can play your performance piece/s for friends to listen; or play for other people to listen and talk about it, before you do the real performance. A lot of pianists/keyboardists and other performers do *casual performance* to *minimize* or *avoid nervousness* on stage. Every practice session must be a practice session for avoiding mistakes.
- vi) Limit your practice duration on the day of performance: Limit the amount of time you spent to practice the music (piece/s) on the very day of performance, so that you can have enough time to rest and relax with fresh brain. Supposing if the time for the real performance is scheduled in the evening or at night, then you can do the final play through in the morning, and have a long rest before the evenings performance. During the final play through, please *do not play any technical exercises* for warm-ups or other *favourite pieces*, but *play only the pieces selected for the real performance*. Devote your last practice session for the final play through, and play the pieces in three different tempos (speeds). Thus 1st time; *play at fast tempo once*, then 2nd time: *play at moderate tempo once*, and 3rd time: *play at slow tempo or very slow tempo once*. That should be enough for the performance. There should be no further practice. Do not play with all the expressions in the performance piece/s, but play with minimum expressions and reserve the rest for the real performance. Otherwise, you will lose the freshness and find that you have nothing more during the real performance. But, if the performance is scheduled in the morning, and the piece/s (music) are long or too long, then the best alternative is to do your final play through in the evening preceding the day of performance, so that you can have a long rest until the next

day (i.e., day of real performance). NB: Many pianists do not play the piano, or even touch the piano on the day of performance until they go to the concert hall and sit at the real piano/keyboard for the real performance. They have the perception that when they play the piece/s before they go for the real performance on stage, *their strong mental imagery will be impede or will dilute the pieces they have prepared for the real performance.*

vii) Break difficult passages into small group of measures/bars: Supposing that during your last practice session you made a mistake that was *very stubborn*. In that case, you must fish out the few measures/bars containing the stubborn mistakes, and devote little time to work on them. Break the difficult passages into small group of measures/bars (2, 3, 4, 5, or 6), and focus on them one group at a time. You should begin with separate-hands and acquire the skills to play with both-hands. Practice slowly with both-hands, then test it at moderate tempo, then at faster tempo. When you have acquired the skills to play flawlessly, play over the whole piece/s slowly. At this time, you need to do some mental rehearsal, because it is the ultimate test for memory and readiness to perform.

viii) Eliminate blackouts during performance: Blackouts (i.e., getting lost during performance) is one of the most disastrous events, but they can be eliminated by using some procedures. (i) The first possible solution is to use *mental rehearsal* (mental practice): this means you should use your *brain*, or *mental imagination* to play the whole performance piece/s away from the physical piano/keyboard. Then as you picture the entire structure of the music (piece/s) in your *brain* (memory), develop the ability to identify where in that structure you are playing. Use *mental rehearsals* to test your *mental aptitude*. Thus, start to play the music (piece) from anywhere in your brain. Supposing you had a blackout,

the mental rehearsal will enable you to restart the entire music, or enable you to identify the exact measure/bar to continue. *Mental rehearsal* (mental practice) is used to *eliminate all blackouts and nervousness*, and it is the ultimate test for *memory and readiness to perform flawlessly*. (ii) The second possible solution is slow practice: *slow play is one of the best approaches used to reduce blackouts*, because it enables the *brain to intervene and take over the playing*. Supposing that the performance piece/s were not completely memorised. In this situation, it is advisable to play over the whole piece/s during your practice sessions at slower tempo for several times. *Slow practice or slow play is very important*, especially, during the week before the real performance.

