



UNIVERSITI PUTRA MALAYSIA

***EPISTEMOLOGICAL BELIEFS, METACOGNITIVE AWARENESS,
SELFEFFICACY
AND GOAL ORIENTATIONS AS PREDICTORS OF
KNOWLEDGE ACQUISITION AMONG PRE-SERVICE
TEACHERS IN NORTHERN NIGERIA***

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EPISTEMOLOGICAL BELIEFS, METACOGNITIVE AWARENESS, SELF-EFFICACY AND GOAL ORIENTATIONS AS PREDICTORS OF KNOWLEDGE ACQUISITION AMONG PRE-SERVICE TEACHERS IN NORTHERN NIGERIA

By

MAHMUD HARUNA JIKAMSHI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

September 2016

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

EPISTEMOLOGICAL BELIEFS, METACOGNITIVE AWARENESS, SELF-EFFICACY AND GOAL ORIENTATIONS AS PREDICTORS OF KNOWLEDGE ACQUISITION AMONG PRE-SERVICE TEACHERS IN NORTHERN NIGERIA

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September 2016

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The aim of this study is on the relationships between epistemological beliefs, metacognitive awareness, self-efficacy, goal orientations, knowledge acquisition approaches among pre-service teachers in Northern Nigeria. Data was collected through the use of five different self-reported instruments and the entire instruments used were adopted and permission was sought from the original authors. There are a total of 418 participants who are pre-service teachers, consisting of 215 males and 203 females. Multi-stage Cluster sampling technique was used to collect data and Path analysis was employed as a statistical technique for the data analysis. The analyses revealed that, majority of pre-service teachers are inclining to surface knowledge acquisition approach when compared to those who employed deep knowledge acquisition approach. And a greater number of them have naïve epistemological beliefs, low metacognitive awareness, low self-efficacy, low learning goal orientation and higher in performance goal orientation. Specifically, this inquiry examined the relationships between epistemological beliefs, metacognitive awareness, self-efficacy, goal orientation and knowledge acquisition approaches among pre-service teachers in Nigeria and the findings revealed significant relationships between epistemological beliefs, metacognitive awareness, self-efficacy, goal orientation (exogenous variables) and knowledge acquisition approaches (endogenous variables). The study also revealed that epistemological beliefs, metacognitive awareness, learning goal orientation significantly predict surface knowledge acquisition approach. However, self-efficacy and performance goal orientation did not predict surface knowledge acquisition approach. Also The finding of this study revealed that learning goal orientation mediate the relationships between epistemological beliefs, metacognitive awareness, self-efficacy, and both deep and surface knowledge acquisition approaches among pre-service teachers in Nigeria. However, performance goal did not mediate with epistemological beliefs and self-efficacy. This suggests that learning goal orientation is good mediator in this relationship. This study has a significant theoretical and practical implication for educators and college lectures in

understanding these relationships. And practically, thus help the educators or college lectures to select the best learning strategy for their students.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

**KEPERCAYAAN EPISTEMOLOGI , KESEDARAN METAKOGNITIF ,
DIRI KEBERKESANAN DEN ORIENTASI MATLAMAT SEBAGAI
PERAMAL PEROLEHAN PENGETAHUAN GURU PRA-
PERKHIDMATAN ' DI UTARA NIGERIA**

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Kajian ini bertujuan untuk mengkaji hubungan antara kepercayaan epistemologi, kesedaran meta-kognitif, efikasi-kendiri, orientasi matlamat dan pendekatan pemerolehan ilmu pengetahuan dalam kalangan guru-guru pra-perkhidmatan di Utara Nigeria. Data telah dikutip melalui penggunaan lima instrument kajian yang berbeza yang dilapor sendiri dan keseluruhan instrument ini telah digunapakai dan kebenaran telah diperoleh dari pengarang asal instrumen . Peserta kajian adalah 418 guru pra-perkhidmatan yang terdiri daripada 215 lelaki dan 203 perempuan. Teknik persampelan kelompok pelbagai peringkat digunakan untuk mengutip data dan Analisis Path juga digunakan sebagai teknik statistic bagianalisis data. Analisis menunjukkan bahawa majoriti guru pra-perkhidmatan cenderung kepada pemerolehan pendekatan ilmu pengetahuan permukaan jika dibandingkan dengan mereka yang menggunakan pendekatan pemeroleha nilmu pengetahuan secara mendalam. Dan, kebanyakan mereka mempunyai kepercayaan epistemologi yang naif, kesedaran meta-kognitif yang rendah, efikasi-kendiri yang rendah, orientasi matlamat pembelajaran rendah dan lebih tinggi dalam orientasi matlamat pencapaian. Secara khususnya, kajian ini mengkaji hubungan antara kepercayaan epistemologi, kesedaran meta-kognitif, efikasi-kendiri, orientasi matlamat dan pendekatan penguasaan ilmu pengetahuan dalam kalangan guru-guru pra-perkhidmatan di Nigeria dan dapatan kajian menunjukkan hubungan signifikan antara kepercayaan epistemologi, kesedaran meta-kognitif, efikasi-kendiri, orientasi matlamat (pembolehubah eksogenous) dan pendekatan pemerolehan ilmu pengetahuan (pembolehubah endogenous). Kajian ini juga menunjukkan bahawa kepercayaan epistemologi, kesedaran meta-kognitif, orientasi matlamat pembelajaran meramal secara signifikan pendekatan pemerolehan ilmu pengetahuan permukaan. Walau bagaimanapun, efikasi-kendiri dan orientasi matlamat pencapaian tidak meramal pendekatan ilmu pengetahuan permukaan. Dapatan kajian seterusnya menunjukkan bahawa orientasi matlamat pembelajaran menjadi pengantara (mediate) hubungan antara kepercayaan epistemologi, kesedaran meta-kognitif, efikasi-kendiri, dankedua-dua pendekatan pemerolehan ilmu

pengetahuan secara permukaan dan mendalam dalam kalangan guru pra-perkhidmatan di Nigeria. Walau bagaimanapun, matlamat pencapaian tidak menjadi pengantara antara kepercayaan epistemology dan efikasi-kendiri. Ini memperlihatkan bahawa matlamat orientasi pembelajaran merupakan pengantara yang baik dalam hubungan ini. Kajian ini mempunyai asas teoretikal yang signifikan dan implikasi praktikal kepada pendidik dan pensyarah maktab dalam memahami hubungan ini. Dan secara praktiknya, akan membantu pendidikan dan pensyarah maktab untuk memilih strategi paling berkesan untuk pelajar mereka.



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I certify that a Thesis Examination Committee has met on 30 September 2016 to conduct the final examination of Mahmud Haruna Jikamshi on his thesis entitled "Epistemological Beliefs, Metacognitive Awareness, Self-Efficacy and Goal Orientations as Predictors of Knowledge Acquisition among Pre-Service Teachers in Northern Nigeria" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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LIST OF ABBREVIATIONS

ACP	Average Congruence Percentage
AGQ	Achievement Goal Questionnaire
AMOS	Analysis of moment structure
ASSIST	Approaches and Study Skills Inventory for Students
AVE	Average Variance Extracted
BC/bc	Bias-corrected
EBI	Epistemological Beliefs Inventory
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
C I	Confidence interval
COEs	Colleges of education
CR	Construct Reliability
EDA	Exploratory Data Analysis
EFA	Exploratory Factor Analysis
FCE	Federal College of education
FCE T	Federal College of education Technical
FME	Federal Ministry of Education
GFI	Goodness-of-Fit Indices
AGFI	Adjusted Goodness-of-Fit Indices
IFI	Incremental Fit Index
MAI	Metacognitive Awareness Inventory
MSLQ	Motivated Strategies for Learning Questionnaire
NCE	Nigeria Certificate In Education
NCCE	National Commission for Colleges of Education

NFI	Normed Fit Index
RMSEA	Root Mean Squared Error of Approximation
SEM	Structural Equation Modeling
TLI	Tucker-Lewis Index



CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter comprises of the following: introduction, background of the study, problem statement, objectives of the study, hypothesis, significance of the study, scope and limitations of the study and finally operational definitions of terms.

1.2 Background of the Study

Knowledge acquisition as defined by numerous scholars (Krause, Bochner, & Duchesne, 2006; Slavin, 2006) is a process of absorbing, acquiring, processing, understanding, and recalling information through a number of methods by the learners. The success of these processes of knowledge acquisition are gauged as to how well that information, expertise, skills or ideas can be remembered or re-produced in a way that makes sense and meaning for future use (Bartol, & Srivastava, 2002; Karkoulian & Mahseredjian, 2009). It is observed that each learner has a unique style or approach of acquiring knowledge in his own way, which is called students learning approach or strategy (Marton & Sa'ljo, 1976; Entwistle & Ramsden 1981; Biggs, 1987; Dorfler, 2010; Abedin, Jaafar, Husain, & Abdullah, 2013).

The various ways by which students acquire knowledge and academically succeed in colleges have been studied very extensively by educationist and researchers. This becomes necessary because as highlighted by Senemoglu, (2011) that one of the main objectives of education is to help students become effective and functional learners in the society. In the same perspectives, Biggs, (2001) observed that in recent years, institutions of higher learning are subjected to pressure on the increasing demands for quality assurance in teaching and learning by both government officials and parents. Rasimah. Mahmood, Rohaizad, Yeop, & Anuar, (2008) and Diseth & Kobbeltvedt, (2010) further suggested that, it could be one of the main justification why institutions of higher learning are trying to keep up to the expectations and standards, sustained the tempo and maximize the quality of their graduates, enhance their preparedness for the labor market and further education.

In the contemporary literature, Marton and Saljo, (1976) were among the early researchers to conduct an empirical study on the qualitative differences of students' knowledge acquisition approaches, and consequently introduced two constructs "deep and surface" knowledge acquisition approaches. These two constructs give a qualitative description of knowledge acquisition approaches among students in typical college or university settings. Many studies have built upon Marton and Säljö's initial findings, and subsequent research has demonstrated that these different approaches to learning emerge across a wide range of academic tasks (Entwistle, 2000).

The deep approach is based upon understanding the meaning of course materials in the college and the surface approach is based on memorizing the course materials for examinations, or other assessments purposes only (Jong, 1996; Evans, et a., 2002; Richardson, 2005). Hence, the introduction of deep and surface knowledge acquisition approaches among students in colleges and other institutions of higher learning. These constructs were accepted and expanded by Entwistle, & Ramsden, (1981) and Biggs, (1987) in the same perspective and develop instruments to measure them (Evans, Kirby, & Fabrigar, 2003; Cano, 2005).

In recent years, the persistence low level of knowledge acquisition among pre service teachers in Nigerian Colleges of Education (COEs) raises serious concerns related to their final learning outcomes. Hence, there is a general out cry from the general public on the poor quality of graduates from these colleges. It has been observed that, the quality of teachers produced by these Colleges of Education (COEs) is poor. The product of these colleges are often being criticized and described as; Unproductive, lacking knowledge, poor morale and low level of commitment to teaching profession (Akinbote, 2009; Adeosun, 2010; Ndagi, 2011). Also in the same perspective the National Commission for Colleges of Education (NCCE) which is the regulatory body of all the Colleges of Education in Nigeria declares that;

“Indeed, NCE-awarding institutions in Nigeria have been often criticized for the quality of their product. The National Commission for Colleges of Education has a responsibility of the academic programmes in these institutions. Therefore in order to enhance quality of NCE products, the NCCE is involved in enhancing its quality assurance system. The NCCE quality assurance system shall continue to monitor institutions curriculum inputs, processes and product to determine whether the intended target (the creation of body of professional teachers) is achieved”
(NCCE, 2010, pp.1).

This statement by NCCE, which is the regulatory body of the program, is a confirmation of the real poor state of NCE holders in Nigeria. This raises a serious question mark on the quality of knowledge acquisition approaches of pre-service teachers in Nigerian collages of education (COEs), which need to be investigated.

Previous literatures have confirmed that, students in higher education employ different knowledge acquisition approaches, and study skills in order to achieve academic progress, and meaningful and qualitative learning outcomes (Senemoğlu, 2011; Kizilgunes, Tekkaya, & Tekkaya, 2009). In the same perspective, education researchers are busy investigating factors that engage students, and influence the quality of their knowledge acquisition approaches in typical college settings (Deryakulu, Büyüköztürk, & Özçınar, 2009). The education and psychology researchers have found a wide range of cognitive and motivational variables that significantly influence students’ knowledge acquisition approaches in typical college settings. These variables includes; metacognitive awareness (Schraw, et al., 1995; Young, & Fry, 2012), epistemological beliefs (Hofer & Pntrich, 1997; Schommer, 1990; Cano, 2005; Ismail, Hassan, Muhamad, Ali, & Konting, 2013), self-efficacy

(Bandura, 1997; Chen & Zimmerman, 2007), goal orientations (Dweck, 1985; Elliot, 2005), motivation (Biggs, 1993; Entwistle, et al., 1997; Pintrich, & Schunk, 2002; Mezei, 2008), and emotional intelligence (Tella, 2007), just to mentioned a few.

In this study the following variables will be examine in relation to pre-service teachers' knowledge acquisition approaches in Nigerian Colleges of Education (COEs). These variables are: students' epistemological beliefs, metacognitive awareness, self-efficacy, and goal orientations.

1.2.1 Students' Knowledge acquisition Approaches In relation to other variables

Recently, researchers in education and psychology have found a relation between students' knowledge acquisition in higher education and the quality of student learning outcome (Biggs, Kember, & Leung, 2001). For instance, student's deep knowledge acquisition was found to be associated with high quality of student learning, whereas surface knowledge acquisition was found to be related to poor learning outcomes (Biggs, Kember, & Leung, 2001; Marton & Saljo, 1976).

Students who adopted deep approaches to learning usually had long-term information retention, cognitively active, able to integrate information, and finally had high qualitative learning outcomes. In contrast those students who take a surface approach tend to have poor information retention, unable to integrate information thus, jumping through the necessary hoops in order to acquire the mark, or the grade, or the qualification (Duarte, 2007; Tynjälä, Salminen, Sutela, Nuutinen, & Pitkänen, 2005; Veenman, Wilhelm, & Beishuizen, 2004).

One very important variable that is highly connected to students' knowledge acquisition is students' epistemological beliefs. This construct refereed to individuals' basic assumptions about the nature of knowledge and about appropriate ways to develop one's own knowledge (Hofer, 2004; Schommer, 1990). Previous researches have indicates that students' epistemological beliefs influence students' knowledge acquisition approaches and other subsequent learning outcomes (Schommer, 1990). For instance, in one of the research findings, Chan, (2003) revealed that, students with naïve belief on the dimension of certainty of knowledge were found to be associated positively with surface knowledge acquisition approaches. Therefore, Chan concluded as follows; students with sophisticated epistemological beliefs adopt deep knowledge acquisition approaches, and those holding naïve epistemological beliefs tend to use surface knowledge acquisition approach.

Another important psychological variable that is often associated with students' knowledge acquisition in colleges is metacognitive awareness. Metacognitive awareness refers to students' ability to understand and monitor their cognitive processes (Schraw et al., 2006). Metacognitive awareness is important in learning, and is often described as one of the stronger predictor of students' knowledge

acquisition variable in the college (Dunning, Johnson, Ehrlinger and Kruger, 2003). Previous studies reveals that, metacognitive awareness help students to create a more better study habits and improve their performance and be able to evaluate their academic progress, and is related to deep knowledge acquisition approach (Zimmerman, et al., 2008; Jarvela, et al., 2011).

The previous literature revealed that, self-efficacy is related to students' knowledge acquisition approaches in typical college settings. Student's self-efficacy refers to the student's belief in their ability to accomplish a specific learning task in typical college settings (Bandura, 1977). Several researchers have showed that self-efficacy is positively related to deep knowledge acquisition strategies in educational settings (Diseth, 2011). It was also reported by Felonar et al. (2007) that self-efficacy had a direct positive effect on deep knowledge acquisition strategies and a direct negative effect on surface knowledge acquisition strategies. These findings support Bandura's (1986) claim that those high in perceived self-efficacy will choose behavioral strategies that help them attain desired learning outcomes.

The next variable of interest in this study is students' goal orientations. Goal orientation is defined as how students interpret learning situations, the events of situations, and how they process information about these situations (Dweck, 1986; Dweck, 2000). In the same perspective, goals orientations are related to students' tendency to act in a specified way towards achievement motives (Elliot & Church, 1997), and they are also predictors of cognitive outcomes in terms of knowledge acquisition strategies employed by the students (Elliot, & McGregor, 2001).

It was on record from the previous literatures that, learning goal orientation has been linked to deep knowledge acquisition strategies and was found to be integral to successful academic outcomes in colleges (Entwistle, 2000; Entwistle, & McCune, 2013). Also in another study, it was discovered that, those students who adopt learning goals tend to use more of deep knowledge acquisition approach. And students who adopt performance goal tend to use more of surface knowledge acquisition approaches in their learning (Albaili, 2003; Elliot & McGregor, 2001; Elliot, 1999).

However, most of the existing literatures on students' knowledge acquisition approaches consist of research reports from other countries than Nigeria, and mostly focused on other students, than pre-service teachers. In Nigeria it is a great challenge on the side of higher education and colleges authorities, the lecturers and the National commission for colleges of education (NCCE) to provide evidence of effective student knowledge acquisition approaches, and to offer evidence of improvement in student knowledge acquisition approaches among pre-service teachers in Nigerian Colleges of Education (COEs).

The degree or level of pre-service teachers' knowledge acquisition approaches in Nigeria is not known, or well understood. Furthermore, it is unclear if pre-service teacher's knowledge acquisition approaches can be predicted by some of the

psychological and demographic variables, as they were found to have predicted knowledge acquisition approaches of other categories of students in various disciplines, as revealed from previous studies (Marton, et al., 1976; Biggs, 1978, 1987; Entwistle, 2000; Pintrich & Schunk, 2002; Zimmerman, 2008).

For the purpose of this study the dimensions of the following variables will be focused; epistemological beliefs, metacognitive awareness, self-efficacy, and goal orientations. Also to be focused are the following variables; gender, and subject domains. The purpose of the current study is to describe the levels and established the relationships, and predictive ability between these variables, and knowledge acquisition approaches among pre-service teachers in Nigeria, as it was found in the previous studies.

1.3 Problem Statement of the study

In recent years the knowledge acquisition of students (pre-service teachers) in Nigerian Colleges of Education (COEs), is gradually declining, the quality of their knowledge acquisition is often reported to be poor and is being criticized and described as; unproductive, lacking knowledge, poor morale and low level of commitment to teaching profession (Adeosun, Oni, Oladipo, Onuoha, & Yakassai, 2009; Ndagi, 2011; Usman, 2011; Ololube; Amaele, Kpolovie, Onyekwere, & Elechi, 2012; Uriah, & Agbor, 2013) Also in the same perspective the National Commission for Colleges of Education (NCCE, 2010), who is the regulatory body for all the Colleges of Education in Nigeria, declares that; the NCE-awarding institutions in Nigeria have been often criticized of their poor quality of their product. This has led to a serious academic under achievement among pre-service teachers in Nigerian Colleges of Education (COEs). Apart from weak and poor performance of the pre-service teachers while on training (Aremu, et al., 2007; Asikhia, 2010), there performance on the job of teaching after graduation is also observed to be poor (NCCE, 2010; Ndagi, 2011; Aremu, & Sokan, 20013).

Thus, theoretically how students acquire knowledge and academically succeed in colleges has been studied very extensively. However, current researches in education and psychology, revealed two predominant qualitative descriptions of students' knowledge acquisition approaches, namely; the deep, and surface knowledge acquisition approaches (Marton & Säljö; 1976). Students adopting deep knowledge acquisition approach tended to have long-term knowledge retention (Duncan & McKeachie, 2005; Van Dyk, Collins, Land, Olson, Kim, Scarella, & Pearson, 2012). While, students adopting surface knowledge acquisition approaches tend to have poor-low knowledge retention ability (Duarte, 2007)..

Practically, it is very essential for pre-service teachers to possess and apply effective knowledge acquisition approaches and strategies while on training. If pre-service teachers make use of effective learning approaches and study skills in the processes of acquiring knowledge while on training in the college, it is highly hoped that, they are going to provide their own students/pupils with similar higher quality learning skills (Senemoglu, 2011). For this reason investigating of pre-service teacher's

approaches to knowledge acquisition in colleges is vital, especial as it affects the future of teacher education in Nigeria

The contemporary literatures in education and psychology, also suggested that many variables contribute to the students' successful meaningful knowledge acquisition, and general learning outcomes in colleges and other institutions of learning. These variables include the following; motivation (Biggs, 1970; Entwistle, et al., 1997; Pintrich, et al., 1990; Mezei, 2008), self-efficacy (Schunk, 1985; Bandura, 1997; Zimmerman, 2000; Chen & Zimmerman, 2007), students goal orientations (Mattern, 2005;), emotional intelligence (Tella, 2007), metacognitive awareness (Flavell, 1987; Schraw, et al., 1995; Youn, et al., 2008), memory (Alloway,et al.,2010), epistemological beliefs (Hofer& Pntrich, 1997; Cano, 2005; Braten, et al.,2005; Ismail, Hassan, Muhamad, Ali, & Konting.,2013).

The degree or level of pre-service teacher's knowledge acquisition approaches in Nigeria is not well understood. Furthermore, it is unclear if pre-service teacher's knowledge acquisition approaches can be predicted by some of the psychological variables, as they have been found to have predicted knowledge acquisition approaches of other categories of students in various disciplines (Marton, et al., 1976; Biggs, 1978, 1987; Entwistle, et al., 1982; Borkowski, et al., 1987; Pintrich & Schunk, 2002; Zimmerman, 2008). For the purpose of this study the following variables will be focused; epistemological beliefs, metacognitive awareness, self-efficacy and goal orientations. The purpose of this study is to describe the levels and established the relationships between these variables, and knowledge acquisition approaches among pre-service teachers in Nigeria, as found in the previous studies.

Thus, in Nigeria, there is a lack of empirical study that present the actual nature and level of pre-service teachers' knowledge acquisition approaches. Furthermore, there is lack of studies at college level that treat the dimensions of pre-service teachers knowledge acquisition approaches, as dependent variables within the instructional and learning context of a typical college setting, especially during training programs of pre-service teachers in Nigeria. The present study attempts to fill in this gap.

1.4 Objectives of the Study

In effort to fill this gap and achieve the stated target within the Nigerian educational system, especially in Nigerian Colleges of Education (COEs), the following objectives were proposed in this study;

1.4.1 General objective

It is the central aim of this study to investigate if epistemological beliefs, metacognitive awareness, goal orientations, self-efficacy, can predict knowledge acquisition approaches among pre-service teachers in Nigeria.

1.4.2 Specific objectives

1. To describe the levels of epistemological beliefs, metacognitive awareness, goal orientations, self-efficacy, deep and surface knowledge acquisition approaches among pre-service teachers' in Nigeria.
2. To examine the relationships between epistemological beliefs, metacognitive awareness, goal orientations, self-efficacy and knowledge acquisition approaches (deep and surface) among pre-service teachers' in Nigeria.
3. To determine the predictive ability of epistemological beliefs, metacognitive awareness, goal orientations, self-efficacy and knowledge acquisition approaches (deep and surface) among pre-service teachers' in Nigeria.
4. To determine the mediating effect of pre-service teachers' goal orientations in the relationships between epistemological beliefs, metacognitive awareness, self-efficacy on knowledge acquisition.

1.5 Research Question, objective and hypotheses

Based on the research objectives of the study and revelation from the previous literature, the following research question and null hypotheses for this study were developed

1.5.1 Objective 1 Descriptive

The first objective in this study is descriptive, it requires no hypothesizer, but a research question

1.5.1.1 Research questions

What are the levels of epistemological beliefs, metacognitive awareness, goal orientations, self-efficacy, deep and surface knowledge acquisition approaches among pre-service teachers' in Nigeria

1.5.1.2 Objective 2

In this study objective 2 to 4 requires hypothesis, and they are all stated as follows;

H₀1a : There is no significant relationship between epistemological beliefs and deep knowledge acquisition approaches among pre-service teachers' in Nigeria.

H₀1b : There is no significant relationship between metacognitive awareness and deep knowledge acquisition approaches among pre-service teachers' in Nigeria.

H₀1c : There is no significant relationship between self-efficacy and deep knowledge acquisition approaches among pre-service teachers' in Nigeria

H₀1d : There is no significant relationship between learning goal orientation and deep knowledge acquisition approaches among pre-service teachers' in Nigeria

H₀1e : There is no significant relationship between performance goal orientation and deep knowledge acquisition approaches among pre-service teachers' in Nigeria

H₀1f : There is no significant relationship between epistemological beliefs and surface knowledge acquisition approaches among pre-service teachers' in Nigeria.

H₀1g : There is no significant relationship between metacognitive awareness and surface knowledge acquisition approaches among pre-service teachers' in Nigeria.

H₀1h : There is no significant relationship between self-efficacy and surface knowledge acquisition approaches among pre-service teachers' in Nigeria.

H₀1i : There is no significant relationship between learning goal orientation and surface knowledge acquisition approaches among pre-service teachers' in Nigeria.

H₀1j : There is no significant relationship between performance goal orientation and surface knowledge acquisition approaches among pre-service teachers' in Nigeria.

1.5.1.3 Objective 3

H₀2a : Epistemological beliefs did not significantly predict deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2b : Metacognitive awareness did not significantly predict deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2c : Self-efficacy did not significantly predict deep knowledge acquisition approaches among pre-service teachers in Nigeria

H₀2d : Learning goal orientations did not significantly predict deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2e : Performance goal orientations did not significantly predict deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2f : Epistemological beliefs did not significantly predict surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2g : Metacognitive awareness did not significantly predict surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2h : Self-efficacy did not significantly predict surface knowledge acquisition approaches among pre-service teachers in Nigeria

H₀2i : Learning goal orientations did not significantly predict surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀2j : Performance goal orientations did not significantly predict surface knowledge acquisition approaches among pre-service teachers in Nigeria.

1.5.1.4 Objective 4

H₀3a : Learning goal orientation did not mediate the relationship between epistemological beliefs and deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3b : Learning goal orientation did not mediate the relationship between metacognitive awareness and deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3c : Learning goal orientation did not mediate the relationship between self-efficacy and deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3d : Performance goal orientation did not mediate the relationship between epistemological beliefs and deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3e : Performance goal orientation did not mediate the relationship between metacognitive awareness and deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3f : Performance goal orientation did not mediate the relationship between self-efficacy and deep knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀4g : Learning goal orientation did not mediate the relationship between epistemological beliefs and surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3h : Learning goal orientation did not mediate the relationship between metacognitive awareness and surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3i : Learning goal orientation did not mediate the relationship between self-efficacy and surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3j : Performance goal orientation did not mediate the relationship between epistemological beliefs and surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀3k : Performance goal orientation did not mediate the relationship between metacognitive awareness and surface knowledge acquisition approaches among pre-service teachers in Nigeria.

H₀₃₁ : Performance goal orientation did not mediate the relationship between self-efficacy and surface knowledge acquisition approaches among pre-service teachers in Nigeria

1.6 Significance of the study

This study focuses on the dimensions of epistemological beliefs, metacognitive awareness, self-efficacy, goal orientations, gender, subjects' domain and their influence on knowledge acquisition approaches among pre-service teachers' in Nigerian. The study is aimed at investigating the levels of knowledge acquisition approaches of pre-service teachers, and examine whether these levels are influenced by the above mentioned psychological variables.

Theoretically, this study will provide information about Nigerian pre-service teachers' knowledge acquisition approaches in typical college settings. The study highlighted on the nature of relationships that exist between these psychological factors and the type of knowledge acquisition approaches employed by the pre-service teachers in typical college settings. Thus, the study will add to the body of knowledge regarding the causal relationships of students' knowledge acquisition strategies in the classroom and the motivational and cognitive variables that affect it. This is a source of information and awareness to both pre-service teachers and their lecturers. Also, the study helps to fill the gaps in the body of research regarding the use of such strategies in Nigerian higher education and, more specifically, teacher education. Furthermore, this study helps in identifying the knowledge acquisition approach often employed by the pre-service teachers during their college study. This could be a source of relevant information and awareness needed by the students, lecturers, college authorities, the national commissions for colleges' education and other education stake holders in Nigeria. In addition, it provides an insight on how best pre-service teachers acquire knowledge meaningful and academically succeeds in the college and beyond. Consequently, it is likely to help affirm the generalization of the theory beyond pre-service teachers and extending it to other categories of students in Nigerian higher institutions.

Practically, understanding these relationships greatly help educators and lecturers to identify students in their various classrooms, who are adopting wrong or inappropriate knowledge acquisition approach in their study habits. This will help the lecturers select appropriate knowledge acquisition strategy for the students. Thus, students may be oriented in practicing appropriate knowledge acquisition approach in their process of knowledge acquisition, which inspires them towards a more meaningful leaning in the college. This could be achieved through organizing special training/workshops for students, to ensure they always adopt the desired knowledge acquisition strategy. Findings from this study also help students, educators and lectures to recognize the importance of using appropriate knowledge acquisition approach for a better learning outcome in our collages.

1.7 Limitation of the Study

This study is on knowledge acquisition among pre-service teachers in Nigeria. It is the intention of this study to investigate the quality of pre-service teacher's knowledge acquisition approach. The study also examines the relationship between the quality of pre-service teacher's knowledge acquisition and some psychological variables. Knowledge acquisition can be attributed to wide variety of characteristics and qualities (Jong, 1996; Gagne, 1993). However, this study is only limited to the two main qualitative descriptions of knowledge acquisition (deep and surface) as described by (Marton & Säljö, 1976; Biggs, 1987; Entwistle & Ramsden, 1981). And the study concentrates more on deep knowledge acquisition because it is the most appropriate approach that leads to a better student performance in the college (Entwistle, 2000).

Previous literature identifies numerous variables that influenced students' knowledge acquisition approaches in higher education; this study is limited to the following psychological variables: The epistemological beliefs, metacognitive awareness, self-efficacy and goal orientations. Specifically, the present study is limited to the following dimensions; simple knowledge, certainty of knowledge, quick learning, knowledge of cognition, regulation of cognition, self-efficacy, learning and performance goal orientations respectively.

Another limitation is that, the study utilized self-reported inventories in assessing pre-service teachers' dimensions of: knowledge acquisition approaches, epistemological beliefs, metacognitive awareness, self-efficacy and goal orientations. In ensuring the accuracy of the data, respondents were informed to answers all questions confidently. As part of the confidentiality measures they are not required to write their names or number in any part of the questionnaire.

Another limitation is on the accessible population of the study, despite the fact that, the study is on Nigeria pre-service teachers. The study is only limited to pre-service teachers who are enrolled in colleges of education (COEs) only. The accessible population is also limited to only Northern Nigeria. This makes generalization of the study to be limited.

1.8 Operational definition of Terms

In this segment concepts that are going to be used in this study are operationally define as they apply to this study: This concepts includes: knowledge acquisition, epistemological beliefs, metacognitive awareness, self-efficacy goal orientations and subjects' domain.

1.8.1 Knowledge Acquisition

Knowledge acquisition is defined as a method of learning or an approach to learning, which signifies meaningful learning (Ausubel, 1968; Marton & Saljo, 1976; Novak,

2010). In this study knowledge acquisition is defined based on the original empirical research of Marton and Säljö (1976), who classify students' knowledge acquisition in terms of deep and surface Approaches. This view was further elaborated by Entwistle (1981), Ramsden et al., (1992), and Biggs (1993). Knowledge acquisition was measured using self-reported questionnaire, "The Approaches and Study Skills Inventory for Students" (ASSIST) by Entwistle, N., McCune, V., & Tait, H. (2006). school of vocational and technical education. For the purpose of this study all students in the colleges of education are to be categorized under two subjects' domains (Arts and Sciences). All students whose majors are in School of Arts and social sciences, education, languages are categorized under Arts. All students whose majors are in School of Sciences, and Vocational and technical education are categorized under science. In this study pre-service teachers are categorized in to two major subject domains (Arts and Sciences).

1.8.2 Epistemological beliefs

According to numerous scholars, Epistemological beliefs refer to individuals' beliefs about the nature of knowledge and knowing (Hofer, & Pintrich, 2004; Schommer Aikins, 2004; Paechter et al., 2013). In similar perspective Schommer (1990) defined epistemology as having at least four or five dimensions: simple knowledge (SK), certain knowledge (CK), Innate Knowledge (IA), Authority of knowledge (AK), quick learning (QL). In this study, three dimensions are to be used as measures of pre-service teachers epistemological beliefs these are; simple knowledge (SK), certain knowledge (CK) quick learning (QL), were measured using a self-reported questionnaire "the Epistemic Belief Inventory (EBI)" developed by Schraw, Bendixen, & Dunkle, (2002).

1.8.3 Metacognitive awareness

Metacognition is defined as the activity of monitoring and controlling one's cognition (Flavell, 1979; Hacker & Dunlosky, 2003). Researchers further conceptualize metacognition by breaking down metacognitive awareness in to two dimensions; cognition about knowledge, and regulation of cognition (Flavell, 1979; Schraw, and Dennison, 1994; Ormrod, 2012). In this study the two dimensions were used as measures of pre-service teacher's metacognitive awareness. The Metacognitive awareness inventory (MAI) developed by Schraw and Dennison (1994), was used in measuring pre-service teachers' metacognitive awareness

1.8.4 Self-efficacy

Self-efficacy, is defined as a personal judgments of performance, capabilities by an individual learner under a given conditions (Bandura, 1997). Self-efficacy is the extent to which an individual student is capable of accomplishing a task under certain circumstances, thus it is a self-evaluation of one's competence to successfully execute a course of action necessary to reach desired outcomes (Bandura, 1977; Pajares, et al., 2008). In this study motivated strategies for learning questionnaire (MSLQ), Pintrich, et al., (1993) was used to measure pre-service teachers' academic self-efficacy.

1.8.5 Goal Orientation

Goal orientation is another motivational factor that has a significant impact on student learning outcomes. Goal orientations are described as the reasons individuals engage in achievement-related behaviors (Kaplan & Maehr, 2007; Mezei, 2008). Goal theorists have proposed several types of goal orientations to explain the reason why individuals engage in achievement behaviors. One group of goal theorists conceptualized a dichotomous framework of goals whereby two major categories of goals were identified: learning and performance goal orientations (Elliot, & Murayama, 2008). Learning goals are goals individuals adopt to increase their competence, and performance goals are goals adopted by individuals demonstrating their incompetence or avoid exposing their incompetence when engaging in a task. This was measured by Achievement goal questionnaire (AGQ) (Elliot, & Church, 1997).

1.8.6 Pre-service teachers

This refers to all students who are enrolled in any college of education (COE) in Nigeria, receiving professional teacher training education. These students will become professional teachers after successful completion of the trainin

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