

Self-efficacy, Information Seeking Behaviour and Learning Outcomes of Library and Information Science Students in Osun State, Universities and Polytechnics Nigeria.

**Rowland Kayode
OLUSI
LCU/PG/005027**

Being an MLIS Thesis Submitted to the Department of Information Management, Faculty of Communication & Information Sciences, Lead City University, Ibadan, Oyo State, Nigeria.

In Partial Fulfilment of the Requirements for the Award of Master in Library and Information Science (MLIS)

2024

Certification

This is to certify that Rowland Kayode OLUSI with Matriculation Number LCU/PG/005027, carried out a research titled: Self-efficacy, Information-Seeking Behaviour and Learning Outcomes of Library and Information Science Students in Osun state Universities and Polytechnics Nigeria in the Department of Information Management Faculty of Communication and Information Sciences, Lead City University, Ibadan, Nigeria and that the work has not been previously submitted.

.....
Dr. S.V Adeyeye
(Supervisor)

.....
Date

.....
Dr S.V Adeyeye
(Head of Department)

.....
Date

Dedication

This thesis is dedicated to Almighty God, the Father, Son, and Holy Spirit from whom we return all glory.

Lead City University Ibadan DO NOT COPY

Acknowledgment

My appreciation goes to the management and staff of Lead City University, Ibadan for providing the needed conducive environment during the course of this study and in carrying out this research. I am grateful to all the staff of Adeleke University Ede, Obafemi Awolowo University Ile-Ife, Osun State University Osogbo, Osun State Polytechnic Iree, Federal Polytechnic Ede, University of Ilesha and Osun State College of Technology Esa-Oke.

I also use this privilege to acknowledge the immeasurable support and intellectual contribution of my amiable supervisor, who happens to be the Head of the Department of Information Management Dr. Sophia V. Adeyeye, for her moral support, encouragement and teachings towards my academic success and the Dean, Professor L.A Abioye (Faculty of Communication and Information Sciences). I also appreciate my lecturers in the Department Professor E.A Erwat, Dr T.E Adenekan, Dr O.D Bakare-Fatungase, Mr P.B Olusola, Dr S.O Tunmibi, Dr K.O Lateef, Dr O.O Ajibare, Dr F.B Oguntoye, Dr Lanre Osaniyi, Mr Okhakhu Dr K.O Popoola, Dr O. Ologbosere, Dr I.A Adeniran, Dr O.B Olomola, Mrs N.J Osuagwu, Mrs R.O Akinpelu, Mrs V.O Ahamze and Mr A.A Adeyemi, and the departmental administrator, Mrs T.F Akinyoola. My gratitude is extended to Mr Stephen Oladoye, Dr. Lydia Oludele, Mr Samuel Adeyanju, the family of Mr and Mrs Idogbe, Adebajo Olarinde I want to thank you for all your support. I am grateful to all my classmates, Ibukunoluwa Idogbe, Folasade, Muyiwa Osifade, Joan, Beauty, Quinneth and others. My appreciation goes to my wife Mrs Omowumi Ajike Olusi, and my children Godsvision, Godslight, Goshen and Thywil, for their sacrificial contributions towards the success of this research. Even though the above mentioned institutions and persons have assisted in the process of this research, I alone stand responsible for the error(s), if any is found in the work.

Abstract

The study aimed at investigating the influence of self-efficacy and information seeking behaviour on Learning Outcomes of Library and Information Science students in tertiary institutions in Osun State Nigeria. The study was quantitative and employed survey research. The Population of the study consisted of 3,500 Library and Information Science students, out of which 345 were sampled using proportionate stratified sampling technique. 61- item questionnaire with 4 sections was used for data collection. The instrument's reliability yielded a Cronbach's alpha values of 0.921, 0.848, 0.784, and 0.780 for the four sections. All 345 copies of questionnaire administered were returned but analysis was based on 338 valid responses. Descriptive statistics of mean and standard deviation were used to answer the research questions while regression analysis with the aid of SPSS version 24 was used to test the hypotheses at 0.05 alpha level. The study found the levels of learning outcomes (2.73) of Library and Information Science to be high. Self-efficacy level of students was also high (2.75). Information Seeking Behaviour had positive significant influence on Learning Outcome ($\beta = -0.257$), $t = -5.878$, $p < 0.05$) while self-efficacy have significantly influenced Learning Outcomes ($\beta = 0.773$, $t = 20.622$, $p < 0.05$). The study concluded that information seeking behaviour positively influenced Learning Outcomes and Self-efficacy had positive influence on Learning Outcomes of Library and Information Science students. It was recommended that both students and teachers should redirect efforts at boosting Self-efficacy and information seeking behaviour to avoid having negative impact on Learning Outcomes.

Key Words: Learning Outcomes, Self-efficacy, Information Seeking Behaviour, Library and Information Science students.

Word Count: 299

TABLE OF CONTENTS

Content	Page
Title Page	i
Certification	ii
Dedication	iii
Acknowledgement	iv
Abstract	v
Table of Contents	vi
List of Tables	x
List of Figures	xi
List of Appendices	xii
List of Acronyms	xiii
Chapter One: Introduction	
1.1 Background to the Study	1
1.2 Statement of the Problem	8
1.3 Aim and Objectives of the Study	9
1.4 Research Questions	9
1.5 Hypotheses	10
1.6 Significant of the Study	10
1.7 Scope of the Study	12
1.8 Limitation of the Study	12
1.9 Operational Definition of Terms	13
Endnote	15

Chapter Two: Literature Review

2.1	Conceptual Review	1
2.1.1	Learning Outcomes	1
2.1.2	Self- Efficacy	2
2.1.3	Information Seeking Behaviour	32
2.2	Theoretical Framework	40
2.2.1	Bloom’s Taxonomy of learning Theory	
2.2.2	Bandura Self-Efficacy Theory	43
2.2.3	Carol Kuhlthau Information Search Process	50
2.3	Review of Empirical Studies	61
2.3.1	Self-Efficacy and Learning Outcomes	61
2.3.2	Information Seeking Behavior and Learning Outcomes	64
2.3.3	Self-Efficacy, Information Seeking Behavior and Learning Outcomes	70
2.3.4	Student’s Learning Outcomes	76
2.4	Conceptual Model	80
2.5	Summary of Gap in Literature Reviewed	81
	Endnotes	83

Chapter Three: Methodology

3.1	Research Design	94
3.2	Population of the Study	95

3.3	Sample and Sampling Technique	96
3.4	Description of Research Instrument	99
3.5	Validity of Research Instrument	101
3.5	Reliability of Research Instrument	102
3.6	Administration of Instruments and Method of Data Collection	102
3.7	Method of Data Analysis	103
	Endnotes	104
Chapter Four: Results and Discussion of Findings		
4.1.	Demographic Data Analysis	105
4.2.	Presentation of Data	106
4.2.1	Analysis of Research Questions	108
4.2.2	Test of Hypotheses	108
4.3.	Discussion of Findings	125
	Endnote	126
Chapter Five: Conclusion		
5.1.	Summary of Findings	128
5.2.	Conclusion	130
5.3.	Recommendation	131
5.4.	Contribution to knowledge	131
5.5.	Suggested Areas for Further Research	133
	Bibliography	134

Appendice	141
Bio-Data	146
The University Compliance Certification	150

Lists of Tables

Table	Title	Page
3.1	Population of the Study	95
3.2	Table for Determining the Sample Size of a Known Population	96
3.3	Stratified Sampling Calculation for the Sample Used	98
3.4	Sample Size	99
3.5	Reliability Result	102
4.1	Response Rates	105
4.2	Demographic Data	106
4.3	Mean Response of Level of Learning Outcomes	108
4.4	Mean Response of Self-Efficacy on Learning Outcomes of Students	112
4.5	Mean Response of Level of Information Seeking Behaviour of Students	117
4.6	Regression Analysis of Self-Efficacy on Learning the Outcome of Students	120
4.7	Regression Analysis of Information Seeking Behaviour on Learning Outcome	122
4.8	Regression Analysis on Combined Influence of Self-Efficacy and Information Seeking Behaviour on Learning Outcomes.	124

Lead City University Ibadan DO NOT COPY

Lists of Figure

Figure	Title	Page
2.1	Self-Efficacy Model	47
2.2	Conceptual Model of Independent Variables one (IV ¹), Independent Variable two (IV ²), and Dependent Variable (DV)	80

Lead City University Ibadan DO NOT COPY

Appendices	Lists of Appendices Title	Page
1.	Self-Efficacy, Information Seeking Behaviour and Learning Outcomes (SEISBLO)	141

Lead City University Ibadan DO NOT COPY

Lists of Acronyms

Abbreviation	Meaning
LIS	Library and Information Science
LCU	Lead City University
LO	Learning Outcomes
ISP	Information Search Process

Lead City University Ibadan DO NOT COPY

Chapter One

Introduction

1.1 Background to the Study

Learning outcome is a serious issue of concern in higher education. The worth and attainment of any educational programme is determined by the quality of its products, the students, which borders on the quality of learning outcomes expressed through knowledge and competence demonstrated by the students. Educational programmes in Nigeria Universities and Polytechnics are intended to produce high quality manpower to improve the socio-economic and technological development of the nation. Therefore, the need to achieving required learning outcomes in the tertiary institutions is a thoughtful issue of worry. Learning outcomes talk about the personal differences or benefits that follow as a result of learning. Learning outcomes are the processes of students' intermingling with the learning environment to improve their behaviour. It is often connected with how far students understand the learning resources given by their lecturers¹.

Learning outcomes are concerned with the changes in behaviour of students and in the level of their understanding as a result of learning experience(s). They are direct interpretations that describe knowledge, skills and attitudes that the students are expected to unfailingly demonstrate after a specific learning experience. Student of any educational programme should be able to display and prove evidences of ability and skill acquisitions that result in change in behaviour. In current learning space, learning outcome is one of the concepts that have obtained a central place. A functional and successful learning system is measured by the quality of products of educational programme which in turn can be assessed by the learning outcomes and academic performance of the learners¹. No doubt, the development of a nation is basically

Lead City University Ibadan DO NOT COPY

dependent on the quality of its learning system which will determine the quality of Librarian that will be responsible for socio-economic and technological development of the nation. Achieving high level of learning outcomes in educational programmes is important for production of high quality Librarian who will effectively manage Libraries and Information Centers for national development². These outcomes will reflect in their level of understanding, critical thinking abilities, problem-solving skills, research competence, communication skills, and ethical conduct that students develop. Assessing learning outcomes helps measure the effectiveness of educational programme and informs strategies for improving the quality of education. Tertiary institutions students of Library and Information Science in Osun State who engage in active learning strategies will enhance cognitive learning outcomes. Active learning involves activities such as problem-solving, discussions, case studies, simulations, and hands-on experiences. Students who exhibit skills that encourages critical thinking will facilitate the application of knowledge, resulting in improved cognitive learning outcome as students are expected to think about their own thinking processes, evaluating their effectiveness of learning strategies and been able to identify areas for improvement in their learning outcome.

The need of achieving the expected learning outcomes in higher education students is decisively becoming a common international culture. Many nations throughout the world are laying more emphasis and making sure that universities in their educational programme achieve the expected learning outcomes in their students³. Learning outcomes in the past looked down as a passing trend that is being commonly overlooked by faculty and Librarians. At the international level, learning outcomes were considered basically as the central affairs of education faculty but presently appears to be with the ambit of all higher education for the transition to students-centered³. In Portugal, the achievement of learning outcomes in the

students in the universities was a common challenge for European educational institutions. Therefore they developed a conceptual model that will allow the country to better realize how learning outcomes are conceptualized with a focus to identifying what knowledge and competencies the higher institutions in Portugal intend to promote in their students². However, a notable variation in experiences and learning outcomes across and within higher institutions in Ethiopia also faced with the challenges of successful educational Programmes³. Universities in United Kingdom placed more emphasis on students learning outcomes by establishing qualifications framework for Higher Education programs specifications and institutional audit that promotes higher education sector towards learning outcomes⁴. These emphasis were on taking higher education from content-based curriculum to a more student centered approach that will use learning outcomes to evaluate quality of content.

Like other states and nations in the world, Osun State Nigeria recognizes in totality and universities in particular as critical for socio-economic development, hence the need to ensure higher quality library and information science programme through learner-centered educational processes that enhance attainment of learning outcomes in the learners. Nevertheless, it appears that Library and Information Science programme in tertiary institutions in Nigeria, especially Universities and Polytechnics in Osun State considering the quality of undergraduate being produced on yearly basis is lagging behind. Achieving the expected learning outcomes among the students of Library and Information Science in Osun State becomes a great concern for quality educational process and for socio-economic development of the state and the nation at large. Learning outcomes have three metrics; cognitive, affective and psychomotor skills. Cognitive learning outcomes is the ability to recognize knowledge and been able to develop intellectual abilities and skills⁵. Affective and

psychomotor learning outcomes are non-cognitive outcomes. On-cognitive in the sense that learning outcomes are only concerned with outcomes such as change in attitude, ability of students to express knowledge that has been acquired in solving critical problems, having initiatives and demonstration of practical competencies and skills⁶. It therefore suffices to say in this study that learning outcomes is the ability of the library and information science undergraduate students to express their knowledge that were acquired after being engaged in a learning process, it involves the expression of their skills and capabilities, competence and achievement that the students were able to demonstrate during and after certain learning experiences.

The position of Library and Information Science programme in universities and polytechnics in Osun State Nigeria, in developing students' skills, knowledge and competence that will result to national development cannot be undermined. Although these learning outcomes are expected from the Library and Information Science students but it appears there are some challenges relating to Library and Information Science students attitudes, their professional competencies and their expression of the required relevant knowledge. Some Library and Information Science students seem to be displaying lack of interest and motivation towards achieving academic excellence and professional competence through avoidance behaviour. From preliminary investigation it shows some Library and Information Science students programmes tend to avoid attending classes, while those who eventually attend are mostly do not involved in the class activities. These different attitude of the Library and Information Science students towards learning or academics greatly affect class engagement and demonstrative unfairness which may impact negatively their learning outcomes. In addition, some of these Library and Information Science students in the universities and polytechnics

in Osun State South West Nigeria that are turned out for National Youth Service Corps (NYSC) in their place of assignments lack that level of professional competencies as being demonstrated through their inability to professionally organize resources in the library to meet with professional standard. These are all evidence of deficiency in the attainment of required learning outcomes. Although the literature revealed three measures of learning outcomes, this study adopted expression of knowledge (cognitive outcomes) and expression of practical skills (psychomotor), as precise measurement of level of learners' attitude (affective outcome) in this type of study might be far unfitting. The study is a personal judgment of one's competence and effectiveness in managing various situations it is a cognitive variable that influences motivation, behaviour and performance. Students with high self-efficacy in their academic abilities were more likely to set challenging goals, exert efforts, and persist in their learning endeavors. Library and Information science undergraduate students are likely to adopt effective learning strategies, seek feedback, and engage in deep learning processes. As a result achieve better learning outcomes, such as higher grades, improved problem-solving skills, and a deeper understanding of the subject matter. The library and information science field is undergoing significant transformation due to advancements in technology, digital resources, and changing user needs. This advancement necessitates that LIS students develop new competencies and attitudes toward continuous learning. Research in educational psychology suggests that

learner attitudes—comprising beliefs, feelings, and behavioral intentions—are essential predictors of learning outcomes. Positive attitudes can lead to higher engagement, better information retention, and greater persistence in the face of challenges.

Active LIS education programmes aim to align their curricula with the competencies required in the profession. Understanding students' attitudes toward learning can help educators tailor courses to enhance engagement and ensure that learning outcomes align with both student goals and professional standards. The learning environment, including peer support and faculty mentoring, plays a pivotal role in shaping student attitudes. Investigating these dynamics can reveal how social interactions influence students' perceptions of learning and their overall academic experience. As digital tools become integral to both library services and educational delivery, students' attitudes toward these technologies directly impact their learning processes. Understanding how students perceive technology can inform instructional strategies and resource allocation.

The Library and Information Science (LIS) student population is increasingly diverse, encompassing a wide range of backgrounds, experiences, and perspectives. This diversity can affect attitudes toward learning and collaboration. Researching these differences can help create more inclusive learning environments. As Library and Information Science students prepare to enter the workforce, their attitudes toward learning can influence their professional identity development. A positive attitude may foster a commitment to lifelong learning, essential in a field characterized by ongoing change. Understanding the attitudes of LIS students toward learning is essential for developing effective educational practices that prepare them for the evolving landscape of library and information services. This study will contribute

valuable insights to enhance both student learning experiences and the overall quality of LIS education.

Self-efficacy beliefs also influence information-seeking behaviour, library and information science students are more likely to engage in proactive information-seeking behaviours, such as seeking out relevant resources, asking questions, and exploring diverse perspectives. They believe that they have the skills and knowledge necessary to find and evaluate information effectively. Consequently, they are more likely to engage in extensive information seeking which can influence their learning outcomes. Information Behavior refers to the process individuals undertake to search, locate, evaluate, and utilize information to satisfy a specific need or goal. It encompasses the actions, strategies, and interactions individuals engage in to acquire relevant information from various sources. Information Behavior will influence learning outcomes through a range of factors; information needs, information sources, information search strategies, and evaluation and selection.

The information needs and information-seeking Behavior of Library and Information Science undergraduate students can significantly influence their learning outcomes, the ability to identify and access relevant resources and sources is crucial to their learning process, effective Information Behavior enables students to locate scholarly articles, books, research databases, and other resources that are essential for learning. By utilizing high-quality and relevant information, students enhanced their understanding and knowledge base, thereby leading to improved learning outcomes.

1.2 Statement of the Problem

Learning outcomes of Library and Information Science students are significant pointers of value in tertiary institutions in Osun State. Initial investigations revealed that the demonstration of practical skills in the organization of information by Library and Information Science students is receding, indicating a deficiency in the attainment of required learning outcomes⁵. Due to this, some students of Library and Information Science stayed unemployed for years after graduation and the few employed ones cannot competently manage Information Communication Libraries causing some libraries to employ non-professional digital librarians. This, if abandoned, negatively affects the image of the Library and Information Science. Several studies have been carried out on learning outcomes and their influences such studies conducted on factors influencing the learning outcomes of students, influence of self-efficacy, and information-seeking behavior on learning outcomes³. Nevertheless, there seems to be a gap in the literature concerning studies on the influence of Self-efficacy and information-seeking behavior of Library and Information Science students. Hence the study seeks to address the influence of Self-efficacy and information-seeking behavior on learning outcomes of Library and Information Science students in Osun State South- west, Nigeria.

1.3 Aim and Objectives of the Study

The aim of this study is to investigate the influence of Self-efficacy and information seeking behavior on learning outcomes of Library and Information Science students in tertiary institutions in Osun State.

The objectives of this study were to:

- i. identify the level of learning outcomes of Library and Information Science students in tertiary institutions in Osun state;
- ii. assess the levels of Self-efficacy of Library and Information Science students in tertiary institutions in Osun State;
- iii. identify the level of information-seeking behavior of Library and Information Science students in tertiary institutions in Osun State;
- iv. determine the influence of Self-efficacy on learning outcomes of Library and Information Science students in tertiary institutions in Osun State;
- v. determine the influence of information-seeking behaviour on learning outcomes of Library and Information Science students in tertiary institutions in Osun State;
- vi. determine the combined influence of Self-efficacy and information-seeking behaviour on Learning Outcomes of Library and Information Science students in tertiary institutions in Osun State.

1.4 Research Questions

1. What is the level of learning outcomes (knowledge and skills) of Library and Information Science students in tertiary institutions in Osun State?
2. What is the level of influence of Self-efficacy of Library and Information Science students in tertiary institutions in Osun State?
3. What is the level of influence of Information seeking behaviour of Library and Information Science students in tertiary institutions in Osun State?

1.5 Hypotheses

Ho1 –There will be no significant influence of Self–efficacy on learning outcomes of Library and Information Science students in tertiary institutions in Osun State.

Ho2 –There will be no significant influence of Information Seeking Behaviour on learning outcomes of Library and Information Science students in tertiary institutions in Osun State.

Ho3 –There will be no significant combined influence of self-efficacy and information-seeking behaviour on learning outcomes of Library and Information Science students in tertiary institutions in Osun State.

1.1 Significance of the Study

The findings of this study will be advantageous and will provide valuable insights to students, employers of labour, and educational policymakers in designing and implementing educational programs and interventions that promote self-efficacy and effective information-seeking behavior, and by understanding the specific needs and challenges of students, educational practices can be tailored to support their learning and overall success. The result of this study would expose to the students the influence of self–efficacy on the expectation of their learning outcomes and the significance of developing a high level of self-efficacy to attain learning outcomes. The Library and Information Science students will gain an understanding of the influence of Information Behavior on achieving essential learning outcomes for specialized proficiency. This will help the students to develop a strong spirit, which will help them to be devoted to achieving the required learning outcomes. This will also give them a competitive advantage in the labour market, make them active as librarians and information professionals and boost their career ranking advancement. The results of will

boost provision of academically qualified and professionally skilled librarian and information professionals into the labour market. Libraries and information centers in public and private institution and organizations in search of qualified and knowledgeable graduate to join their workforce will be able to have contact to a pool of qualified and competent Librarian and Information professionals.

Policymakers responsible for deciding on accreditation issues and resource allocation for educational programmes in tertiary institutions, for example, National University Commission (NUC), and (NBTE) will gain insights into the links between self-efficacy and information-seeking behavior of Library and Information Science students to achieve the required learning outcomes. The study exposes to these policymakers the consequence of Library and Information Science students' self-efficacy to achieve required learning outcomes as proof of a successful educational programme. This will allow the policymakers to make decisions and policies that will improve the level and strength of the Library and Information Science students' self-efficacy to heighten learning outcomes. This study aids upcoming researchers. The study will provide additional literature on the relationship between Self-efficacy and information-seeking behavior, library and information science students learning outcomes. It will also build up the body of existing literature on the influence of self-efficacy on library and information science students' learning outcomes. This study will be useful to the society at large. The findings of the study will improve the attainment of learning outcomes for library and Information science students. This will be useful to the society that has an interest in tertiary institutions making these students to participate in accumulative knowledge-based economies.

1.7 Scope of the Study

This study focused on the influence of Self-efficacy and Information Behaviour on learning outcomes of Library and Information Science students in Universities and Polytechnics in Osun State, Nigeria. The measures of self-efficacy adopted by Bandura's Self-efficacy theory were of magnitude and strength. Learning outcomes were measured with expression of knowledge and expression of competence/skills while information-seeking behaviour was measured with Kuhlthau's information search process. The study covered the universities and polytechnics in Osun State, Nigeria. All the universities and polytechnics offering Library and Information science in Osun State were covered. They are: Obafemi Awolowo University Ile-Ife, Adeleke University Ede, University of Ilesha Ilesha, Federal Polytechnic Ede, Osun State Polytechnic Iree, and Osun State College of Technology Esa-Oke. The respondents comprised 200 Level, 300 Level, 400 Level, National Diploma II, HND I, and HND II students of Library and Information Science in these institutions who have had at least two academic semesters to be able to provide the required information for the study. National Diploma I was excluded from the study as they have not spent the required period of learning to provide adequate and required information for the study. And Colleges of Education and other mono-technics as tertiary institutions were excluded from the study as Library and Information science are not been offered in those institutions.

1.8 Limitation of the Study

The study measured the actual cognitive self-efficacy, information seeking behaviour and learning outcomes of the students. Also the researcher was unable to collect data on the affective self-efficacy, information seeking behaviour and learning outcomes which requires

experimental tests because the study employed the descriptive design of survey type. These limitations notwithstanding, the researcher was able to collect reliable data (through valid and reliable instruments) on all the variables of the study which makes the results of the data reliable.

1.9 Operational Definition of Terms

Learning Outcomes: These are checklists of what Library and Information Science programs are expected to achieve in the learners. They define what library and Information science should be able to know, do, and demonstrate as a result of the learning experiences and within a given time. The learning outcomes covered in this study are the cognitive and psychomotor skills.

Expression of Knowledge: This refers to the knowledge of expression expressed by library and Information Science undergraduate students during and after at least two semesters of learning experiences during the course in Library and Information Science.

Expression of Competence/Skills: This is the demonstration of professional Library and information skills acquired by students of Library and Information science during and after the learning session. It relates to the student's capabilities of practical organization of information resources and psychomotor.

Self-efficacy: This refers to a Library and Information Science student's belief in him or herself about personal capabilities and aptitude to produce the required learning outcomes. Self-efficacy varies in greatness and asset.

Magnitude and Strength: This refers to the confidence and determination of Library and Information Science students' conviction that they can successfully demonstrate attainment of required outcomes.

Library and Information Science Programme: Library and Information Science (LIS) is an academic and professional discipline that deals with the study of information and its management. The LIS programme typically covers the following areas: Information Organization and Retrieval, Information Services and Access, Information Technology, Information Management, and Research Methods.

Strength of Efficacy: This refers to the resoluteness and firmness of Library and Information Science students

Endnotes

1. H. Li, M.Y. Peng, MYang & C,Chen.*Exploring the influence of learning motivation and socioeconomic status on college students' learning outcomes using self-determination theory.* *Frontiers in Psychology*,11,849, 2020, pp.1-30.
2. D. Dias, & D.Soars. *Learning Outcomes in Higher Education: Designing a conceptual map for Portuguese Academia. Proceedings, 11th International Technology Education and Development Conference, Valencia, Spain, March 2-8, 2017.*
3. T. Tadesse, & B. Edo, *The relationship between Students Engagement and Learning Outcomes in the undergraduate Sports Science program in Ethiopia.* **Journal of Applied Research in higher Education**,2020.<https://www.emerald.com/insight/2050-7003.htm>.
4. N.E. Winstone,K. Balloo,&D.Carless.*Discipline-specific feedback literacies:A framework forcurriculum design.* **Higher Education**,83,2022,pp.103-127.<https://doi.org/10.1007/s10734-020-00632-0>.
5. J.A. Ekpentong, V.J.Owan, U.F.Mbon & S.B.Undie.*Family and community inputs as predictors of students' overall cognitive, affective and psychomotor learning outcomes in secondary schools.* **Journals of Pedagogical Research**,7(1),2023,pp.103-127.<https://doi.org/10.33902/JPR.2023199099>.
6. R.B. Ikhsan,L.A. Saraswati,B.G.Muchardie,Vional,&A.Susilo.*The Determinants of Students' Perceived learning Satisfaction in BINUS Online Learning.*5th *International Conference on New Media Studies,Bali,Indonesia*,October 09-11,2019,pp.68-78.
7. M.C. Ruiz-Jimenez, R. Martinez-Jimenez, A. Liceran-Guiterrez, & E.Garcia-Marti,*Students' Attitude: Key to Understanding the improvement their Academic RESULTS in Flipped Classroom Environment.* **International Journal of Management Education**.20(2),2022
8. K. Talsma, B.Schuz, R. Schwarzer,&K.Norris.*I believe,Therefore I Achieve(and vice versa):A Meta –analytic Cross-lagged Panel Analysis of self-efficacy and academic Performance.***Learning and Individual Differences**,61,2018,pp.136-150.

9. K.Okano,J.R.Kaczarzy,N,Dave,J.D.E Gabriel,&J.C.Grossman.*Sleep quality duration and consistency are associated with better academic performance in college students*.**NPJ Science of Learning**, 4(1),2019,pp.1-5 <https://doi.org/10.1038/s41539-019-0055-2>
10. V. Kassanrnig, E.Mones,A. Bjerre-Nielsen, P.sapienzynski, D.D Lassen,& S. Lehmann. Academic performance and behavioral Patterns.**EPJ Data Science**,7:10.2018,pp.1-16
11. M. Matovu. A Structural Equation Modelling of Academic Self-Concept Scale. **International Electronic Journal of Elementary Education**,(IEJEE),6(2),2014,pp.185-198.
12. J. Neroni, C.Mejis,H.J.M Gijsselaers, P.A Kirshner & R.H.M de Groot.Learning Strategies and academic performance in distance education. *Learning and Individual Differences*,73,2019,pp.1-7.<https://doi.org/10.1016/j.lindif.2019.04.007>
13. S. Sothan. *The determinants of academic performance: Evidence from a Cambodian university*. *Studies in Higher Education*, 44(11), 2019,pp.2096-20111.<https://doi.org/10.1080/0375079.2018.1496408>
14. T.T. York, C.Gibson,& S. Rankin, *Defining and Measuring Academic Academic Success*. *Practical Assessment, Research, and Evaluation* 20(5),2015,pp1 1-25.
15. A.M.R Alnoor, H.AL-Abrow, H.Abdullah, & S. Abbas. *The impact of self-efficacy on employee's ability to accept new technology in an Iraqi university*. *Global Business and Organisational Excellence*, 39(2), 2020, pp.41-50.
16. J.E Maddux, & E.M. Kleiman. *How to encourage people to engage with the arts and humanities: Suggestions from self-efficacy theory and research*. *Oxford Handbook of the Positive Humanities*,2022.
17. A. Bandura,& N. Adams. *Analysis of the self-efficacy theory of behavioural change*.**Cognitive Therapy and Research**, 1(4), 1977, pp. 287-310.
18. D.H. Schunk,& M.K. DiBenedetto. *Self-efficacy and human motivation*.**Advances in Motivation Science**,8,2021,pp.153-179.<https://doi.org/10.16/bs.adms.2020>.

19. R.Castro.*Blended learning in higher education Trends and capabilities*. **Education and Information Technologies**, 24(4),2019, pp.2523-2546.
20. K. Brundiers,M. Barth,G. Cebrian,M.Cohen,L.D.Sonya,...M.Zint.*key competencies in sustainability Science in higher education towards an agreed upon reference framework*. **Sustainability Science**,16,2021,pp.13-29.<https://doi.org/10.1007/s11625-020-00838-2>
21. A.A.Hayat,K. Shateri,M. Amini,& N. Shokrpour.*Relationships between academic self-efficacy,learning-related emotions,and metacognitive learning strategies with academic performance in medical students.A structural equation model*.**BMC Medical Education**,20(76),2020,pp.1-11
22. D. Reilly, D.L.Neumann & G.Andrews. *Gender differences in reading and writing achievements: Evidence from the national assessment of educational progress (NAEP)*.**American Psychologists**, 74(4), 2019, pp.445- 458.
<https://dx.doi.org/10.1037/amp0000356>

Chapter Two

Literature Review

This chapter reviews literature relevant to the study. The chapter dwells on conceptual review, theories relevant to the study, and a review of empirical studies about influences between self-efficacy, information-seeking behaviour, and learning outcomes. The review is organized under the following sub-headings:

2.1. Conceptual Review

2.1.1. Learning Outcomes

2.1.2. Self-Efficacy

2.1.3. Information Seeking Behaviour

2.2. Theoretical Framework

2.2.1. Blooms Taxonomy of Learning Theory

2.2.2. Self –Efficacy Theory

2.2.3. Information Seeking Behaviour Theory.

2.2.4. Review of Empirical Studies

2.2.5. Self –Efficacy and Learning Outcomes.

2.2.6. Information Seeking Behaviour and Learning outcomes.

2.3. Conceptual Model

2.4. Summary of Literature Reviewed

2.1 .Conceptual Review

2.1.1. Learning Outcomes

Learning Outcomes is defines as a process that brings together personal and environmental experiences and influences for acquiring, enriching or modifying one's knowledge, skills, standards, approaches, conduct, and worldviews¹. Learning outcomes are descriptions of specific knowledge, skills, and expertise that learners are expected to gain from learning accomplishments. They are concerned with the gains and achievements from learning engagements, which include learners being able to do and prove the level at which the expected learning outcomes are completed. Learning Outcomes describe what the Library and Information Science undergraduate students achieve, as opposed to what the university intends to teach. Learning outcomes are fundamentally what learners end up with, whether intended or not, after some form of learning commitment. Learning outcomes have been defined as something that can be observed, demonstrated, and measured². The term learning outcomes has its origin in outcomes-based education, a model of educational structuring that involves the clear and explicit identification, statement, and assessment of student learning ². Learning outcomes is an ability that can be done, a value or an outcome after gaining understanding and learning experience thereby showing the level of ability in realm of knowledge, skills and attitudes. According to Bloom, effective learning outcomes can be measured in realm of knowledge levels, skills level and behavior or attitudes. Outcomes-based educational systems organize curricula around obvious and detailed student outcome statements. These statements describe what the learner is expected to know, understand and or been able to prove at the end of a learning period. Outcomes based approaches are most often used in High schools, however, in the universities outcomes – based approaches were

first introduced in the United States of America(USA),Australia, New Zealand and the United Kingdom, but more recently also in the Organization for Economic Cooperation and Development (OECD) countries².Once the universities and polytechnics have specified expected students learning outcomes clearly and in a measurable manner, reasonable assessment of learning outcomes becomes practicable.

Learning outcomes can be classified into cognitive and non-cognitive. Cognitive learning outcomes refer to the recall or recognition of knowledge and the development of intellectual abilities and skills. Broadly defined, cognitive learning outcomes ranges from domain – specific knowledge to the most general of reasoning and problem solving skills³. A typical approach to the measurement of outcomes is to ask students to assess their learning outcomes on a range of different variables which can often be subsumed under different dimensions (e.g. Knowledge, general competence and skills)⁴. Knowledge outcomes involves the remembering, either by recognition or recall of ideas, materials. Assessment knowledge outcomes may emphasis on either general content knowledge or more domain-specific knowledge. General content knowledge relates to core curriculum content considered to be very essential. It is generally expected that all students should acquire a body of such vital knowledge for prove of quality educational system. Assessing general content knowledge cuts across courses, programs and the universities, and these can be useful to appraise success of the universities. Domain-specific knowledge outcomes refer to acquired knowledge in a particular discipline. Assessment of domain-specific knowledge outcomes are useful particularly for comparing learning quality in a specific field across different institutions. The students have the opportunity to concentrate on coursework within a specific areas of specialization. This is considered one of the most serious parts of university education which

is expected to make students' progress in their major areas of studies. It can thus be argued that tertiary education should be primarily concerned and held responsible for the knowledge and competence that students acquire in their major fields². Cognitive skills outcomes are based on complex processes of thinking, such as verbal and quantitative reasoning, critical thinking, problem solving and evaluation of new ideas among others. Generic skills follow general pattern and they can go beyond disciplines. Generic skills are transferable between disciplines and not directly pinned to a particular one. These cognitive generic skills will allow the student to be operational in a number of new situations as they will be applied multidisciplinary. Generic cognitive skills outcomes will be measured using tests that are based on application rather than knowledge, which focus students' ability to solve problems intellectually. However, there are some doubts as to whether such outcomes can really be connected to the university experience.

Although universities often emphasize the transmission of generic skills in their overall mission and objectives, it should be noted that such skills will rarely form parts of course curriculum of various programmes³. Non-cognitive learning outcomes refer to changes in beliefs and the development of certain standards. Mission statement of universities will often include non-cognitive elements. On-cognitive learning outcomes may be developed through classroom instructions as well as out-of-class activities that are organized by the universities as co-curricular activities such as counselling, clubbing, athletics and other related activities. Studies on non-cognitive learning outcomes often focus on the presence or absence of certain identity development including psychosocial development, attitudes and values. Psychosocial development includes aspects of self-development relating to self-esteem. Attitudes and values are closely interrelated and often mixed up. Nevertheless, attitudes are beliefs that are

engrossed on a specific object, while values are generalized ideals that outshine attitudes. Attitudinal and value outcomes may include social responsibility, motivation for learning and understanding of diversity. Learning outcomes are seen as a function of students' active engagement with the learning opportunities being presented by the universities is considered more complex than cognitive outcomes. The links between values and beliefs on the one hand and observable activities and behaviour on the other hand are not clearly established.² There is slight proof that values and beliefs can be demonstrated and measured by using behavioural data. As a result non-cognitive outcomes will generally be measured indirectly, through questionnaires and surveys. Such indirect measures will be based on individual awareness as much as also on facts. A more general model of learning outcomes that emphasizes competence is defined as the ability to meet demands and carry out tasks well and professionally. This competence lies in a mix of action, knowledge, values, and goals in changing settings. Student learning outcomes could therefore be defined and observed in the context of competence and actual performance tasks. This would thus be assessed through indirect measures using surveys and questionnaires seeking students' beliefs and ratings on their knowledge and skills.

Learning outcomes have also been considered to be associated with the approach students adopt in their study either surface or deep. While the surface approach will be connected with the retention of vast quantities of information that are soon forgotten, deep approaches will be more closely linked with relational or extended learning outcomes in terms of qualitative measures, that is measure of understanding⁵. Learning outcomes focus on the essential, transferable learning that can be observed and assessed in course programmes. They will support the attributes of an ideal graduate of a course programmes, and are reflective of

disciplinary contexts. A suitable framework provided by Knowledge Skills and Abilities for thinking about and describing the vital learning outcomes of Knowledge- this is the type of thinking you want your students to act upon or the concepts, facts, and theories you want them to acquire; Skills- are what you want your students to be able to perform at a given level; and Attitudes – is the feelings, values, appreciations, motivations, or priorities of your discipline or profession you want to encourage in your students⁶.

The growing attention being given to intended learning outcomes has made adequate measurement imperative⁷. Measurements of learning outcomes will involve direct testing and indirect measures. Direct measures involve testing mastery of learning content and skills which are indicators of knowledge and skills attainment. Direct measures are visible proofs of exactly what the students have learned by use of standardized tests. Measures that do not involve direct testing will rely instead on student reporting, where students are asked to rate the degree to which the university programme will have an impact on their learning outcomes. Such measures assess opinions or attitudes towards learning, which are indicators of perception of knowledge, and skills attainments. Indirect measures are therefore data from surveys of retention rates, graduation rates, number of students progressing, among others. Some surveys such as the Community Enterprise Queensland (CEQ) in Australia and the National Survey of Student Engagement (NSSE) in USA require students to rate the degree to which the Higher Education Institutes had an impact on their learning outcomes. It is not acceptable to determine a students' achievement of course learning outcomes on the basis of the final grade obtained in the course alone, which represents the aggregation of too many factors⁸. Learning outcome, as an ability that can be done and an outcome after gaining understanding and learning experience, according to Bloom, can be measured in the realm of

knowledge levels, skills levels and behaviour or attitudes⁹. A typical approach to the measurement of learning outcomes, therefore is to ask students content specific questions to assess their learning outcomes on a range of different variables which can often be subsumed under the dimensions of knowledge, skills and attitudes^{5,7}. Content-specific learning outcomes in Library and Information Science programme are guiding tools on the desired results expected in the learners after prescribed period of learning activities. They are stated in specific and measurable forms and written to serve as check on whether Library and Information science programme is perfectly designed and directed to achieve desired results.

Learning outcomes in Library and Information Science programs are comprehensively stated in the curriculum specifications for the programme and extract relevant to this study are discussed in this section. Library and Information Science programme, like all other programmes in the tertiary institutions, is structured with the aim of having specified expected learning outcomes. The course curriculum are classified under Professional courses, Information Communication Technology courses, and General studies/education course. The general education courses includes Use of English, philosophy, educational measurement all of which amount not more than 15% of the contact hours of the programme. The professional courses which are core courses that give the students theoretical and practical skill for effective Librarianship and information science. There are specific learning outcomes of professional courses that highlights the expected knowledge, competencies and skills to be attained at the end of the specific learning experiences. Those specific learning outcomes are subdivided into theoretical and practical contents. They will be stated based on weeks of instructions. However there are general objectives and learning outcomes expected at the completion of each course specification at the end of the semester. Learning outcomes of some

of the professional courses for undergraduate programs as specified in the curriculum are thus highlighted^{5,6}. For undergraduate students, after two semester of offering Cataloguing and Classification 200L, 300L and 400L the students are expected to have developed positive attitudes and interest in resource organization, be able to catalogue using Anglo-American Cataloguing Rules II and other required tools for Classification process. General learning outcomes expected of Library and Information Science students after at least two semester is demonstration of knowledge of various types display of information retrieval and dissemination methods. Other expected outcomes include demonstration of competence and supervision of library and information Centre roles. It is expected that the student should be able to catalogue with 98% accuracy. Mastery of the various cataloguing and classification tools will be indicated through identification and mastery of the tools. The mastery and demonstration of these skills have become necessary for Librarian and information professionals in the contemporary world of work¹³.

Learning outcomes expected in Library and Information science undergraduate students after teaching/learning experiences in Information communication Technology in the Library includes the ability to identify main components of the computer, show knowledge of various operating systems available and database management system. The expected learning outcomes also include ability to load Microsoft word and make use of the Library Management Software to carryout routine jobs in the library. After learning sessions in the Library and Information Science students are expected to be to identify modern library practices, demonstrate usage of the equipment and resources in the library and aware of challenges associated with their usage. Similarly, learning experiences in Library and Information science are expected to produce some specific professional learning outcomes in

the students. The expected learning outcomes include knowledge of the usage of the library by the users expected to demonstrate competence in identifying user's information needs, as well as understand the strategies in retrieving information easily and effectively.

Learning outcomes of courses like indexing and abstracting consolidate the learning outcomes expected to have been attained at undergraduate level. Indexing and abstracting services are important resources for researchers and scholars to access relevant information efficiently. Indexing services create subject indexes of articles, books, and other publications, making it easier to find relevant information. Examples of major indexing services include Web of Science, Scopus, EBSCO, and ProQuest. These services index scholarly journals, conference proceedings, books, and other publications across various academic disciplines. Indexing provides detailed bibliographic information, keywords, and sometimes abstracts to help researchers quickly identify potentially relevant sources. Indexes are often searchable through online platforms provided by the service¹⁴.

Achieving desired and expected learning outcomes, especially in these professional courses, is fundamental to graduates effectiveness in information seeking and retrieval in a modern electronic driven library and information Centre. Abstracting services provide concise summaries or abstracts of the key points and findings in research publications. Abstracts help researchers quickly determine the relevance of a source without having to read the full text. Abstracting services collect and publish abstracts from journals, conference papers, reports, and other scholarly materials.¹⁵ Together, indexing and abstracting services play a crucial role in helping researchers efficiently navigate the large volume of scholarly literature in their fields. They provide valuable tools for discovery, assessment, and access to relevant

information sources. The grand objective of Library and Information Science is to achieve learning outcomes, especially in professional courses, with a minimum of 95% and 98% outcome accuracy¹⁶. Learning outcomes of Library and Information Science students in professional courses are thus at a very high level.

2.1.2. Self-Efficacy

Self-efficacy refers to an individual's belief in his/her abilities as it pertains to dealing with certain situations. It is defined as the belief in one's capabilities to organize and execute a course of action required to manage a prospective situation. Self-efficacy also refers to perceived capabilities to learn or perform actions at designated levels and is an important construct that can influence choices, efforts, persistence, and achievement. Self-efficacy plays a major role in how an individual will approach certain tasks, goals, and challenges alongside achieving the goals. The earliest self-efficacy research was carried out in therapeutic context with clients who showed extreme fears like snake phobias. Study and application of self-efficacy has been carried out in diverse contexts globally^{16,17,18}.

Measuring self-efficacy can be based upon Bandura's socio cognitive theory. According to the theory, self-efficacy beliefs differ on three dimensions; (a) level of magnitude which borders on particular level of task difficulty, (b) strength dimension which revolves round the certainty and conviction of capability of successfully performing a particular level of task difficulty and (c) generality which is the extent to which magnitude and strength beliefs generalize across tasks and situations. Restrictive words of Bandura in the theory, "given situational demands" gave self-efficacy a narrow focus, and most researchers therefore have limited their research and studies to the magnitude and strength dimensions⁶². An individual with strong self-

efficacy will view a challenging situation as another task to be mastered, develop deeper interest in it, and tend to form a stronger sense of commitment to the task and activity. On the other hand, and individual with low self-efficacy might to avoid challenging tasks, believing that the task is difficult and beyond his personal control and capabilities. Such an individual will tend to focus on negative outcomes and failures with tendencies to quickly lose confidence. Four sources were identified for self-efficacy:

Mastery experiences social modeling, social persuasion, and psychological responses. Mastery of one's own experiences is believed to be a trigger for developing a strong sense of efficacy. Mastery of experience is gained in overcoming obstacles through perseverant effort. When a person experiences difficulties and setbacks and learns to overcome them, he becomes resilient to achieve success²⁰. The more an individual successfully performs a task, the stronger the sense of self-efficacy. Similarly, seeing other people completing a task can also stimulate self-efficacy. When a person sees people of similar status and capability like him completing a difficult task, belief in one's ability and capability is stimulated. Also persuasion from the social environment in the form of compliments and encouragement can help an individual to overcome self-doubt and develop strong belief in self to be able to successfully completely the task. This spurs the individual to give a task his best effort, leading to success. Varying self-efficacy scales exist ranging from Library and information science (LIS), to more specific self-efficacy scales. A Library and Information Science (LIS) designed by Bandura for people ages 12 and above focused on accessing perceived self-efficacy as it pertains to adaptation abilities and coping scales for both stressful events and daily activities. This measured self-efficacy in terms of the ability of an individual to adapt and successfully cope with stressful activities to achieve desired goals²¹.

Although there are theoretical advancements and an accumulation of empirical research on Library and Information Science, there are arguments that the utility of Library and Information Science (LIS) is low for both theory and practice. Researchers questioned whether Library and Information Science is a construct quite distinct from self-esteem. It was further claimed that LIS measures have little or no relation to efficacy beliefs in particular domains and specific disciplines. The frequent failure observed in the ability of LIS to predict behavior in previous research by Bandura's social cognitive theory can be explained in terms of specificity matching. However, both Library and Information Science (LIS) and Specific Self-Efficacy (SSE) scales denote beliefs about one's ability to achieve desired outcomes best as outcomes are often measured in a highly specific manner²¹. Specific Self-efficacy scales include scales such as the children's self-efficacy scale, academic self-efficacy scale for students, and career decision self-efficacy scale for exercise among others. A specific self-efficacy scale that seems to be more relevant to academic achievement is the academic self-efficacy scale.

In an academic setting, one should measure academic self-efficacy rather than general self-efficacy⁹. Academic self-efficacy refers to the personal judgment of one's capabilities to organize and execute courses of action to attain designated types of educational performances, it is a self-perceived capability to perform a given academic task at a desired level. The academic self-efficacy scale for students, is a tool for determining the relationship between academic performance and self-efficacy. This scale is mainly about student's opinions about what they can do to achieve success. Students with high self-efficacy are presumed to get better grades, especially in more tasking disciplines like engineering and sciences²². Academic self-efficacy can be measured by indicative terms such as 'I am confident I will pass all exams

this year. Available research demonstrates that students with a strong sense of academic self-efficacy undertake more challenging tasks, expend greater efforts accomplishing a given task, persist longer in the face of difficulties, engage in more self-regulatory strategies, process the learning materials more deeply, have higher academic aspirations, are more mastery goal-oriented, and report lower levels of anxiety than students with little confidence in their academic abilities^{16, 17}. The implication is that academic self-efficacy is a strong predictor of academic performance.

Though, existing literature shows that most of the developed self-efficacy scales focus on sources such as mastery experiences, vicarious experiences, and social persuasion, and some self-efficacy researchers explored concepts and variables that are primarily linked to self-efficacy such as Self-Regulated Learning (SRL), perceived Control (PC), competence and persistence. Hence an academic self-efficacy scale was developed with four sub-scales in the primary areas of SRL, PC, competence, and persistence^{14, 15}. Self-Regulated Learning (SRL), one of the major constructs in the context of academic self-efficacy, refers to self-governing processes and self-belief that facilitate the transportation of mental abilities into performance abilities. A student who is high in self-regulation can plan competently and monitor his learning process in order to adjust his behavior to what learning situations require for optimal performance. Perceived control (PC) is also referred to as internal locus of control. As one of the sub-components of self-efficacy, it explains why some people believe that rewards are the consequences of their own behavior. People with internal locus of control believe they can alter behavior as they desire. People with high perceived control do not view whatever happens to them as fate, luck, or by chance. Competence, another sub-domain of self-efficacy consists of expectancy and capability beliefs. It bothers on the magnitude and level at which

an individual perceive himself capable of competently demonstrating certain behavior and performing certain task. Expectancy and capability beliefs have items that ask students on how well they will do in an academic area and how good a student rates himself in academic subjects compared to his/her classmates. Persistence, on the other hand, is viewed as perseverance part of self-efficacy. It refers to the ability of a learner to continue exhibiting and demonstrating goal-oriented behavior despite academic obstacles and negative academic experiences.

This can be considered as highlighting the strength of the academic self-efficacy of the students. Self-efficacy measurements are viewed as following a two-step approach; a student notes on whether or not a candidate can perform a behavior and indication on the strength on a 90-point certainty scale. The first step is to assess the magnitude of self-efficacy by summing the number of 'can do'¹⁷. An easier way of measuring the magnitude of self-efficacy might be to indicate the level of task in the hierarchy where a person first claims 'cannot do'²³. There are instances where distinctions between performance expectation and outcome expectations were ignored and researchers simply build complex items that cover both beliefs to measure self-efficacy. Questions such as 'how confident are you?' 'How persistent are you?' and the likes are used. Some studies on perceived academic self-efficacy impact on student's aspirations, level of interest in academic pursuit, academic accomplishments, and how well they prepare themselves for different occupational careers⁹. Self-efficacy is generally viewed as one of the strongest predictors of student academic performance. It is a belief that he can accomplish whatever that individual is doing.

Self-efficacy is the process from person to behaviour to outcome. Self-efficacy plays an important role in a student's engagement in the classroom. When facing need, students with high self-efficacy tend to manifest high help-seeking behavior: whereas students with low self-efficacy are more reluctant to seek help. Also in predicting desirable educational outcomes, academic self-efficacy has a greater effect or influence on student's ability than academic self-concept.

2.1.3. Information Seeking Behavior

Certain behaviors are required from students when searching for an information need, those behaviors and characteristics that are used to find, gather, understand, and use information for learning outcomes or personal needs are vital in the learning process. Information-seeking behavior is an individual's way and manner of gathering and sourcing information for personal use, knowledge updating, and development⁸². An important component for the student in any learning institution is how they seek knowledge in their learning process. The objectives of any higher learning is to satisfy its students with adequate information with adequate information that is relevant, timely and easily accessible no matter the format. Though some students may have challenges while seeking relevant academic resources required, the manner by which they go about looking for relevant information will have great impact in their learning process².

Information-seeking behavior is a basic pursuit involved by all information seekers and explained through certain manners. In our day to day operations we access and use various information systems and services not limited to communications, such as email, social networking, such as Facebook, to a larger extent of web-based database systems, and other

information services. Information-seeking behavior of undergraduate students, including their use of library resources, online databases, and other information sources impacts their learning and academic success⁸⁶. Studies from Library and Information science disciplines where students would typically be engaged in learning outcomes, and research project will be included in this synthesis. This synthesis is aimed at identifying common patterns in the selection and use of resources by the students at different stages in their learning experience. A synthesis is necessary as some results of information behavior studies, reported by individual institutions, are often a product of the culture or administration of the institution. For example, library service may be ineffectual, instruction may be weak or not discipline-specific, or outreach to the teaching faculty may have failed for any number of reasons not related to typical information behaviors. Faculty advisors play a dominant role in disseminating library research information to their students. Additionally, the literature on the information behavior of international graduate Students presents a variety of issues that must be considered by those providing library services; limited language skills, and cultural differences, are just two examples of factors to consider^{87,88}.

Meta-synthesis is a process of rigorously searching, evaluating, synthesizing and interpreting both qualitative and quantitative research on a specific topic. Meta-synthesis typically include highly structured search strategies that serve as a model for researchers looking for articles on the topic so that the search may be replicated at a future date. Inclusion and exclusion criteria are also identified (e.g. data range, topic focus, population). Critical appraisal based upon articulated criteria, data extraction and synthesis using a justified approach are also essential components of any type of review⁷³. Systematic reviews, in which there is a synthesis of quantitative findings, have been widely used by clinical librarians in order to evaluate and

synthesize the findings of medical and healthcare research.²⁷ Systematic reviews/meta-synthesis in academic librarianship will be conducted on information literacy instruction and computer-assisted versus face-to-face instruction. Only a few meta-synthesis using both qualitative and quantitative data will be conducted in library science. An important component for student in any learning institution is how they seek knowledge in their learning process. The objective of any institution of higher learning is to satisfy its students with adequate information that is relevant, timely and easily accessible no matter the format²⁸. However, some students may have difficulties in finding relevant electronic resources that they need. Several students faced challenges when seeking academic resources required. Information seeking is the manner at which people go about looking for relevant information. It is the basic pursuit involved by all information seekers that is been explained through certain manner. In our day to day activities we access and use various information systems and services not limited to either communications, such as email, social networking, such as Facebook to a large extent of web-based database system and other information services.

Information seeking behaviour is discovered in various major ways, including reading printed resources to research and experimentation. It is imperative to point out that the sporadic rise in information technology especially in the academic environment has radically influenced the way libraries and information centers are providing their services thereby leading to significant changes in learning outcomes. The study examined the information-seeking behaviour of Library and Information Seeking students at the University of Malaya. The researchers found that students primarily relied on Google, university library databases, and course readings to fulfill their information needs.

Key factors influencing their information-seeking behavior included time constraints, accessibility of resources, and the need for relevant and reliable information. The study highlighted the importance of information literacy instruction and the integration of diverse information resources in LIS curricula. There also a case study of "Information-Seeking Behavior of Students: A Case Study of Covenant University, Nigeria"^{73, 76}. The case study investigated the information-seeking behavior of Library and Information Science students at Covenant University in Nigeria. The findings revealed that students predominantly used the internet, course materials, and university libraries to meet their academic information needs. Factors such as availability, accessibility, and currency of information sources were crucial in shaping the students' information-seeking behavior. And the study recommended strengthening information literacy programs and improving the availability and accessibility of library resources to better support Library and Information Science students. The digital is significant to the information seeking behavior of the students. "Information-Seeking Behavior of Students in the Digital Age: A Case Study of the University of Ghana, Legon."⁶² Also explored the information-seeking behavior of Library and Information Seeking students at the University of Ghana. The researchers found that students relied heavily on the internet, particularly Google and social media platforms, to satisfy their information needs and factors such as convenience, speed, and ease of use were key drivers of the students' preference for digital information sources.

The study highlighted the need to integrate digital information literacy skills into the Library and Information Science curriculum and to improve the visibility and accessibility of library resources. Information-Seeking Behavior of Students in the Digital Age: A Comparative Study of the University of Ibadan, Nigeria, and the University of Cape Town, South

Africa²⁵. The study examined the information-seeking behavior of Library and Information Science students at the University of Ibadan, Nigeria, and the University of Cape Town, South Africa. The findings revealed similarities and differences in the students' information-seeking patterns, preferences, and challenges across the two universities. Both groups of students relied heavily on the internet, but the Nigerian students showed a greater preference for print resources compared to their South African counterparts. The study highlighted the need for tailored information literacy programs and the integration of diverse information resources to cater to the unique needs of Library and Information Science students in different cultural and educational contexts. These studies provide valuable insights into the information-seeking behavior of Library and Information Science undergraduate students, highlighting the growing importance of digital information sources, the need for information literacy instruction, and the significance of accessibility and relevance of information resources in supporting their academic and professional development. Successful information literacy programs tailored for Library and Information Science students at the University of Illinois at Urbana-Champaign (UIUC) - Information Literacy for Library and Information Science Students developed a comprehensive information literacy program specifically for Library and Information Science students. The program consists of a series of workshops and instructional sessions that cover topics such as database searching, citation management, evaluating information sources, and scholarly communication. These sessions are integrated into the core Library and Information Science curriculum, ensuring that students receive hands-on training and practice in applying information literacy skills throughout their studies. The library also provides individualized research consultations and online research guides to support students in their coursework and research projects⁹⁰.

University of North Carolina at Chapel Hill (UNC) - Information Literacy Instruction for LIS Students: The School of Information and Library Science collaborates closely with the university library to deliver a well-structured information literacy program for LIS undergraduates. Which includes a dedicated four-credit course, "Information Literacy and Research Methods," which covers advanced information-seeking strategies, evaluation of information sources, and the research process. Additionally, the library offers discipline-specific workshops and sessions integrated into LIS core courses, ensuring the integration of information literacy concepts throughout the curriculum. The program also emphasizes the development of critical thinking and problem-solving skills, preparing students for their future roles as information professionals. University of Alberta (Canada) - Information Literacy for Library and Information Science students:

The University of Alberta library has implemented a multi-faceted information literacy program tailored for library and information students this includes a for-credit course, "Information Literacy and Research Skills," which covers topics such as information sources, search strategies, and the ethical use of information⁹². The library also collaborates with LIS faculty to deliver just-in-time information literacy sessions and workshops embedded within specific LIS courses. The program emphasizes active learning, hands-on activities, and the application of information literacy skills to real-world scenarios, preparing students for their future professional roles. Simmons University (USA) - Information Literacy Instruction for LIS Undergraduates: Simmons University's School of Library and Information Science partners with the university library to provide a comprehensive information literacy program for Library and Information Science (LIS) undergraduate students. The program includes a required first-year course, "Information Literacy and Research Skills," which introduces

students to the fundamentals of information seeking, evaluation, and management. Additionally, the library offers discipline-specific workshops and one-on-one research consultations to support students in their coursework and capstone projects. The program emphasizes the development of transferable skills, such as critical thinking, problem-solving, and effective communication, preparing students for their future careers. These demonstrates successful models of information literacy programs that are tailored to the specific needs and contexts of Library and Information Science (LIS) undergraduate students.

By integrating information literacy instruction throughout the curriculum, collaborating with faculty, and providing diverse learning opportunities, these programs aim to empower students with the necessary knowledge and skills to navigate the evolving information landscape effectively. Information-Seeking Behavior of undergraduate students in Library and Information Science (LIS) programs has several important implications for the design of Library and Information Science curricula and the provision of library services to better support these students: The heavy reliance of Library and Information Science students on digital information sources, such as the internet and social media, suggests the need to strengthen digital and information literacy components within the Library and Information Science (LIS) curriculum.⁹³ Incorporating more hands-on training and exercises in effectively searching, evaluating, and utilizing online information resources can help students develop essential skills for their academic and professional learning outcomes. Integrating research and critical thinking skills into the curriculum can empower students to navigate the abundance of information, discern reliable sources, and apply information effectively in their studies and projects. The findings highlight the importance of ensuring the availability, accessibility, and visibility of library resources and services to Library and Information

Science undergraduate students. Improving the discoverability of library databases, e-journals, and other subscription-based resources can encourage students to leverage these valuable information sources alongside their use of open-access and freely available online materials. Enhancing the user experience and interface of library platforms, as well as providing seamless remote access, can facilitate students' information-seeking and research activities. The studies underscore the need for comprehensive information literacy programs tailored to the specific needs of Library and Information Science undergraduate students. These programs should focus on developing students' abilities to identify their information needs, effectively search for and evaluate information, and apply it ethically and appropriately in their academic work. Providing hands-on workshops, tutorials, and one-on-one research consultations can help students gain confidence and proficiency in navigating the information landscape. Library and Information Science students are expected to demonstrate a strong preference for digital information sources, the literature suggests that the importance of maintaining a balance between digital and traditional print resources is crucial. Ensuring the availability of core textbooks, scholarly monographs, and other print materials in the library can cater to the needs of students who still value these formats for in-depth learning and research⁹³.

Exploring hybrid approaches, such as integrating physical and digital resources or providing digital alternatives to print materials, can help bridge the gap and accommodate diverse learning preferences. The findings highlight the need for closer collaboration between Library and Information Science faculty, librarians, and information professionals to align the curriculum, library services, and resources with the evolving information-seeking behaviors of undergraduate students. Engaging in regular dialogues, needs assessments, and joint

initiatives can help shape responsive and user-centered approaches to supporting Library and Information Science students throughout their academic journey. Library and Information Science programs and academic libraries can better support the information-seeking needs of undergraduate students, equipping them with the necessary knowledge, skills, and resources to succeed in their studies and prepare for their future roles as information professionals.

2.2. Theoretical Framework

2.2.1. Bloom's Taxonomy of Learning

Bloom's taxonomy of learning is a learning classification system originally published in 1956 by a team of cognitive psychologists at the University of Chicago. Taxonomy of Learning was named after Benjamin Bloom (1913-1999), the team's chairman. Bloom's taxonomy distinguishes learning into different levels by identifying three domains of learning and educational activities: Cognitive domain, affective domain, and psychomotor domain⁴. Cognitive domain-related learning to acknowledge or intellectual skills. This aims at developing the mental skills and the acquisition of knowledge of the individual. The cognitive domain encompasses six original categories: Knowledge, Comprehension, application, analysis, Synthesis, and evaluation⁸³. Knowledge is concerned with the ability of learners to recall information, facts, or ideas that were learned. Comprehension is the demonstration of understanding. It is concerned with learners' ability to understand the meaning of what is known. The application shows the ability of the students to use what is known in new situations, while the analysis category aims at differentiating facts and opinions. The synthesis category is concerned with the ability to assemble information to form a cohesive idea, and

evaluation is the ability of the students to develop judgment about the concept of the students to develop judgments about the importance of the concepts learned.

The revised categories of cognitive learning are remembering, understanding, applying, analyzing, evaluating, and creating. Remembering involves retrieving prior knowledge from memory and using it to aid current understanding. Using strategies to conclude from information refers to understanding the category. This involves summarizing and interpreting ideas, both oral and written. Applying is concerned with implementing procedures for learning while analyzing entails dividing information into meaningful parts that are relevant to overall learning goals. Evaluating includes critiquing and assessing information based on learning criteria, and lastly, creating, which involves organizing learning ideas into new structures to form coherent understanding patterns. The cognitive learning domain is generally related to knowledge and intellectual skills. The learning outcomes relating to the cognitive domain are measured in expression of knowledge, from simple cognition and memory to complex problem solving and evaluation⁸⁴. Learning in this domain is understood as the acquisition of knowledge, and thus outcome of the learning processes in cognitive domain can be measured as expression of knowledge which is considered the base for all other learning of skills and abilities.

The affective learning domain is related to attitudes, feelings and emotions of individual after a specific learning experience. The categories of the affective domain include receiving phenomena; valuing; organization; and characterization. The subdomain of receiving phenomena creates the awareness of feelings and emotions as the ability to utilize selected attention. It involves willingness and listening attentively during learning sessions.

Responding to phenomena, on the other hand, involves active participation on the part of the learners during class and group discussions. Valuing and organization are based on the internationalization of a set of specified values, and the organization of the values into priorities. This can be assessed with the need to value one's academic work as against social relationships. The characterization subdomain of affective learning explains the ability to internalize values and allow them to control one's behavior. Learning outcomes in this domain emphasize learners' attitudes with regards to attentiveness, class participation and engagement, and motivation resulting from the high value placed on academic work. The third major domain of learning based on Bloom's taxonomy is the psychomotor domain⁸⁵. Psychomotor learning includes physical movement include perception, set, guided response, mechanism, complex overt response, adaptation; and origination. Psychomotor learning involves readiness to apply mental, physical, and emotional to acquire relevant skills. It involves achieving adequacy of performance through practicing complex overt response which includes skillful and proficient performance of motor acts. Learning outcomes in the psychomotor learning domain emphasize creating new patterns to fit a particular situation or specific problems based on highly developed skills. The relevance of Bloom's taxonomy of learning theory to this study will be deduced from the original hierarchy of learning outcomes that were categorized into cognitive (knowledge), affective (attitude) and psychomotor (skills). The Library and Information Science undergraduate students are expected to have acquired certain knowledge and intellectual skills, and demonstrate understanding of basic concepts of learning process.

Learning outcomes of Library and Information students relating to cognitive domain can thus be measured in expression of knowledge and intellectual skills. Learning outcomes expected

of Library and Information Science undergraduate students in the affective learning domain will also be related to the students' attitudes, feelings, and emotions. This could be measured through the students' willingness to learn, attentiveness during learning sessions, and active participation during class and group discussions. In the psychomotor learning domain, the Library and Information science students would be achieving learning outcomes if they can apply mental, physical, and motor skills to create new patterns for solving library and information science problems.

2.2.2. Self-Efficacy Theory

The theory of self-efficacy was developed from Bandura's work in 1977 and continued to apply to a variety of educational settings. According to self-efficacy theory, self-efficacy expectations, which refer to beliefs about one's ability to successfully perform a given task or behavior, are an important mediator of behavior and behavioral change. Expectations of personal efficacy are assumed to influence one's behavioral settings and activities, as well as how much effort will be consumed and how long. The theory posits that individuals, with a low intellect of self-efficacy for accomplishing a task may avoid it and those with higher intellect of self-efficacy will participate more readily, work harder and persevere longer even when they encountered challenges.

Theory of Self-efficacy confirms that things like psychotherapy and behavioural changes both operate through common mechanism, the change or alteration of someone's individuals expectations. Bandura assumed that there are two and of expectancies that exert a powerful influence on behavior^{76, 78}. These are expectancies related to outcome and self-efficiency expectancy. In Bandura's view, self-efficacy expectations are very powerful determinants of

behavioural changes as an individual's expectations will determine the initial decision to perform the behavior in the first instance¹⁸. Moreover, self-efficacy theory maintains that all behavioral and psychological change occurs through the alteration of an individual's intellect of personal mastery or efficacy. As posited by the theory of self-efficacy, a person can hold both outcome and expectancy and self-efficacy expectancy which are concerned with mastery. Outcome expectancy refers to the belief that a given behavior will or will not lead to a given outcome while self-efficacy expectancy is assumed to have the most powerful influence on initiation of a behavior as well as persistence in the face of difficulties, frustration, or even failure. Assessment of self-efficacy expectancies over time is being held to be the best predictor of behavioral initiation and persistence. In learning situations, students acquire information about self-efficacy expectancies from four different sources which are: their previous performances, various experiences, verbal persuasion, and emotional or physiological arousal. It is assumed that these four sources differ in the influential power over self-efficacy expectancies. The previous success or failure could exert the most commanding influence on self – efficacy expectancies. Previous successes can raise the level of self-efficacy and failure lowers it. It is assumed that once a strong self-efficacy is developed, failure will no longer have much impact. Knowledge of others through observations called vicarious experiences placed second in influence over self-efficacy expectations. Effects of vicarious experiences will depend on factors such as perceived similarity between the model and the observer, the number and variety of models, and the perceived power of models⁷⁹. Both verbal persuasion and emotional arousal are less powerful sources of self-efficacy expectancies.

Persuasion information received verbally from people based on expertness, trustworthiness, and attractiveness has a weaker effect on the level and strength of self-efficacy. Emotional arousal affects self-efficacy when people associate aversive emotional states such as anxiety with poor behavioral performance, incompetence, and failure. Therefore, awareness of unpleasant emotional arousal will likely influence self-efficacy negatively and lead to doubt in behavioral competence. Self-efficacy expectancies will be viewed from varying along three dimensions of generality, strength, and magnitude. Bandura states that analyses of self-efficacy expectancies require a detailed assessment of magnitude, generality, and strength. Generality refers to the extent to which a success or failure experience influences self-efficacy expectancy in a limited, behaviourally specific manner or in a more general sense. Some experiences create mastery expectations, while some others instill a more generalized intellect of efficacy which extends beyond the specific situation. Also, efficacy expectations vary in strength. Strength of self-efficacy refers to the resoluteness, determination and persistence of a person's conviction that he or she can perform successfully, a behavior in question leading to resistance to disconfirming experience.

The strength of a person's convictions in his or her own capability to succeed in a given task will likely to affect whether he or she will engage with such task and cope with any given challenging situations arising from completing the task⁷⁵. Weak efficacy expectations are easily extinguishable by unexpected negative experiences, while individuals with strong efficacy expectations will persevere and be resilient despite disconfirming experiences. Self-efficacy expectations thus influence the choice of behavioral settings. Likewise, people fear and tend to avoid threatening situations that they believe exceed their capability and coping skills, whereas they get involved in activities and behave assuredly when they judge

themselves as capable of handling situations that would otherwise be challenging, and intimidating⁷⁵. Efficacy expectations also differ in the magnitude of self-efficacy, in order of behaviors, which refers to the number of behavioral steps a person believes himself or herself capable of performing successfully⁷⁷. When tasks are ordered in level of difficulty, efficacy expectations of different individuals may be limited to simpler tasks, extend to moderate difficult tasks, or include the most difficult task. The self-efficacy theory is based on the principal assumption that psychological procedures, wherever their form, serve as a means of creating and strengthening expectations of personal efficacy. In this analysis, efficacy expectations will be distinguished from response-outcome expectancies. The assumption is that the magnitude and strength of efficacy expectation, which is the conviction of one's capability to undertake an action or task, will influence a person to display required behaviour.

Outcome expectation, on the other hand is one's assessment that a particular behaviour will lead to certain desired outcomes. But if a person has doubts about whether he/she has capabilities to perform the necessary behaviour, such information about expected outcomes would not influence behaviour. It is therefore assumed that expectations of personal self-efficacy will affect both initiation of and persistence of coping with a particular behaviour. It is the strength of one's conviction about his/her own efficacy that will affect whether he /she will perform certain behaviour and persistently cope even in difficult situations. This persistence will ultimately lead to desired outcome.

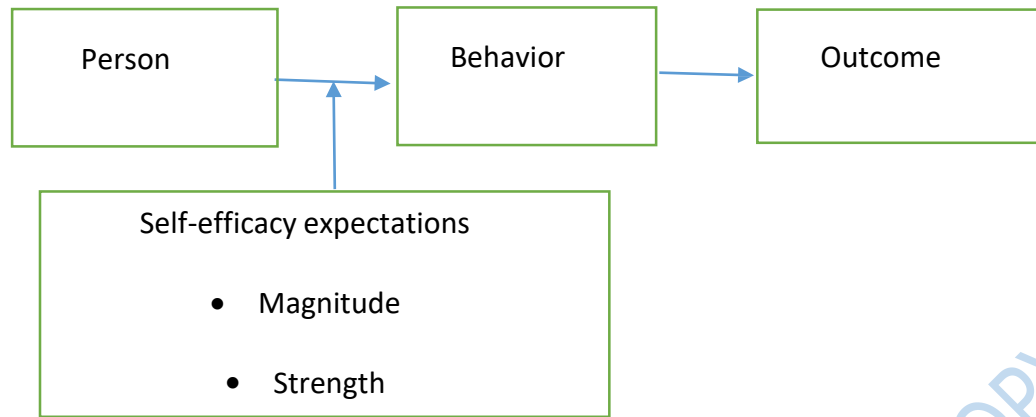


Fig 2.1. Self –Efficacy Model.⁷⁷

Self –efficacy theory maintains that all behavioral and psychological change occurs through alteration of an individual’s sense of personal mastery or efficacy. The theory posits that the magnitude, Research Methods strength and generality of efficacy expectations of an individual will influence his behavior that will subsequently determine an outcome. An individuals, who hold a low sense of efficacy for achieving a task may avoid and those with higher sense of self-efficacy will participate more readily, work harder and persist longer even when they encountered difficulties. According to self – efficacy theory of Bandura, the higher level of magnitude of self – efficacy expectations, the greater will be the reductions in self-justifying and prevention behavior. When the level of self –efficacy is high, motivation to participate and work harder to achieve success is high. By implications, when the level of self – efficacy of Library and Information Science undergraduate students in universities in Osun state is on low side, the students will likely involve themselves in class engagement leading to failure and lower rate of academic success.

On the other hand, high level of self-efficacy will encourage students’ class engagement participation and commitment which are all good predictors of high academic performance as

well as attainment of required learning outcomes. The theory will also show the probability of successful performance of any given task as a function of strength of self-efficacy. Strength of self-efficacy refers to the resoluteness of a person's convictions in his or her skill to succeed in a given task will likely affect whether he or she will be engaged with such task and cope with challenging situations arising from completing the task. The strength of a person's convictions in his or her capability to succeed in a given task is likely to affect whether he/she will engage with such task and cope with challenging situations arising from completing the task. This means the strength of self-efficacy of students of Library and information science undergraduate in Osun State Nigeria will determine the achievement of academic success in high performance as well as attainment of required learning outcomes⁷⁸.

The extension of Bandura's self-efficacy theory is viewed in social cognitive theory. It is a psychological viewpoint on human functioning that emphasizes the critical role played by the social environment on motivation, learning, and self-regulation. There are diverse theoretical viewpoints of social cognitive theory. Earlier views that emphasized the importance of motivation and social variables in human behavior were often labeled social learning theories. This included two noticeable variables: expectancy and reinforcement value. Expectancy was defined as an individual's belief about the likelihood that a particular reinforcement value how much an individual desired a particular outcome relative to other likely outcomes. The social cognitive theory proposed by Bandura is one of the prominent ones. Social cognitive theory by Bandura understood a wide applicability within psychological disciplines and also the other field such as education, business and health. The prediction of the theory have been tested in many research studies in diverse context. Bandura's previous learning theory emphasized the

importance of observational ie (Vicarious) learning or learning that occurs in the absence of obvious performance by the learner.

Bandura postulated that attending to a model, cognitively retaining samples from the model, and being able to produce the modeled behavior will lead to observational learning. The initial publication of an article on self-efficacy by Bandura in 1977 and the later book publication of 1986 were the two major developments that served to integrate personal influences prominently into Bandura's theory⁶⁸. It was in the second book publication of 1986, that he formulated the conceptual framework of triadic reciprocity, interactions between three sets of influences: behavioral; environmental; and personal. However, in this vital conceptualization, motivational processes are personal influences that will continue to change, which affect behaviors and environments, and are also affected by them. Personal processes comprise social comparisons through models, self-efficacy, outcome expectations, and attributions among others. These will affect and be affected by behavioral processes reflected in the choice of activities, efforts, and persistence.

Similarly, environmental processes reflected through social models, standards, rewards, and opportunities for self-evaluation influence both personal processes and behavioral processes as it also influenced by the duo. A learner who feels competent about performing well academically engages in activities that will help his or her learning like class attendance, attending to instructions, expending efforts, and persisting with the efforts even in difficult situations. Also, expectancy values will be an important motivational process. Values refer to perceived usefulness in learning. Social cognitive theory postulates that people's actions reflect their values. Students are motivated to achieve when they perceive their goals to be aligned

with the outcomes that are important to them. Perceived self-efficacy occupies a crucial role in the structure of social cognitive theory. Efficacy beliefs affect adaptation and change and it is partly on this basis of efficacy that people choose what challenge to accept, how much effort to expend in the endeavor, and how long to persevere in the face of obstacles and failures⁷⁰. The likelihood that people will act on the outcomes and expectations from future performance will depend on their beliefs on whether or not they can perform those acts. A strong sense of efficacy reduces vulnerability to stress and depression and strengthens resiliency in the face of adversity. Bandura's social cognitive theory recognizes and emphasizes self-efficacy as a motivational process that influences learning. Self-efficacy, which results from self-reflection that is both evaluative and goal-oriented, is a key internal motivational process in social cognitive theory. Self-efficacy and social comparisons are motivational processes which are types of personal processes that influence actions and behaviors. According to the theory, learners who feel efficacious about learning are apt to engage in cognitive and behavioral activities that improve their learning.

Self-efficacy is also considered to be influenced by certain processes resulting from different sources like vicarious experiences, forms of social persuasion, and emotional indexes. By implication, the self-efficacy of Library and Information Science undergraduate students in the universities in Osun State Nigeria can be influenced by social persuasion and emotional indexes that may result from institutional influence leading to enrolment in the programme as an alternative to their preferred choice. As learners work and expend efforts on learning activities, they will acquire some feedback from self and from others, i.e. the lecturers or colleagues, and positive feedback will substantiate their self-efficacy. When this happens, it influences learning outcomes and academic performances⁶⁹.

2.2.3. Kuhlthau Information Search Process Theory

Information seeking behavior theory refers to the study of how and why people search for information, the resources and the channels they use, and the factors that influence their information seeking activities. Many theories were propounded by different scholars on Information Seeking Behaviour among which are Kuhlthau information search process model, Wilson model of information-seeking behavior, Ellis's Model of Information-Seeking Behavior Dervin's sense-making theory. This study will consider the Information Search Process (ISP) propounded by Carol C. Kuhlthau appropriate as it aligns with the independent variable information-seeking behaviour in the initiation, selection and formulation of information. Kuhlthau's Information Search Process is a model that is widely recognized as it describes the stages individuals go through when seeking information to solve a problem or a particular assignment. The theory proposes that learning outcomes can be influenced by the measures of initiation, selection, formulation, collection, and presentation.⁸⁶ Initiation" is the stage that involves recognizing the need for information and the initial feelings of uncertainty and apprehension. At this stage, the individual becomes aware of the need for them to complete an assignment or solve a problem at hand⁸⁶.

The measure of initiation by understanding and the ability to frame the problem or task can influence learning outcomes. If at the initiation stage, the assignment at hand is not properly addressed, the individual may struggle to formulate appropriate research questions or identify relevant information sources, thereby leading to suboptimal learning outcomes. During the initial stage, the individual's ability to express the information needed is very vital. Individuals' level of previous knowledge and confidence in the subject matter can also impact

the initiation stage. Library and Information Science with more domain knowledge tend to have better understanding of the information needed, which can lead to more effective information-seeking and improved learning outcomes.

The initiation stage lays a basis for the entire information seeking- process, and its influence on learning outcomes is particularly important. Student of Library and Information Science are more likely to achieve their learning targets³.The individual emotional state during the initiation stage can also play a role in in their learning outcomes. Feelings of uncertainty, anxiety, or confusion can hinder the individual's ability to engage effectively with the information-seeking process. Approaches that can help improve the initiation stage and its influence on learning outcomes include providing clear task directions, encouraging the individual to search their background knowledge, and supporting them in overcoming any emotional barriers³.

At the stage of selection, the individual identifies and selects the general topic or area of inquiry. Selection is the second stage of the Information Search Process theory, where the individual recognizes the general topic or area of study and selects the most appropriate method to gather information. The extent of selection can influence learning outcomes by determining the breadth and depth of information collected, which can also impact the undergraduate students of Library and Information Science understanding and capability to produce the information².If the selection stage is not well-effected, the students may collect unconnected or incomplete information, thereby leading to gaps in their understanding and possibly conceding the learning outcomes⁹³. The selection stage involves the student recognizing the restrictions of the available information and being able to identify areas where

additional information is necessary, this self-awareness can help the student make more up-to-date conclusions and improve their learning outcomes⁹³. Approaches that can improve the selection stage and its influence on learning outcomes will include providing guidance in effective information sources, encouraging the individual to critically evaluate the relevance and reliability of the information, and supporting them in detecting gaps in their knowledge

“Formulation” In this stage, the individual can focus their information search and form a personal perspective on the topic. At “Collection” it involves gathering relevant and focused information to support the individual's perspective or understanding of the topic. The “Presentation” is the final stage which involves the preparation and presentation of the information, which can lead to a sense of relief and satisfaction⁹⁴. Kuhlthau's Information Search Process (ISP) model emphasizes the importance of considering both the cognitive and affective aspects of the information-seeking process. It highlights the emotional experiences that individuals may encounter throughout the different stages, such as uncertainty, anxiety, and confidence. The Information Search Process (ISP) model has had a profound impact on the field of information science and library and information studies. It has influenced the design of information systems, the development of information literacy programs, and the understanding of user behavior in various information-seeking contexts. Kuhlthau's work has been widely recognized and honored throughout her career. She has received numerous awards and accolades, including the Highsmith Award from the American Library Association⁹⁵. The model highlights the role of barriers and intervening variables that can affect the information-seeking process. The context in Kuhlthau's Information Search Process (ISP) model primarily considers the individual user's perspective and experience during the information search process. Among the theoretical frameworks on information-seeking

behaviour mentioned earlier, the one that is most appropriate for studying self-efficacy, information-seeking behaviour and learning outcomes of Library and Information Science (LIS) students is Kuhlthau's Information Search Process (ISP) model that focus on the Cognitive and Affective with emphasis on the cognitive and affective (emotional) experiences of individuals during the information-seeking process.

This is highly relevant for Library and Information Science (LIS) undergraduate students, as they are often navigating new information environments and developing their information-seeking skills. The model's focus on the emotional and cognitive changes that occur during the information search process which can provide valuable insights into the experiences of Library and Information Science students. The Information Search Process model outlines six distinct stages of the information search process: Initiation, Selection, Exploration, Formulation, Collection, and Presentation. This stage-based approach in this study shall be limited to initiation, selection and formulation which aligns well with the academic context of Library and Information Science (LIS) programs, where students may encounter different challenges and information needs throughout their studies. Investigating how Library and Information Science (LIS) students navigate these stages will help identify specific areas for targeted support and skill development. The information-seeking skills and competencies emphasized in this study are closely tied to the stages and activities described in the Information Search Process (ISP) model. By applying the Information Search Process model, researchers will gain a deeper understanding of how Library and Information Science undergraduate students develop and apply these skills in their academic and professional contexts. The Information Search Process model has been widely used in library and information science education to inform the design of information literacy instruction and

support services. Applying this model to the study of Library and Information Science (LIS) undergraduate students can provide valuable insights for educators to enhance the curriculum, teaching methods, and learning support structures.

In contrast, while the other theoretical frameworks (Wilson's models, Ellis's model, and Dervin's Sense-Making Theory) offer valuable perspectives on information-seeking behavior, they may not be as closely aligned with the specific academic context and competency development of LIS undergraduate students. Therefore, Kuhlthau's Information Search Process (ISP) model is the most appropriate theoretical framework for studying the information-seeking behaviour of Library and Information Science undergraduate students. Kuhlthau's Information Search Process (ISP) model can be used to enhance the curriculum and teaching methods for LIS undergraduate programs. The stages of the ISP model (Initiation, Selection, Exploration, Formulation, Collection, and Presentation) can be directly integrated into the LIS curriculum. Courses can be structured to address the specific challenges and learning needs associated with each stage of the information search process. For example, early-stage courses could focus on introduction to information sources and search strategies, while later-stage courses could emphasize evaluation, synthesis, and presentation of information.

The Information Search Process (ISP) model guides the development of information literacy instruction and workshops for Library and Information Science undergraduates. Instructors can design lesson plans and activities that align with the different stages of the information search process, helping students develop the necessary skills and strategies for each stage.

This could include exercises on topic selection, effective database searching, evaluation of information sources, and the organization and presentation of research findings.

The Information Search Process (ISP) model's stage-based approach can inform the scaffolding of information-seeking skills throughout the Library and Information Science undergraduate programme. Instructors can provide targeted support and guidance as students' progress through the various stages, ensuring they develop the necessary competencies at each level. This could involve incorporating opportunities for reflection, feedback, and iterative skill development, mirroring the cyclical nature of the information search process⁹⁷. The Information Search Process model's emphasis on the cognitive and affective aspects of information-seeking can inform the development of student support services. Counseling, peer mentoring, and other support mechanisms can be designed to address the emotional experiences and cognitive challenges that students may encounter during their information search process. This helps foster a more supportive learning environment and enhance students' overall well-being and academic success.

The stages of the Information Search Process model can be used as a framework for assessing students' information-seeking skills and learning outcomes. Assignments, projects, and other assessments can be designed to evaluate students' competencies at each stage of the information search process. This can provide valuable feedback for both students and instructors, informing curriculum refinements and teaching methods. By incorporating the Information Search Process (ISP) model into the design and delivery of Library and Information Science (LIS) undergraduate programs, educators can create a more holistic and student-centered approach to information literacy education. This can lead to enhanced skill

development, improved learning outcomes, and a deeper understanding of the information-seeking behaviors and challenges faced by Library and Information Science students. Kuhlthau's Information Search Process (ISP) model stands out among other information-seeking behavior theories in several key ways:

The model places significant emphasis on the cognitive and affective (emotional) experiences of the information seeker, a unique feature compared to many other models. It recognizes that information-seeking is not just a rational, cognitive process, but is also influenced by the individual's feelings, thoughts, and uncertainty⁹⁷. The Information Search Process (ISP) model describes the information-seeking process as a series of six distinct stages, each with its own set of activities, thoughts, and feelings. This stage-based approach provides a more comprehensive and nuanced understanding of the information-seeking journey, compared to linear or iterative models⁵. While many information-seeking behavior theories focus on the use of information sources or systems, the Information Search Process (ISP) model concentrates on the process of information-seeking itself. It examines the strategies, behaviors, and experiences of the information seeker as they navigate through the different stages of the search process.

The Information Search Process (ISP) model acknowledges the importance of context in shaping the information-seeking experience, including factors such as the task, the individual's prior knowledge, and the environment. This contextual awareness sets it apart from more generic or decontextualized models of information-seeking. While the Information Search Process (ISP) model presents a sequential progression through the stages, it also recognizes the iterative and cyclical nature of information-seeking. Individuals may revisit earlier stages

or move back and forth between stages as their understanding of the topic evolves. The Information Search Process model takes a holistic view of the information-seeking process, considering both the cognitive and affective dimensions, as well as the various stages and contextual factors. This comprehensive approach sets it apart from more narrowly focused theories that may emphasize a specific aspect of information-seeking behaviour⁹⁹. Compared to other information-seeking behavior theories, such as Wilson's model or Dervin's Sense-Making theory, the Information Search Process model stands out for its explicit focus on emotional experiences and the stage-based nature of the information-seeking process. This unique perspective has made the Information Search Process model a widely influential and frequently cited framework in the field of information science and library and information studies.

The Information Search Process (ISP) model developed by Carol Kuhlthau differs from many other information-seeking theories in its strong emphasis on the cognitive and affective (emotional) aspects of the information-seeking experience. The Information Seeking Process model recognizes that information-seeking involves complex cognitive processes, such as understanding, sense-making, and knowledge construction¹⁰⁰. It examines how the information seeker's thoughts and mental activities evolve throughout the different stages of the search process. This contrasts with models that may focus more on the mechanics of information retrieval or the use of information sources. A unique feature of the Information Seeking Process model is its explicit consideration of individuals' emotional experiences and feelings during information-seeking. The model identifies specific feelings, such as uncertainty, confusion, and confidence that correspond to the different stages of the search process. This affective dimension is often overlooked or downplayed in other information-

seeking theories, which tend to focus more on the rational, cognitive aspects. The Information Seeking Process model integrates both the cognitive and affective dimensions of information-seeking, recognizing their interdependence and influence on each other. It suggests that the emotional experiences and feelings of the information seeker can shape their cognitive processes and decision-making during the search process¹⁰¹. The Information Search Process (ISP) model acknowledges the importance of contextual factors, such as the task, the individual's prior knowledge, and the environment, in shaping the cognitive and affective experiences of information-seeking. This holistic approach contrasts with models that may focus more narrowly on specific factors or variables. The ISP model recognizes the iterative and cyclical nature of information-seeking, where individuals may revisit earlier stages or move back and forth between stages as their understanding evolves⁷. This iterative approach differs from more linear or sequential models of information-seeking. By emphasizing the cognitive and affective aspects of information-seeking, the ISP model provides a richer and more nuanced understanding of the information-seeking process. This emphasis on the human experience, rather than just the mechanics of information retrieval, has made the ISP model a valuable framework for researchers, librarians, and information professionals in understanding and supporting users' information-seeking behaviors.

The initiation stage of Information Search Process is a critical phase in information seeking behaviour of students. During this stage, students typically engage in several key activities, students at this stage realize that they have gap in their knowledge or need specific information to complete assignment, project or research. The desire to resolve a question or challenge prompts students to seek out information¹⁰². Students refine their understanding of the topic or question they are researching. The initiation stage is foundational for effective information

seeking. It sets the direction for subsequent stages including selection and formulation, by understanding their needs and refining their concentration, students will improve their research efficiency and effectiveness. During information search process students often consider what types of sources that might be useful e.g books, articles, websites, etc. Some may begin to assess the credibility of potential sources, thinking about the authority and relevance of the information students might feel overwhelmed or unsure about where to begin, which can affect their motivation and approach. A strong interest in the topic can motivate a more eager search process¹⁰³.

The information selection stage is crucial in the information-seeking behaviour of students, as it involves determining which sources and pieces of information are most relevant and reliable for their research needs. Students assess the authority of the source, considering the authors' qualifications and the publication's reputation. How relevant the information is to their specific research questions or objectives also influences the information search process. Students may compare multiple sources to identify different viewpoints or to support facts. They assess whether certain aspects of their topic are understated. The information selection stage is a complex process that requires critical thinking and analytical skills. This stage is integral to achieving a well-rounded understanding of the topic at hand¹⁰⁴.

The formulation of the information stage is a vigorous part of the information-seeking process, where students synthesize their findings and develop a comprehensible framework for their research. Students at this stage organize their notes and findings into clear sections or categories, repeatedly using outlines. They look for the main patterns within the information that can guide their argument or narrative. Students formulate a clear statement that

summarizes the main argument or purpose of their assignment. This statement often helps narrow the scope of their work, ensuring that subsequent information supports the central title. The formulation stage is essential for creating a structured and focused research project, and planning their writing, students can build a solid foundation for their work, leading to a clearer and more convincing final product. This stage encourages critical thinking and helps students communicate their understanding of the topic successfully¹⁰⁵.

2.3. Review of Empirical Studies

2.3.1. Self-Efficacy and Learning Outcomes

A recent study was conducted on the effect of student self-efficacy on learning outcomes in a business simulation mobile game, a quasi-experimental design was employed.¹⁴The study aimed at exploring the influence of student self-efficacy on learning outcomes. It explored factors that influence students' self-efficacy regarding engagement and learning outcomes in a business simulation game course and compared the differences between hierarchical and general teaching methods. The questionnaire was administered to 126 students in the business simulation game course at Zhongshan Institute, University of Electronic Science and Technology in China. Data were analyzed with paired sample tests and linear regression. The study found that student self-efficacy, engagement, and learning outcomes were significantly higher with the hierarchical method than with the general teaching method. It found that self-efficacy did not have a direct effect on learning outcomes, but indirectly by mediating the effect of engagement with the general teaching method. With the hierarchical teaching method, self-efficacy was found to directly and significantly affect learning outcomes¹⁵. The study, like the current research, explored the effect of self-efficacy on students' learning

outcomes, but the study could not cover a wide range of respondents as a result of the quasi-experimental research design employed. This current research will use a survey design, covering a wider range of respondents from Osun State Nigeria. The current study will also, in addition to self-efficacy, investigate another variable like information-seeking behavior that may likely influence learning outcomes.

A study titled “The Impact of Computer-based Test and Students' Ability in Computer Self-Efficacy on Mathematics Learning Outcomes” was carried out at SMP in Makassar to measure the self-efficacy of computers on students’ learning outcomes and interactions in mathematics subjects. The study adopted a quantitative approach in a quasi-experimental design. The study took sixty-four (64) students as the subject of research from two junior high schools in Makassar City. Data were collected through the use of tests, questionnaires, observation, and documentation. The data were analyzed with descriptive statistics and two-way ANOVA to test the hypothesis. The study is similar to the current research in relating self-efficacy with learning outcomes. However, it only focused on Information Communication Technology self-efficacy and was also carried out among junior secondary school students, a population with characteristics quite different from higher education students in general and Library and Information and information science students in particular¹⁵.

In another study, “On the Effect of Student Interest, Self-Efficacy, and Perceptions of the Instructor on Flow, Satisfaction and Learning Outcomes” relationships between interest, self-efficacy, and perception of the instructor as independent as dependent variable with a set of learning outcomes as dependent variable explored by Maggie, Barbara and Young¹⁶. Data were collected from students in an introductory undergraduate operations management course

in a public, urban university in the Midwest region of the United States. They are mostly business students. A total of 315 usable questionnaires were used to collect data analysis. Two-tailed t-tests and multiple regressions were methods of data analysis employed with the aid of SPSS 22.0 for Windows. The study found that academic self-efficacy has a significant effect on knowledge gain and skill development.¹⁵In other words, perceived learning outcomes are affected by students' interest and self-efficacy. However, the study focused on cognitive learning and student satisfaction as aspects of learning outcomes but did not investigate the influence of self-efficacy on psychomotor learning. Also, the subject of the study is quite distinct from Library and Information Science students and the study was carried out in the United States.

In a study conducted in 2018 titled "Self-efficacy and Motivation: Improving Biology Learning Outcomes of Senior High School Students", Firmansyah et al aimed to find the effect of self-efficacy and motivation on learning outcomes in Biology¹⁷.The study was carried out among 144 purposively selected XI-grade high schools in Cilegon City, Banten, Indonesia. The study adopted a survey method using a quantitative-casual approach and path analysis. The correlation coefficient analysis showed that there is a significant positive correlation between self-efficacy and motivation. In addition, the results showed a positive and very significant correlation between self-efficacy and Biology learning outcomes. In path analysis, the study found that there was a direct effect of self-efficacy on Biology learning outcomes through motivation¹⁷. This study, although related to self-efficacy with learning outcomes, did not consider the influence of self-efficacy on academic performance. The study was also carried out amidst a population who were neither high education student of Library and Information Science.

2.3.2. Information Seeking Behavior and Learning Outcomes

In a study which was undertaken at the Swedish School of Library and Information Science. Universities of Borås and Göteborg a class of 25 high school seniors (18 to 19 years old) engaged in an independent learning assignment on the topic of "What will be the positive or negative consequences of a possible Swedish EU membership?". The study took place in the academic year of 1993/94, i.e. it was concluded six months before the Swedish referendum on EU membership. The students worked cooperatively in five groups, each group choosing a subtopic. This resulted in the formulation of group topics as follows: What will be the positive or negative consequences of a possible Swedish EU membership related to the societal sector of the labor market, national defense, and security, environment, industry, and competition, or education and research. To present their analysis each group had to submit a paper of about 20 pages. The students worked on the assignment for four months. An integral part of information gathering was carried out during a visit to Stockholm, where the students met with and interviewed experts or influential people representing government, industry, science¹⁰⁷. To follow the whole work process, individual interviews were conducted with all 25 students three times during the work process: 1) at the beginning of their work, 2) in a phase of intense information seeking, and 3) after the presentation and conclusion of the assignment. Questions were asked about how students thought, felt, and acted about their experiences and their concerned assignment goals, subject content, information-seeking tools, information sources, use of different materials, and interventions by teachers and librarians. Each interview lasted 20 to 45 minutes.

Studies have consistently found that Library and Information Science students will exhibit more sophisticated information-seeking behaviors compared to students in other academic disciplines. Library and Information Science students are more adept at using library catalogs, databases, and other specialized information retrieval tools to locate relevant sources for their coursework and research projects. They tend to start their information searches by consulting authoritative library resources rather than relying solely on general web searches. Library and Information Science students will demonstrate stronger skills in evaluating the credibility, reliability, and relevance of information sources. This can be attributed to the strong emphasis on information literacy, research methods, and critical thinking about information sources within the Library and Information Science curriculum¹¹⁰. It is expected that the specialized training and information-centric focus of Library and Information Science programs will have a positive impact on the learning outcomes of students in several ways: Library and Information Science students are expected to exhibit higher levels of proficiency in identifying, accessing, and effectively using information resources for their academic work. They should demonstrate stronger analytical and critical thinking skills when evaluating the authority and credibility of information sources.

Library and Information Science students are expected to show greater aptitude in organizing, synthesizing, and presenting information in a clear and impactful manner. They should be able to develop a deeper understanding of information systems, technologies, and their societal implications. Library and Information Science students are expected to gain versatile skills in areas like research, problem-solving, communication, and collaboration - all highly valued in the job market¹¹¹. These enhanced learning outcomes position Library and Information Science students for success not only in their academic pursuits, but also in their future careers

as information professionals, knowledge managers, and lifelong learners. The information-centric curriculum and hands-on skill development in Library and Information Science programs will provide a solid foundation for students to thrive in an increasingly knowledge-driven world. In addition to favoring authoritative library resources, Library and Information Science students are expected to also demonstrate a greater inclination to consult with librarians, faculty, and peers when conducting research, leveraging these human information sources to supplement their use of formal information systems. Library and Information Science students should exhibit more flexibility and adaptability in their information-seeking strategies, readily modifying their approach based on the nature of the information need, the type of resources available, and the evolving context of their research^{110, 111}.

Studies indicate that Library and Information Science students exhibit stronger metacognitive awareness, constantly reflecting on and evaluating the effectiveness of their information-seeking processes, and making adjustments accordingly. The information-centric skillset developed by Library and Information Science enables them to become more self-directed and effective lifelong learners, capable of navigating diverse information landscapes throughout their academic and professional careers. In addition to developing strong information management skills, Library and Information Science undergraduates also exhibit deep disciplinary knowledge and understanding of the theories, principles, and practices that underpin the library and information science field¹¹¹. Library and Information Science programs instill in their students a strong ethical framework for the responsible and equitable use of information, including concepts like intellectual property, privacy, and information access. The Library and Information Science curriculum often emphasizes teamwork, project management, and leadership skills, enabling undergrads to effectively collaborate and

contribute to information-related initiatives. Some studies have found that Library and Information Science display an entrepreneurial spirit, identifying novel applications for their information expertise and creating innovative information-based services and solutions.

Adaptability to Change: The rapidly evolving information landscape requires Library and Information Science students to develop a nimble, adaptable mindset, equipping them to navigate and thrive in the face of technological and societal changes affecting the information professions¹¹³. These multifaceted learning outcomes underscore the comprehensive and holistic nature of Library Information Science education, preparing students not only for immediate success in their academic pursuits but also for long-term career growth and contributions as information leaders and change makers.

Moreover, cognitive biases significantly impact how individuals seek, evaluate, and utilize information, common cognitive biases, and their effects on information-seeking strategies.

Confirmation Bias tends to search for, interpret, and remember information that confirms one's preexisting beliefs or hypotheses. Individuals may selectively seek sources that reinforce their views while ignoring conflicting information. This can lead to a skewed understanding of a topic and hinder critical thinking. They rely on immediate examples that come to mind when evaluating a specific topic or decision. People may prioritize information that is readily available or recent over more relevant or comprehensive data. This can twist their perception of frequency or importance.

Anchoring Bias, there is a tendency to rely too heavily on the first piece of information encountered when making decisions. The effect of initial information may unduly influence subsequent searches and evaluations, leading individuals to overlook new evidence or alternative perspectives.

There is also the Overconfidence Bias to overestimate one's knowledge or abilities. Overconfident information seekers may not feel the need to verify information or consult multiple sources, potentially leading to misinformation. Library and information science students may also experience hindsight. The inclination to see events as having been predictable after they have already occurred. This bias can affect how individuals process information related to past events, often leading them to misjudge the reliability of sources or the certainty of information. During the process of Searching for information, status Quo Bias is a preference for the current state of affairs, leading to resistance to change. Individuals may avoid seeking new information that challenges established beliefs or practices, limiting their exposure to alternative viewpoints.

Library and information science students tend to adopt the bandwagon effect. The tendency to adopt beliefs or behaviors because others are doing so. they may gravitate toward popular sources or widely accepted opinions, which can perpetuate misinformation and limit the diversity of perspectives considered. The way information is presented can influence decision-making and judgment. The presentation of information for example, positive versus negative framing can affect how individuals interpret data and make choices about what to seek or believe. The strategies to mitigate cognitive biases in information-seeking encourage diverse sources and actively seek out information from a variety of perspectives to counteract confirmation bias. During the information search process using critical thinking techniques by applying questioning strategies to evaluate the credibility and relevance of sources is required. Library and information science students are expected to create frameworks or guidelines for information-seeking that encourage thoroughness and objectivity. There is a need for reflective practices by encourage individuals to reflect on their information-seeking processes and

decisions to identify potential biases. Cognitive biases significantly impact how individuals seek, evaluate, and utilize information. The tendency to search for, interpret, and remember information that confirms one's preexisting beliefs or hypotheses is also very important in the information search process. Library and information science students may selectively seek out sources that reinforce their views while ignoring conflicting information. This can lead to a twisted understanding of a topic and hinder critical thinking. Relying on immediate examples that come to mind when evaluating a specific topic or decision. Students may prioritize information that is readily available or recent over more relevant or comprehensive data¹¹⁴. This can angle their view of frequency or importance. The inclination to rely too heavily on the first piece of information encountered when making decisions, may unduly influence subsequent searches and evaluations, leading individuals to overlook new evidence or alternative perspectives.

The student's predisposition to overestimate their knowledge or abilities also affects their search process. Overconfident students searching for information may not feel the need to verify information or consult multiple sources, possibly leading to misinformation. The feeling of seeing events as having been expected after they have already occurred. This bias can affect how individuals process information related to past events, often leading them to misjudge the reliability of sources or the certainty of information. The preference for the current state of affairs, leading to resistance to change also affect them and they may avoid seeking new information that challenges established beliefs or practices, limiting their exposure to alternative viewpoints. The leaning to adopt beliefs or behaviours because others are doing so affect them as they may gravitate towards popular sources or widely accepted opinions, which can perpetuate misinformation and limit the diversity of perspectives considered¹¹⁴.

The way students may present information can influence decision-making and judgment. The presentation of information for example, positive versus negative framing of information can affect how individuals interpret data and make choices about what to seek or believe. Library and information science students have many strategies to ease cognitive biases in information-seeking behaviour as they are faced with diverse sources of information. Actively seeking out information from a variety of angles to respond to confirmation bias and applying questioning strategies to evaluate the credibility and relevance of sources becomes a hitch and creating frameworks or guidelines for information seeking that encourage thoroughness and objectivity poses challenges during the information search process.

2.3.3. Self-efficacy, Information Seeking behavior and learning outcomes

The concept of self-efficacy, as defined by Albert Bandura, refers to an individual's belief in their capability to organize and execute the actions required to achieve a desired goal or outcome⁶⁵. Self-efficacy has been consistently linked to various aspects of learning and academic performance. Research has shown that students with higher levels of self-efficacy are more likely to engage in effective information-seeking behaviors. Individuals with strong self-efficacy beliefs are more likely to actively seek out information, ask questions, and utilize a variety of resources to enhance their understanding and mastery of the subject matter⁶³. This enhanced information-seeking behavior is, in turn, associated with improved learning outcomes. Studies have found that students who actively seek out and utilize information from various sources, such as textbooks, online resources, and discussions with peers and instructors, tend to demonstrate higher levels of academic achievement, knowledge retention,

and skill development⁶². The relationship between self-efficacy, information-seeking behavior, and learning outcomes can be explained by several mechanisms. Individuals with higher self-efficacy are more likely to perceive information-seeking as an effective strategy for learning, and they are more persistent in the face of challenges or setbacks⁵⁷. This, in turn, leads to greater engagement in information-seeking behaviors, which ultimately enhances their learning and academic performance.

Furthermore, the process of information-seeking itself can serve to reinforce and further develop an individual's self-efficacy beliefs. As students engage in successful information-seeking and experience positive learning outcomes, their confidence in their abilities is strengthened, creating a positive feedback loop between self-efficacy, information-seeking, and teaching⁵⁴. The relationship between self-efficacy, information-seeking behavior, and learning outcomes is based on the research literature. Self-efficacy beliefs influence the level of effort, persistence, and resilience that individuals display in their learning endeavors. Students with higher self-efficacy are more likely to set challenging goals, approach difficult tasks with confidence, and exert greater effort to overcome obstacles. Self-efficacy has been found to predict academic performance, even after controlling for prior achievement and cognitive ability⁵⁴. Self-efficacious students are more likely to actively seek out information from various sources, such as textbooks, online resources, and discussions with peers and instructors²³. Information-seeking behaviors include asking questions, accessing additional resources, and engaging in self-directed learning activities⁵². Effective information-seeking allows students to fill gaps in their knowledge, clarify misunderstandings, and develop a deeper understanding of the subject matter. The enhanced information-seeking behavior associated with higher self-efficacy leads to improved learning outcomes, such as higher

academic achievement, better knowledge retention, and the development of stronger problem-solving skills. Students who actively engage in information-seeking tend to have a better grasp of the subject matter, as they can integrate and synthesize information from various sources.

The positive relationship between self-efficacy, information-seeking, and learning outcomes has been observed across various academic domains, including science, mathematics, and language arts⁵⁶. The relationship between self-efficacy, information-seeking, and learning outcomes is not unidirectional but rather reciprocal. As students experience success in their learning endeavors, their self-efficacy beliefs are strengthened, which in turn enhances their information-seeking behaviors and leads to further improvements in learning outcomes. This positive feedback loop contributes to the development of self-regulated learning skills and promotes long-term academic achievement⁵⁷.

In summary, the research literature consistently demonstrates the strong and interconnected relationship between self-efficacy, information-seeking behavior, and learning outcomes. Educators can develop effective strategies to support student learning and academic success by understanding and leveraging these relationships. Individuals with higher levels of self-efficacy are more likely to actively engage in effective information-seeking, which in turn leads to improved learning and academic achievement. This interplay between these three constructs has important implications for educational practices and student success. Research has found that self-efficacy is often domain or task-specific, rather than a generalized trait⁵⁸. Students' self-efficacy beliefs are influenced by their past experiences and mastery of specific academic tasks or subjects. Task-specific self-efficacy is a stronger predictor of information-seeking behavior and learning outcomes than general academic self-efficacy. Students' goal

orientation, whether they have a mastery or performance orientation, can also impact the relationship between self-efficacy, information-seeking, and learning outcomes⁵⁸. Mastery-oriented students, who focus on developing competence and understanding, will be more likely to engage in information-seeking behaviors to improve their knowledge and skills. In contrast, performance-oriented students, who are primarily concerned with demonstrating their abilities, may be less inclined to actively seek out information, as it could be perceived as a sign of their incompetence. Effective information-seeking and learning are closely tied to the development of metacognitive skills, such as the ability to plan, monitor, and regulate one's learning process. Students with higher self-efficacy tend to have better metacognitive skills, which allow them to better evaluate their understanding, identify knowledge gaps, and effectively utilize information-seeking strategies.

The interplay between self-efficacy, metacognitive skills, and information-seeking behavior will contribute to enhanced learning outcomes and the development of self-regulated learning skills. The relationship between self-efficacy, information-seeking, and learning outcomes can also be influenced by various contextual factors, such as the learning environment, instructional methods, and available resources. A supportive and stimulating learning environment that encourages information-seeking and provides ample resources will amplify the positive effects of self-efficacy on learning outcomes²². Conversely, a learning environment that discourages or even penalizes information-seeking behavior may undermine the positive relationship between self-efficacy and learning outcomes. Delving deeper into the nuances and complexities of the relationships between these constructs, we will gain a more comprehensive understanding of how to foster self-efficacy, promote effective information-seeking behavior, and ultimately, enhance student learning and academic success. Feedback

and the way students attribute their successes and failures play a crucial role in the development of self-efficacy. Constructive and informative feedback that focuses on the process and strategies employed, rather than just the outcomes, will help students develop a stronger sense of self-efficacy. Attributing successes to internal, controllable factors, such as effort and the use of effective learning strategies, will further reinforce self-efficacy beliefs and promote continued information-seeking and engagement in learning.

The influence of social and cultural factors on Self-efficacy beliefs and information-seeking behaviors will be shaped by social and cultural norms, expectations, and values. In some cultures, students may be discouraged from actively questioning or challenging authority figures, which could inhibit information-seeking and negatively impact learning outcomes. Conversely, in cultures that value independent learning and critical thinking, students may be more inclined to engage in active information-seeking, leading to better learning outcomes. The relationship between self-efficacy, information-seeking, and learning outcomes can vary depending on the complexity and difficulty of the tasks or subject matter⁷⁵. For challenging tasks, students with higher self-efficacy are more likely to persist and engage in information-seeking, which can lead to better learning outcomes.

However, for overly complex or difficult tasks, even students with high self-efficacy may become overwhelmed and less inclined to actively seek out information, potentially hindering their learning. The impact of self-regulated learning strategies; Self-regulated learning strategies, such as goal-setting, self-monitoring, and self-reflection, can further strengthen the relationship between self-efficacy, information-seeking, and learning outcomes²⁴. Students who possess effective self-regulated learning skills are more likely to engage in adaptive

information-seeking behaviors, which in turn leads to improved learning and academic performance. Interventions that focus on developing self-regulated learning skills have been shown to enhance self-efficacy, information-seeking, and learning outcomes.

By considering these additional factors and nuances, we can gain a more comprehensive understanding of the dynamic interplay between self-efficacy, information-seeking behavior, and learning outcomes. This knowledge can inform the design of effective instructional strategies and learning environments that support student success. The Social Cognitive Theory provides a comprehensive framework for understanding the reciprocal relationship between self-efficacy, behavior, and learning. According to this theory, individuals' beliefs about their capabilities (self-efficacy) influence their choice of activities, effort, persistence, and ultimately, their performance and learning outcomes.⁷⁷ The theory also highlights the role of cognitive processes, such as goal-setting and self-regulation, in mediating the effects of self-efficacy on behavior and learning. Numerous studies have consistently demonstrated the positive relationship between self-efficacy and academic performance, as well as the mediating role of information-seeking behaviour. Research has shown that students with higher self-efficacy are more likely to engage in effective learning strategies, such as information-seeking, self-monitoring, and help-seeking, which in turn contribute to better learning outcomes. Conversely, students with low self-efficacy may be less inclined to engage in adaptive information-seeking behaviors, leading to poorer learning outcomes. Longitudinal studies have demonstrated the dynamic and reciprocal nature of the relationships between self-efficacy, information-seeking, and learning outcomes over time. Cross-cultural studies have revealed similarities and differences in the strength and

patterns of these relationships, highlighting the influence of cultural and contextual factors. These studies have provided valuable insights into the development and maintenance of self-efficacy beliefs, as well as the role of cultural and environmental factors in shaping information-seeking behaviors and learning outcomes.

The research on self-efficacy, information-seeking, and learning outcomes has important implications for educational practice, such as the design of instructional strategies, learning environments, and assessment methods. Educators will foster self-efficacy by providing mastery experiences, modeling effective learning strategies, and offering constructive and informative feedback. Promoting information-seeking behaviors, such as encouraging questions, providing access to diverse resources, and rewarding curiosity, will further support student learning and academic success. Integrating self-regulated learning strategies into the curriculum can help students develop the metacognitive skills needed to engage in effective information-seeking and improve their learning outcomes. By delving deeper into the theoretical underpinnings, empirical evidence, and practical implications, we will gain a more comprehensive understanding of the complex relationships between self-efficacy, information-seeking behavior, and learning outcomes⁷⁶. This knowledge will inform the development of evidence-based educational interventions and policies that support student success.

2.3.4 Students' Learning Outcomes

Learning outcomes for library and information science (LIS) students typically focus on developing skills and knowledge necessary for effective information management, research, and service in various library and information settings. LIS students' knowledge of

Information Literacy and ability to locate, evaluate, and use information effectively is particularly beneficial in enhancing their ethical and legal issues related to information access and use. Understanding the Information Needs of the Students will help identify and articulate their own information needs as well as other groups. LIS students are expected to develop skills that will help in conducting effective reference interviews to assess user needs. Recognizing the differences in information requirements for diverse populations (for example, students, researchers, and community members).

Students' learning outcomes demonstrate proficiency in locating information across various formats and sources by developing skills in navigating library catalogs, databases, and online search engines and utilizing advanced search techniques (for example, Boolean operators, filters, and subject headings). Accessing and utilizing primary and secondary sources, including digital and physical collections are important learning outcomes expected of library and information science students in tertiary institutions in Osun State.

LIS student learning outcomes emphasize evaluating information sources critically, evaluating the credibility, relevance, and accuracy of information sources applying the criteria for evaluating sources (for example authority, accuracy, bias, currency, and purpose), and being able to differentiate between scholarly and non-scholarly sources and assessing the reliability of information from various media, including websites and social media are learning outcomes required of library and information science students in tertiary institutions in Osun State Nigeria.

Learning Outcomes of Library and Information Science in tertiary institutions in Osun State Nigeria are required to use information effectively by demonstrating the ability to integrate and synthesize information from multiple sources into their work. Developing the skills of

Summarizing and paraphrasing content appropriately while maintaining the original meaning and Using citation management tools to organize and format references correctly by understanding and applying different citation styles (for example, APA, MLA, Chicago). The ethical and legal Use of Information is critical in students learning outcomes Students should understand and apply ethical standards and legal considerations in the use of information. Recognizing copyright, fair use, and licensing issues related to information use understanding the implications of plagiarism and how to avoid it, and also engaging in responsible information sharing and use.

Library and information science students' learning outcomes in developing information retrieval Strategies to design and implement effective strategies for retrieving information, creating research plans that outline the steps for gathering information, adapting search strategies based on results and user feedback, utilizing metadata, and controlling vocabularies to improve search effectiveness are key elements of learning outcomes required of Library and information science students in tertiary institutions in Osun State. Learning outcomes of Library and information science students in technology proficiency, usage of library and information technologies, including databases, digital libraries, and online catalogs, and understanding the emerging technologies and their impact on information services is crucial in the learning outcomes of the students. The concept of the collection development process necessitates Library and information science students to evaluate and select materials for library collections based on community needs. Understanding the principles that underpin the process of cataloging and classification fosters a more inclusive approach to learning outcomes of library and information science students in tertiary institutions in Osun State Nigeria. By exploring diverse information sources and perspectives, library and information science

students in tertiary institutions in Osun State gain insights into user services by providing effective reference and instruction services and also understand user needs and develop programs to meet them.

The contextual understanding of Management and Administration fosters a more nuanced and inclusive approach in understanding the principles of library management, including budgeting and staffing, developing skills in strategic planning and policy development prepares Library and information science students in tertiary institutions in Osun State Nigeria towards engaging effectively in attaining the management and administrative learning outcomes. These outcomes prepare students for a range of careers in libraries, archives, information centers, and related fields, equipping them with the necessary skills to navigate the evolving information landscape.

2.4. Conceptual Model on Self-Efficacy, Information Seeking Behavior, and Learning Outcomes

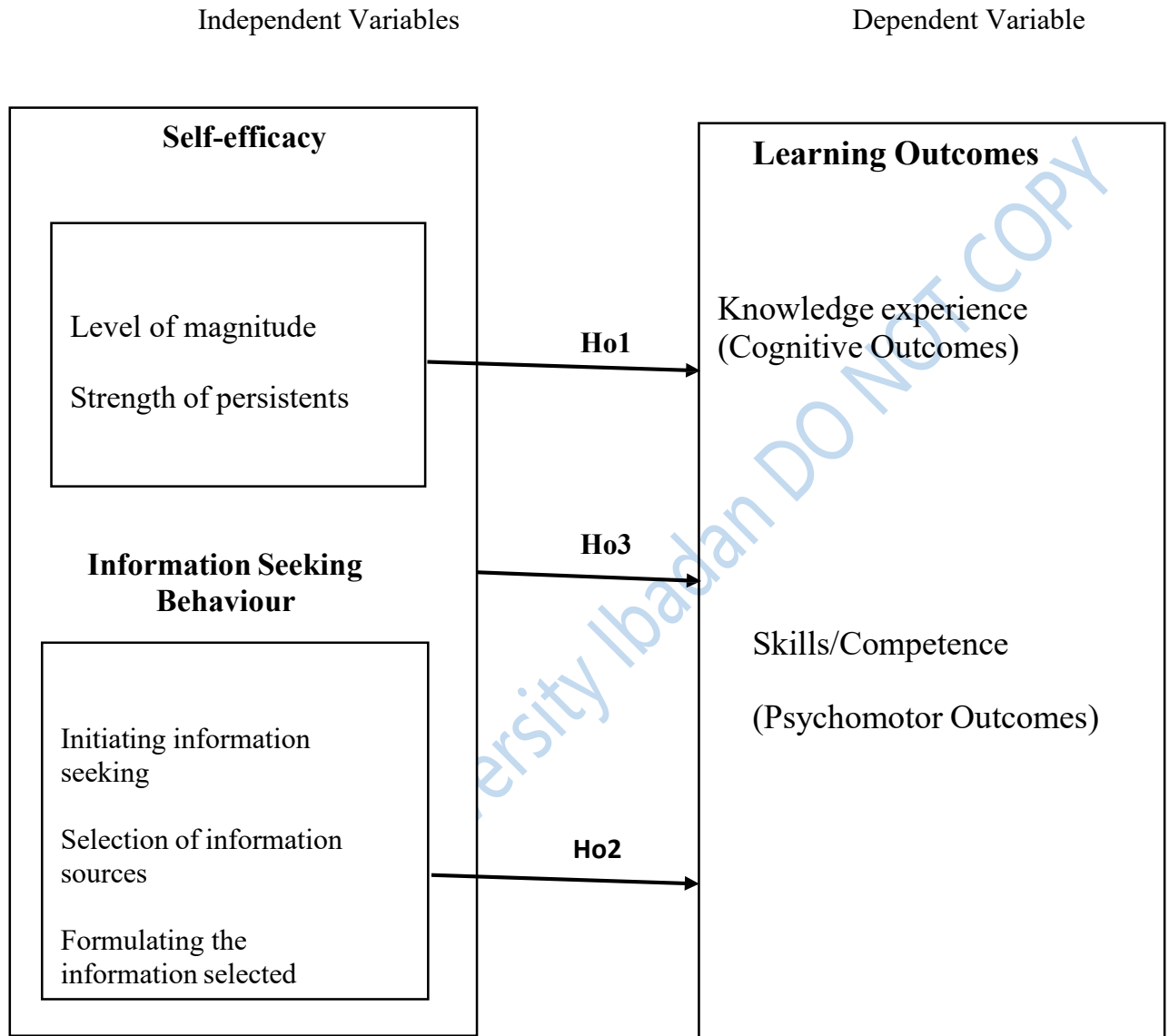


Figure 2:2 Conceptual Model of Independent Variable one (IV¹), Independent Variable two (IV²) and Dependent Variable (DV).

Source: Researcher 2024.

The conceptual model in Figure 2.2 shows three major variables: Self-efficacy (SE), Information Behavior (ISB), and Learning Outcomes (LO). The study consists of two independent variables and one dependent variable. Learning Outcomes are the dependent variable while Self-efficacy and Information Behavior are the independent variables and were studied as those that which could influence the dependent variable. Measures to be adopted for Self-Efficacy are the magnitude and strength of perceived self-efficacy from Bandura's Self-Efficacy Theory¹⁵. Information-seeking behavior will be measured on the stages of the Information Search Process of Kuhlthau's to include: Initiation, Selection, and Formulation. The dependent variable, Learning Outcome, will be measured along with the two learning domains: Cognitive learning, measured as learners' expression of knowledge; and psychomotor learning will be measured in expression of competence/skills. These measures were adapted from Bloom's Taxonomy of Learning Theory⁴.

2.5. Summary of Literature Reviewed

The reviewed literature gave a comprehensive understanding of the variable of the study. The review showed learning outcomes can be categorized alongside three domains of cognitive, affective, and psychomotor learning indicated by students' demonstration of knowledge, changes in learners' attitudes, and demonstrations of skills after a period of the learning experience, although the study is concerned on learning outcomes in the cognitive and psychomotor domains. The review revealed information-seeking behavior by students as crucial to successful programs. From the review information-seeking behavior was shown as critical to learning outcomes and information-seeking behavior was considered in the dimension of level and strength.

The theoretical review presented three relevant theories. For learning outcomes, Bloom's Taxonomy of Learning; the Self-efficacy Theory developed by Bandura 1977, and the information search process by Kuhlthau were also reviewed for the study. The review of empirical studies that examine the influence of self-efficacy on learning outcomes was also explored. On the influence of information-seeking Behavior on learning outcomes, the review shows that reports on the level and ability to initiate, select, explore, formulate, collect, and able to present the information needed will likely influence learning outcomes. The review of the literature also showed that most studies relating to self-efficacy, information-seeking behavior, and learning outcomes reported direct and indirect influence of self-efficacy, information-seeking behavior, and learning outcomes. It was also observed that most studies available for review were carried out in a context quite different from what was obtained in Osun State Nigeria unlike in the United States of America, Indonesia, Hong Kong etc. Likewise, studies on Self-efficacy, Information-Seeking Behavior, and Learning Outcomes of Library and Information Science students in universities and Polytechnics in Osun State are still very scarce. Therefore this study will investigate Self-efficacy, information-seeking behavior, and their influences on learning outcomes of library and information science students in tertiary institutions in Osun State Nigeria.

Endnotes

1. B. Fairbanks, *5 educational learning theories and how to apply them*.2021.<https://www.phoenix.edu/blog/educational-learning-theories>.
2. T. Rasheed, & S. Ahmed, "Online information retrieval self-efficacy of library professionals: a predictor of patrons' satisfaction in university libraries." *Digital Library Perspectives*, 40(2),2024, 264-281. <https://doi.org/10.1108/DLP-12-2023-0108>
3. A. A Gulzar. *Bloom's taxonomy of educational objectives*, **EDUCARE**, We Educate, We Care,2021.<https://www.educarepk.com>
4. S. Figueroa-Cañas, L. & Sancho-Vinuesa, T. (2023). "The effect of self-efficacy and self-set grade goals on academic outcomes." *PMC*.
5. Kurt. *Blooms Taxonomy*. Educational Technology, 2020, pp.1-13 <https://educationaltechnology.net>
6. I. Supena, A.Darmuki, & A.Hariyadi. *The influence of the 4C (constructive, critical, creativity, collaborative) Learning model on students' learning outcomes*. **International Journal of Instruction**, 14(3), 2021, pp.873-892.
7. S. Hartikainen, H. Rintala, L. Pylvas & P. Nokelainea. *The concept of active learning and measurement of learning outcomes review of research in Engineering higher education*. *Education Sciences*,9(276),2019, pp.1-14
6. M.A.Khan, & S. Ali, "Impact of self-efficacy on academic performance of library and information science students." **Journal of Academic Librarianship**, 48(1),2022, 102-110.
7. Y. Zhang, & L. Wang. "Self-efficacy and learning outcomes in library and information science education: A study of undergraduate students." *Library & Information Science Research*, 43(3),2021, 101-110.
8. L.Vachova. E. Sedlakova & J.Kyintova. *Academic Self-efficacy as a precondition for critical thinking in University students*. **Pegem Journal of Education and Instruction**.13 (2),2023, pp.328-334.
9. A. Greco. Annovazzi, N.Palena, E. Camussi, G.Rossi, & P.Steca.*Self-efficacy university students: Examining factor validity and measurement invariance of the newacademic self-efficacy scale*. *Frontiers in Psychology*.12:498824, 2022, pp. 1-14,[doi:10.3389/fpsyg.2021.498824](https://doi.org/10.3389/fpsyg.2021.498824).

10. A. Bashir,& M. Khan, "Exploring the role of self-efficacy in the academic success of library science students." **International Journal of Library and Information Science**, 15(2),2023, 45-58.
11. A. Hussain, & M. Akhtar, "The relationship between self-efficacy and information literacy skills among library science students." **Journal of Information Science**, 47(6),2021, 850-861
12. A.Mansour & M. El-Sharkawy, "Self-efficacy and academic motivation in library and information science education." *Library Philosophy and Practice*,(1),2022, 1-12.
13. H. Al-Shamari, & A. Alotaibi. "Evaluating the impact of self-efficacy on the learning outcomes of library science students in a digital environment." *Education for Information*, 39(4),2023, 345-360.
14. H.T. Nguyen, & T.A Tran. "Self-efficacy in research skills among undergraduate library and information science students: Implications for curriculum development." **Journal of Academic Librarianship**, 50(1),2024, 101-110.
15. R.Santos, & A. Ferreira, "The role of self-efficacy in shaping the learning experiences of library and information science students." **International Journal of Information Management**, 63, 2022, 102465.
16. Khan, A. & M. Niazi, "Exploring the link between self-efficacy and academic performance in library and information science students." **Journal of Library Administration**, 63(7),2023, 765-780.
17. A. Badran, & A. Sayed, "Self-efficacy and its impact on the learning outcomes of library and information science students: A case study." *Information Research*, 27(1),2022, 1-15.
18. R. Patel, & S. Sharma "The role of self-efficacy in developing critical thinking skills among library science students." **The Journal of Academic Librarianship**, 47(5),2021 102-110.
19. A. Alshahrani & E. Alshammari, "Investigating the relationship between self-efficacy and digital literacy in library science students." *Library Hi Tech*, 42(2),2024 155-170.
20. S.Hassan, & F. Jabeen, "Self-efficacy, motivation, and learning outcomes in library and information science education." **Journal of Librarianship and Information Science**, 55(3), 2023,345-358
21. K. Meyer, & J. Lichtenstein, "Enhancing self-efficacy through project-based learning in library science education." *Education for Information*, 38(4),2022, 367-384.

22. J. Garcia,& M. Lopez, "Self-efficacy and academic performance: Insights from library and information science students." **International Journal of Library and Information Services**, 12(1), 2023,19-34.
23. T. Smith, & L. Jones, "Building self-efficacy through experiential learning in library education." **Journal of Education for Library and Information Science**, 65(1), 2024,45-58.
24. T.M. Nguyen, & L.H.Pham. "Self-efficacy and its impact on learning outcomes in digital library environments." **Journal of Digital Information**, 23(2),2022, 112-124.
25. D.H Schunk &M.K.Dibenedetto.*Self-efficacy and Human Motivation*. Advances in Motivation Science 8,2021,pp153-179.
26. R. Susanto, R. Racchmadtullah, & W. Rachbini. *Technological and pedagogical models: Analysis of factors and measurement of learning outcomes in education*. **Journal of Ethnic and Cultural Studies**, 7(2), 2020,pp.1-19.
27. A. Chaudhry, & M. Malik,"Assessing the impact of self-efficacy on the engagement of library and information science students." *Library Philosophy and Practice*, 2023(2), 1-15.
28. S. Kumar, M. Agarwal,& N.Agarwal. *Defining and measuring academic performance of Hei students- A critical review*.**Turkish Journal of Computer and Mathematics Education**, 12(6),2021,pp. 2091-3105
29. M.N. Yakubu,& A.M. Abubakar. *Applying machine learning to predict students' performance in higher educational institutions*.**Kybernetics**,51(2), 2022,pp.916-934.
30. V. Kssarnig,E. Mones, A. Bjerre-Nielsen, P. Sapienzynski,D.D. Lassen, & S. Lehmann.*Academec performance and behavioural patterns*. **EPJ Data Science**, 7:10
31. R. Bringula, M. Y. Batalla, & MPeterson, R. & Taylor, J. (2021). "Self-efficacy beliefs and their relationship with information literacy skills in library and information science education." *Education for Information*, 37(3),2021, 221-236.
32. J. Borebor. *Modelling computing students;perceived academic performance in an online learning environment*.Proceedings of the 22nd Annual Conference on Information Technology Education, 2021, pp. 99-104
33. Y. Wang, & J. Liu, "Exploring the role of self-efficacy in shaping the digital competencies of library and information science students." **Journal of Information Science Theory and Practice**, 11(2), 2023,34-48
34. A. Alhassan, L. & Osei. "Self-efficacy, learning strategies, and academic achievement in library and information science students." *Global Knowledge, Memory and Communication*, 71(5),2022, 467-480.

35. E. G. Okoedion. *Perceived factors affecting students' academic performance in Nigerian universities*. *Educattia Plus*, XXV(2),2019, pp. 26-37.
36. L. Smith, & K. Carter, "The impact of self-efficacy on collaborative learning among library science students." *Journal of Librarianship and Information Science*, 56(1),2024, 78-92.
37. X. Zhou, & Y. Chen, "Enhancing self-efficacy through mentoring in library and information science programs." **International Journal of Information Management**, 57, 2021, 102-110.
38. S. Taylor. & R. Black, "Self-efficacy as a predictor of academic resilience in library and information science students." *Library & Information Science Research*, 45(3),2023, 112-120.
39. J. Moller. S. Zitzmaan, F. Helm, N. Machts, & F. Wolff. *A meta-analysis of relations between achievement and self-concepts*. *Review of Educational Research*, 90(3), 2020, pp.376-419.
40. I. Dogan, & G. Durmus. *Investigation of the relationship between academic self-concepts and academic self-efficacy of university students receiving sports education*. **Journal of Educational Issues**, 7(3),2021, pp. 68-84.
41. M. Topic, & M. J. Cunha. *Women in public relations (1982- 2019)*. **Journal of Communication and Management**, 2020, pp. 1-22.
42. T. Gnamb. The development of gender differences in information and communication technology (ICT) literacy in middle adolescence. *Computers in Human Behaviour*, 114,106533, 2021, pp. 1-10.
43. L. Riopel. *Measuring Self-Efficacy with Scales and Questionnaires*. *Positive Psychology*, 2019. [Positive Psychology, 2019. Positivepsychology.com/self-efficacy-scales/](https://www.positivepsychology.com/self-efficacy-scales/)

44. D. H. Schunk, & M. K. DiBenedetto. *Self-efficacy and human motivation*. Advances in Motivation Science, 8, 2021, pp. 153-179. <https://doi.org/10.1016/bs.adms.2020.10.001>.
45. J. Miller, & C. Roberts, "Self-efficacy and its influence on ethical decision-making in library and information science." **Journal of Academic Librarianship**, 48(5),2022, 102-110.
46. R. Davis, & M. Lee, "The relationship between self-efficacy, learning outcomes, and student engagement in library education." *Library Philosophy and Practice*, 2024(1), 1-15.
47. W.H. F. Rorimpandey, & H. Midun. *Effect of hybrid learning strategy and self-effiacyon learning outcomes*. **Journal of Hunnan University**, 48(8), 2021, pp.181-189.
48. S. Ahmadi. *Academic self-esteem, academic self-efficacy and academic achievement: a path analysis*. **J. Foren. Psy**, 5(155), 2020, 10-35248.
49. C. Tsai, M. Cho, R. Marra & D. Shen. *The self-efficacy questionnaire for online learning (SeQoL)*. **Distance Education**, 41(4),2020, 10-35248
50. V. Miranda. *The effect of self-efficacy and achievement motivation on self-regulated learning*. **Journal Pendidikan Ekonomi, Perkantoran,dan Akuntansi- JPEPA**, 3(1), 2022, 151-160.
51. M. Parissi, V. Komis, G. Dumouchel, K. Lavidas, & S. Papadakis, "Enhancing Information-Seeking Behavior Through Structured Teaching Interventions: A Study on Undergraduate Students." **Journal of Information Science**, 49(2), 2023,145-158.
52. L. Vachova, E. Sedlakova & J. Kyintova. *Academic self-efficacy as a precondition for critical thinking in university students*. **Pegem Journal of Education and Instruction**, 13(2), 2023, pp.328-334.
53. A. Greco, C. Annovazzi, N. Palena, E. Camussi, G. Rossi, & P. Steca. *Self-efficacy beliefs of university students: Examining factor validity and measurement invariance of the new academic self-efficacy scale*. *Frontiers in Psychology*. 12:498824 2022, pp. 1-14. Doi: 10.3389/fpsyg. 2021. 498824.
54. S. Kurt. *Bloom's taxonomy*. **Educational Technology**, 2020,pp.1-13. <https://educationaltechnology.net>

55. S. Kumar, & R. Singh, "Influence of Self-Efficacy on Research Skills of Library and Information Science Students." **Journal of Academic Librarianship**, 48(1), 2022,102-110.
56. J. Garcia, & M. Lopez, "Self-Efficacy and Academic Performance: Insights from Library and Information Science Students." **International Journal of Library and Information Services**, 12(1),2023, 19-34.
57. Y. M. Guo, B.D. Klein Y.K. Ro. *On the effects of student interest, self-efficacy on, and perceptions of instructor on flow, satisfaction, and learning outcomes*. Studies in Higher Education, 2019, Doi: 10.1080/03075079.2020.1593348.
58. O. Palucktoya, A. Kappas, & C. A. Smith. *Using Bandura's self-efficacy theory to explain individual differences in the appraisal of problems-focused coping potential*. Emotion Review. 2023, pp. 1-31. Journal.sagepub.com.
59. A. Hussain, & M. Akhtar, "Analyzing Information-Seeking Behavior Among Library and Information Science Students: A Study of Their Preferences and Needs." **Journal of Library Administration**, 61(3), 2021235-250.
60. C.Y. Ha, & C. Min-Jeong. *Development and effects of smartphone app-based walking exercise program for taxi drivers: Based on Bandura's self-efficacy theory*. **Journal of Korean Academy of Nursing**, 50(2), 2020, pp. 242-254.
61. Q. Yang, Q. Chen, J.Wang, & R. Ou. *The effect of student self-efficacy on learning outcomes in a business simulation mobile game: A quasi-experimental study*. Library Hi Tech, 2022, <https://doi.org/10.1108/LHT-02-2022-0114>

62. G. Yi Maggie, D.K. Barbara, & K. R. Young. *On the effects of student interests, self-efficacy, and perceptions of the instructor on flow, satisfaction, and learning outcomes.* *Studies in Higher Education*, 2020. DOI: 10.1080/0375079. 2020.1593348.
63. T. Smith, & L. Jones, "Digital Information-Seeking Strategies of Library Science Students: A Comparative Study." **Journal of Information Science Theory and Practice**, 11(3), 2024, 123-135.
64. R. B. Ikhsan, L.A. Saraswati, B. G. Muchardie, Vional, & A. Susilo. *The determinants of students' perceived learning outcomes and satisfaction in BINUS online learning.* 5th International Conference on New Media Studies, Bali, Indonesia, October 09-11, 2019, pp. 68-73.
65. K. Kustyarini. *Self-efficacy and emotional quotient in mediating active learning effect on students' learning outcomes.* **International Journal of Instruction**, 13(2), 2020, pp.663-676.
66. R. Amini, B. Setiawan, Y. Fitria, & Y. Ningsih. *The difference of students learning outcomes using the project learning and problem-based learning models in terms of self-efficacy.* **Journal of Physics: Conference Series** 1387, 012082, 2019, pp. 1-6. Doi: 10.1088/1742-6596/1387/1/012082.
67. A. A. Hayat, K. Shateri, M. Amini, & N. Shokrpour. *Relationships between academic self-efficacy, learning-related emotion, and metacognitive learning strategies with academic performance in medical students: A structural equation model.* *BMC Medical Education*, 20(76), 2020, pp. 1-11.
68. R. Cobo- Rendon, M. V. Perez- Villalobos, D. Paez- Rovira, & M. Gracia- Leiva. *A longitudinal study: wellbeing, psychological wellbeing, self-efficacy and academic performance among first-year undergraduate students.* **Scandinavian Journal of Psychology**, 2020, pp. 1-9. Doi: 101111/sjop.12618.
69. R. H. Rafiola, P. Setyosari, C. L. Radjah, & M. Ramli. *The effect of learning motivation, self-efficacy, and blended learning on students' achievement in the Industrial Revolution 4.0.* **iJET**, 15(8), 2020, pp. 71-82. <https://doi.org/10.3991/ijet.v15i08.12525>.

70. X. Zhou,& Y. Chen, "The Role of Information-Seeking Behavior in Academic Success Among Library Science Students." *Education for Information*, 38(3),2022, 251-265.
71. R. Peterson, &J. Taylor, "Understanding the Information-Seeking Behavior of Library Science Students: A Mixed Methods Approach." **Journal of Information Science**, 47(6), 2021,850-861.
72. S. Hassan, & F. Jabeen, F. (2023). "Information-Seeking Behavior and Learning Outcomes in Library and Information Science Education." **Journal of Librarianship and Information Science**, 55(3), 2023
73. G. Lopez-Garrido. *Bandura's self-efficacy theory of motivation in psychology*. **Simply Psychology**,2023,<https://simplypsychology.org/self-efficiency.html>.
74. A. A. El-Maamiry, *Self-efficacy in the information seeking behaviour: case study of State University of Zanzibar students*. Academia.edu, 2022, pp.78-89
75. A. Bashir, & M. Khan, "Information-Seeking Behavior and Its Effects on Academic Performance in Library Science Education." *Library Management*, 43(5/6), 2022,315-327.
76. M. Jeebakaran, & S. Shanmugathasan, *Students' Information Seeking Behaviour*. Sri Lanka Library Review, 36(1),2022, 29.
77. A. Khan, & M. Niazi, "Information-Seeking Behavior of Library Science Undergraduates: Patterns and Implications." **International Journal of Library and Information Services**, 12(3), 2023, 55-70.
78. T. Smith, & L. Jones,"Digital Information-Seeking Strategies of Library Science Students: A Comparative Study." **Journal of Information Science Theory and Practice**, 11(3), 2024,123-135.
79. A. Mansour,&M. El-Sharkawy, M. "The Impact of Information Technology on Information-Seeking Behavior in Library Education." *Education for Information*, 38(2),2022, 145-160.
80. A. Alshahrani, & E. Alshammari, E."Investigating the Information-Seeking Behavior of Library Science Students in Online Learning Environments." *Library Hi Tech*, 42(1),2024, 88-102.
81. H.T. Nguyen, & T.A. Tran, T. A."Information-Seeking Behaviors and Learning Outcomes in Library and Information Science Education." **Journal of Academic Librarianship**, 50(2),2023, 101-110.

82. F. Almeida, & D. Costa, D. "Exploring Information-Seeking Behavior among Library Science Students: A Case Study." **Journal of Librarianship and Information Science**, 55(2),2023, 200-215.
83. Y. Zhang, & L. Wang, "The Impact of Information Literacy Training on the Information-Seeking Behavior of Library Science Undergraduates." *Library & Information Science Research*, 44(4),2022, 102-115.
84. J. Miller, & C. Roberts, "Understanding Information-Seeking Behavior in the Context of Library Science Education." *Education for Information*, 39(1),2024, 56-70.
85. R. Davis, & M. Lee, "The Role of Social Media in Information-Seeking Behavior of Library Science Students." **Journal of Information Science**, 48(6),2022, 850-861. .
86. A. Khan, & S. Ali, "Information-Seeking Behavior of Library Science Students: A Comparative Analysis of Traditional vs. Digital Resources." **International Journal of Library and Information Science**, 12(4),2023, 145-160.
87. R. Peterson, & J. Taylor, "Information-Seeking Behavior and Academic Achievement: Insights from Library Science Students." **Journal of Academic Librarianship**, 47(3), 2021, 102-110.
88. T. M. Nguyen, & L.H. Pham, "Information-Seeking Behavior in Online Learning Environments: Challenges and Strategies for Library Science Students." **Journal of Digital Information**, 24(1), 2024, 78-90. .
89. A. Hussain, & F. Jabeen, "The Influence of Information Technology on Information-Seeking Behavior in Library Science Education." *Global Knowledge, Memory and Communication*, 71(6),2022, 543-558.
90. A. Chaudhry, & M. Malik, M. (2024). "Information-Seeking Behavior of Library and Information Science Students: A Systematic Review." *Library Philosophy and Practice*,(1),2024, 1-20. .
91. T. Smith, &L. Jones, L. (2023). "The Role of Information Resources in Shaping the Information-Seeking Strategies of Library Science Students." **Journal of Information Literacy**, 17(2),2023, 112-125.
92. J. Garcia, &M. Lopez, M. (2022). "Impact of Collaborative Learning on Information-Seeking Behavior in Library Science Education." **Journal of Academic Librarianship**, 48(3),2022, 150-159.
93. Science Students in Hybrid Learning Environments." **International Journal of Library and Information Services**, 12(2),2023, 91-104.

94. A. Alshahrani, & E. Alshammari, "The Influence of Cultural Factors on Information-Seeking Behavior Among Library Science Students." *Library Hi Tech*, 41(4), 2023, 575-590.
95. X. Zhou, & Y. Chen, "Information-Seeking Behavior and Learning Outcomes in Library and Information Science Education: A Correlational Study." *Education for Information*, 38(2),2022, 115-130.
96. H.T. Nguyen, & T.A Tran,"Barriers to Effective Information-Seeking Behavior in Library Science Education: A Student Perspective." **Journal of Librarianship and Information Science**, 56(2),2024, 215-230.
97. A. Mansour, & M. El-Sharkawy, "The Role of Information Literacy in Enhancing Information-Seeking Behavior Among Library Science Students." **Journal of Information Science**, 48(5),2022, 650-664.
98. S. Kumar, & R. Singh, R. "Exploring the Impact of Information-Seeking Behavior on Academic Success in Library Science Programs." *Library Management*, 45(1), 2024,23-38.
99. T. Charles Meadow, Gary Marchionini and M. Joan Cherry, "*Speculations on the Measurement and Use of User Characteristics in Information Retrieval Experimentation*" **The Canadian Journal of Information and Library Science** 19, no. 4, December 2020, pp.5-7
100. Diane Nahl and Carol Tenopir, "*Affective and Cognitive Searching Behavior of Novice End-Users of a Full-Text Database*" **Journal of the American Society for Information Science**, 47, no.4, April 2020, 285; Tenopir et al. 173.
101. N. Al-Muomen, *Information-seeking behaviour at Kuwait University* (Doctoral dissertation). Loughborough University, United Kingdom,2019.
102. P.L Alreck, & R.B. Settle, *The survey research handbook (2nd ed.)*. Chicago: Irwin.2017
103. E.E. Badu, *The information-seeking habits of graduate students in the University of Ghana*. **Education Libraries Journal**, 44 (2), 2017, pp.35-39.

104. J.K. Bhatia, *Use of electronic resources in Degree College Libraries in Chandigarh*. **DESIDOC Journal of Library & Information Technology**, 31(6), 2021, pp.480-484.
105. D.O. Case, *Looking for information: A research survey on information seeking, needs and behaviour*. San Diego, CA: Academic Press.2020.
- 106.M.D. Dzandu, & H. Boateng, *Unraveling the dilemma of the information search process: The application of Wilson's model in a Ghanaian University setting*. **International Journal of Digital Library Services**, 3(3), 2018,pp. 22-37.
107. A. Dzansi, *Information needs and information seeking behaviour of students of the University of Ghana Medical School (Unpublished thesis)*. University of Ghana, Legon. 2020
108. Charoenkul, Sukan, and Sumalee Chanchalor. "Information Seeking Behaviour and Personality Traits in Secondary-school Students." **International Journal of Instruction** 14, no. 2 (April 1, 2021): 405–20. <http://dx.doi.org/10.29333/iji.2021.14223a>.
109. Ebrahimzadeh, Sanam, Saeed Rezaei Sharifabadi, Masoumeh Karbala Aghaie Kamran, and Kimiz Dalkir. "Triggers and strategies related to the collaborative information-seeking behaviour of researchers in ResearchGate." *Online Information Review* 44, no. 5 (July 8, 2020): 1077–96. <http://dx.doi.org/10.1108/oir-12-2019-0380>.
110. Mohammed, Rabiu Nurudeen. "POSTGRADUATE STUDENTS INFORMATION SEEKING BEHAVIOUR IN THE FACULTY OF MANAGEMENT SCIENCES, BAYERO UNIVERSITY, KANO, NIGERIA." **American International Journal of Multidisciplinary Scientific Research** 6, no. 4 (December 19, 2020): 1–14. <http://dx.doi.org/10.46281/ajmsr.v6i4.916>.
111. Jayamma, K. V., and G. T. Mahesh. "Information Seeking Behaviour of Post Graduate Students of Government Science College, Bangalore: A Study." **Asian Journal of Information Science and Technology** 10, no. 1 (May 5, 2020): 1–5. <http://dx.doi.org/10.51983/ajist-2020.10.1.303>.

Chapter Three

Methodology

This chapter presents the methodology that will be employed in this study. This consists of the research design, the population of the study, sample and sampling technique, description of the research instrument, validity and reliability of the research instrument, administration of the research instrument, and the method of data analysis.

3.1. Research Design

The study used a descriptive survey research type. Data was collected from 200-level to 400-level undergraduate students and ND II to HND II diplomas of Library and Information Science in universities and Polytechnic offering the course in Osun State. This design is appropriate because it enables the students to individually and independently respond to the items of the questionnaire regarding their self-efficacy, information-seeking behavior, and the extent of attaining learning outcomes. The research design also is appropriate for the study of a population that is relatively large and that covers a wide area. It enables the researcher to gather a wide range of data flexibly and cost-effectively.

3.2. Population of the Study

The population of this study consisted of three thousand five hundred (3500) Library and Information Science students of universities and polytechnic in Osun State Nigeria who spent at least two academic semesters in their programme. This was based on the assumption that they were able to provide relevant information on the variables of Self-efficacy, Information Behaviour, and Learning Outcomes. The institutions covered are:

Obafemi Awolowo University Ile-Ife, Osun State, Adeleke University Ede, Federal Polytechnic Ede, Osun State, Osun State University Osogbo, Osun State Polytechnic Iree, Osun State College of Technology Esa-Oke ,and University of Ilesha,Ilesha Osun state.

Table 3.1: Population of the Study

Table 3.1: Population of Library Science students in University and Polytechnics in Osun State

S/N: Name of University/Polytechnics	LIS students
1. Obafemi Awolowo University Ile-Ife	86
2. Osun State University, Oshogbo	96
3. Adeleke University, Ede	10
4. Federal Polytechnic, Ede	50
5. Osun State Polytechnic Iree	69
6. University of Ilesha	19
7. Osun State College of Technology	16
Total	346

Source: 1,2,3,4,5,6,7,

Table 3.2 Table for Determining the Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	302
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Note: N is population size. S is sample size

Source: ³

3.3. Sample Size and Sampling Techniques

The sample size for this study is 346 library and information science students in universities and polytechnics in Osun State Nigeria. Library and information science students in Obafemi Awolowo University (OAU) Ile-Ife, Adeleke University Ede, Osun State University Osogbo, Federal Polytechnic Ede and Osun State Polytechnic Iree, Osun State College of Technology Esa-Oke and University of Ilesha. Sampling is a scientific method used in systematic studies to select units from a target population to represent the entire study population¹. A researcher must select a sample that should be reliable and appropriate for his research study². Hence, the Krejcie and Morgan Sample Size Determination Table was used to determine the sample size for this study, as shown in Table 3.2 above.

Table 3.3 Stratified Sampling Calculation for the Sample used³

S/N	Name of Institution	% of Population	Total calculated no for each sample
1.	Obafemi Awolowo University Ile-Ife	$\frac{873 \times 100}{3500} = 25\%$	$\frac{25 \times 346}{100} = 86$
2.	Osun State University Osogbo	$\frac{1010 \times 100}{3500} = 28\%$	$\frac{28 \times 346}{100} = 96$
3.	Adeleke University, Ede	$\frac{138 \times 100}{3500} = 3\%$	$\frac{3 \times 346}{100} = 10$
4.	Federal Polytechnic Ede	$\frac{506 \times 100}{3500} = 14.5\%$	$\frac{14.5 \times 346}{100} = 50$
5.	Osun State Polytechnic Iree	$\frac{730 \times 100}{3500} = 20\%$	$\frac{20 \times 346}{100} = 69$
6.	University of Ilesha	$\frac{286 \times 100}{3500} = 8\%$	$\frac{8 \times 346}{100} = 19$
7.	Osun State College of Technology Esa-Oke	$\frac{200 \times 100}{3500} = 5\%$	$\frac{5 \times 346}{100} = 16$
Total			346

Table 3.4: Sample Size

S/N	Universities	200	300	400	Total
		Level	Level	Level	
Polytechnics		ND II	HND I	HND II	
1.	Obafemi Awolowo University Ile-Ife	33	28	25	86
2.	Osun State University Osogbo	35	31	30	96
3.	Adeleke University, Ede	5	3	2	10
4.	Federal Polytechnic Ede	20	16	14	50
5.	Osun State Polytechnic Iree	26	23	20	69
6.	University of Ilesha	23	11	10	19
7.	Osun State College of Technology Esa-Oke	8	5	4	16
Total					346

Source:^{1,2,3,4,5,6,7}

3.4. Description of the Research Instrument

The only research instrument used was a questionnaire. It was considered suitable for collecting data for survey research from a wide range of respondents. The questionnaire tagged SEISBLO adopted the 4-point Likert scale design, which allows the researcher to provide their opinion about the issue under study. The instrument gathered the opinions and perceptions of Library and Information Science students in Osun State.

Section A: This section consisted of items for collecting demographic data from respondents and contains biodata of Respondents measured through five factors; Gender, Age, Educational Qualification/level of study.

Section B:

This section, tagged Library and Information Science Learning Outcomes Scale (LISLOS) and will consist of 18 items measuring (the knowledge and Competence/Skills) of Library and Information Science students. The learning outcomes items were adapted from the Revised Learning Indicators Scale (RLIS) by Frymier and Houser, and Library and Information Science Curriculum Specifications^{1,2}. Relevant items from the RLIS were regrouped into knowledge (cognitive learning outcome) and Competence/Skills (Psychomotor learning outcomes) subscales. Some content-specific learning outcomes relating to professional competence from Library and Information Science curriculum specifications like “I can competently catalog and classify”, were incorporated into the Competence/Skills domain of the instrument. The response format 18-item learning outcomes scale used 4-point Likert type of Very High Level (VHL) = 3.26 - 4.00, High Level (HL) = 2.51-3.25, Low Level (LL) = 1.76-2.50, and Very Low Level (VLL) = 1-1.75

Section C:

Self-Efficacy Scale (SES) was adapted from the Academic Self-Efficacy Scale (ASES-FJHS) by Dallas to measure the Library and Information Science students' Self-efficacy⁷. ASES-FJHS consisted of items subdivided into two sub-scales of Competence and Persistence. The competence and persistence sub-domains with Cronbach reliability which indicate the magnitude and strength of students' self-efficacy adapted consist of a 20-item Self-Efficacy Scale consisting of two sub-measures of magnitude of perceived competence and strength of persistence, 10 items for each sub-measure were used. The items were structured on a 4-point Likert design of Very High Level (VHL) = 3.26 - 4.00, High Level (HL) = 2.51-3.25, Low Level (LL) = 1.76-2.50, and Very Low Level (VLL) = 1-1.75

The instrument consisted of items such as “I can perform very well in my field”, and “I am convinced that I can master the concepts and topics taught in my class”, Despite discouragement from my peers, I continue to study hard”, and “Even if there are many obstacles, I can continue to learn.

Section D:

This section tagged Information-Seeking Behaviour (ISB) was used to measure the Information Seeking Behaviour of students in Library and Information Science students in the Polytechnic and Universities in Osun State. The 15-item scale were used to measure learners' confidence in initiating, selecting and formulation during information search process and information resource were adapted from existing literature^{3,4,5}. The items were structured in a 4-point Likert-type rating with response options of Strongly Agree (SA) = 3.26-4.00, Agree (A) = 2.51-3.25, Disagree (D) = 1.76 - 2.50, Strongly Disagree (SD) = 1-1.75

3.5. Validity of the Research Instrument

The instrument for this study was subjected to content and face validity. The researcher's supervisor, department research committee, and other research experts in the field of Library and Information Science will review the instrument to ensure it will adequately measure the intended variable and that it will align with the relevant literature. The experts' critiques, suggestions, and recommendations on the instrument will be incorporated in making the final copy of the instrument. Appropriate corrections will be made before the administration of the instrument.

3.6. Reliability of the Research Instrument

The adapted scales were subjected to a reliability test to check the internal consistency of items that measured each variable of the study. The reliability test was done through a pilot study. Twenty (20) copies each of the instrument were administered to Library and Information Science students in the Universities of Ilesha and Osun State College of Technology Esa-Oke. Data obtained was subjected Cronbach Alpha reliability test which will yield reliability coefficients.

Table 3.5: Instruments' Reliability Results

<i>Scale</i>	<i>n</i>	<i>Cronbach's alfa</i>	
Learning Outcomes	18	.921	
Self-Efficacy	20	.780	
Information Seeking Behaviour	10	.784	Source:

Researcher's Field Work (2024)

3.7. Administration of Instrument

Letter of introduction was obtained from the Department of Information Management, LeadCity University to obtain permission to conduct survey Library and Information Science students of the selected universities and polytechnics in Osun State. Five trained research assistants from each university will be used to enhance ease of acceso the respondents and increase the return of the questionnaires from the respondents. Three hundred and Forty-five (346) copies of the questionnaire was administered t and retrieved from Library and Information Science students in the universities and polytechnic in Osun State Nigeria.

3.8 Method of Data Collection

A letter of introduction was collected from the Head of the Department of Information Management, Lead City University, Ibadan, which was used to gain permission to survey the library personnel of the study sample. The instrument was administered physically in person and collected after completion. The whole data collection exercise from all the institutions under study covered four weeks combined

3.9 Method of Data Analysis

Primary data will be collected through the use of questionnaires and will be analyzed with both descriptive and inferential statistics. Descriptive statistics will be used to describe the data in terms of frequency distribution, percentage, and mean of responses about the variables, and was used to answer research questions. Mean ratings of 3.26 to 4.00 were considered Very High Level/Strongly Agree; the mean rating of 2.51 to 3.25 was interpreted as High/Agree; while mean ratings of 1.76-2.50 were interpreted as Low Level/Disagree and mean ratings of 1-1.75 were interpreted as Very Low/Strongly Disagree by previous scholars^{8,9}. Inferential statistics (regression analysis) was used to test the hypothesis in the introductory chapter of the study. The hypothesis was tested using regression analysis to establish whether Self-efficacy and Information Behaviour significantly influence the Learning Outcomes of Library and Information Science students. All the hypotheses were tested at a 0.05 Level of significance. Data collected were coded using Statistical Package for Social Sciences (SPSS) version 24.

3.10 Ethical Approval

This study was designed with the ultimate consideration for ethical standards and participant benefit. Before the research began, ethical approval was obtained from the Department of Information Management, Lead City University, Ibadan on the 24th of July 2024. Informed consent was obtained from all participants involved in the study. Participants were provided with information regarding the purpose of the study, procedures, potential risks, and benefits. They were informed of their right to withdraw from the study at any time without any negative consequences.

Lead City University Ibadan DO NOT COPY

Endnotes

1. Administrative office. *Number of students*. Obafemi Awolowo University Ile-Ife, Osun State. 2024.
2. Administrative office. *Number of students*. Osun state University Osogbo, Osun state 2024.
3. Administrative office. *Number of students*. Adeleke University Ede, Osun State, 2024.
4. Administrative office. *Number of students*. Federal Polytechnic Ede, Osun State, 2024.
5. Administrative office. *Number of students*. Osun State Polytechnic Iree, Osun State, 2024.
6. R. V krejcie & W.D. Morgan, Determining sample size for research activities. *Educational and psychological measurement* 3(30), 2019, 607-610
7. A.B Frymier & M.L. Houser, *The revised learning indicators scale*. *Communication Studies*, 50(1), 2020, pp. 1-12.
8. National University Commission (NUC) *Benchmarks Minimum Academic Standards for Undergraduate Programs in Nigerian Universities Education November 2019*.
9. Matovu, M. *A structural equation modeling of the academic self-concept scale*. **International Electronic Journal of Elementary Education**, (IEJEE), 6(2), 2021, pp. 185 – 198.
10. A.R. Dullas. *The development of academic self-efficacy scale for Filipino junior high school students*. *Frontiers in Education*, 3(19), 2019, pp. 1-14. doi:10.3389/feduc.2018.00019
11. H. Taherdoost. *What is the best response scale for survey and questionnaire design: a review of different lengths of rating scale/attitude scale/Likert scale*. Hamed Taherdoost, 2019, pp. 1-10.

Chapter Four

Results and Discussion of Findings

This chapter presents the results of data analysis and the interpretation of the results. The analysis was guided by the specific objectives and the hypotheses that were formulated in the introductory aspect of the study. The first part consists of the presentation of descriptive analysis in tables, while the second part presents the results of inferential statistics and test of hypotheses.

Table 4.1: Response Rate

Percentage (%)		Frequency
Returned and used for analysis	338	97.95
Returned but not used for analysis	08	2.05
Not returned	Nil 346	Nil100
Total number of questionnaire distributed		

Source: Researcher's Field Work (2024)

Table 4.1 showed that 338 copies of questionnaire distributed, representing 97.95% were returned and used for data analysis in the study. Eight (08), representing 2.05% were returned but not used for data analysis because of some invalid responses. The table revealed that all 345 questionnaire distributed, representing 100% were returned.

4.1. Demographic Analysis

Table 4.2: Demographic Data

Variable	Category	Frequency	Percentage (%)
Sex	Male	125	37.4
	Female	313	62.6
		338	100
Age	Below 18	10	3.0
	18-25	212	62.3
	26- 30	92	27.5
	Above 30	24	7.2
		338	100
Class Level	200L	105	26.3
	300L	83	22.2
	400L	75	20.5
	ND II	40	11.0
	HND I	23	10.0
	HND II	12	10.0
		338	100
Institution	Obafemi Awolowo University	86	25.4
	Osun State University Osogbo	96	28.4
	Adeleke University Ede	10	3.0
	Federal Polytechnic Ede	50	14.8
	Osun State Polytechnic Iree	69	17.8
	University of Ilesha	19	6.0
	Osun State College of Tech.Esa-Oke	8	4.6
		338	100

Source: Researcher's Field Work (2024)

The table 4.2 above showed sex distribution of the respondents to consist of 125 males representing 37.4% and 313 females, representing 62.6%. This indicated that most of the Library and Information Science students sampled for the study were females. This implies that Library and Information Science may be female dominated discipline. The table also showed that only 10 respondents representing 3% were below 18 years of age, 212 representing 62.3% were between 18 and 25 years, while 92, representing 27.2% were between 26 and 30 years. Those above 30 years of age are 24 representing 7.2%. This implies that majority of the respondents were of matured age above 18 years and their responses could be adjudged reliable.

Table 4.2 also showed that the respondents in the class level of 200 Level were 125, representing 36.3% of the total responses used for analysis, those in 300 Level were 111, representing 33.2%, while those in 400 Level were 102, representing 30.5%. This showed that each of the class levels has fair representation in the sample distribution. Respondents' distribution by institutions, as shown in table 5, indicated that total responses from Obafemi Awolowo University Ile-Ife was 86, representing 25.4%; from Osun State University Osogbo was 96 representing 28.4% Adeleke University Ede, was 10 representing 3.0%; the respondents from Federal Polytechnic Ede were 50, representing 14.5%; while respondents from Osun State Polytechnic Iree, were 69, representing 17.8%, University of Ilesha 19, representing 8% and Osun State College of Technology Esa-Oke 17, representing 5%. All the tertiary institutions offering Library and Information Science in Osun State Nigeria were adequately represented based on the proportion of the students in each institution in the total population.

4.2. Presentation of Data

4.2.1. Analysis of Research Questions

In answering the Research Questions, mean ratings of 3.26-4.00 were interpreted Very High Level/Strongly Agree; 2.51-3.25 =High Level/Agree; 1.76- 2.50 = Low Level/Disagree; while 1.00 – 1.75 = Very Low/Strongly Disagree^{1,2}.

Research Question One: What is the level of learning outcomes (knowledge and skills) in library and information science students in tertiary institutions in Osun State Nigeria?

Table 4.3: Level of Learning Outcomes of Library and Information Science Students in tertiary institutions in Osun State Nigeria.

Items	Frequency (%)				Mean	SD
	VH	H	L	VL		
Knowledge experience	4	3	2	1		
I can explain classification scheme	113(35)	140(41.4)	43(13)	42(12.4)	2.80	0.899
I usually volunteer to explain concept of library tools to my peers.	112(30)	125(37)	35(10.4)	34(10.1)	2.68	0.902
I feel I have learnt a lot to be professionally competent	120(31.0)	115(34)	51(15)	49(14.5)	2.65	0.805
I understand the use of library Database	134(40)	132(39)	44(11.3)	28(8.3)	2.72	0.770
I can explain vividly the process of acquisition and selection process	115(34)	134(40)	45(13.3)	44(13.0)	2.86	0.888
I understand the process of carrying out reference services in the library	125(37)	130(34)	42(12.4)	41(12.1)	2.96	0.839

7	Understand the reason why library resources are arranged by subject on the	141(42)	127(38)	35(10.4)	34(10.1)	2.78	0.695
8	I know how to evaluate and weed out obsolete resources in the library	114(34)	126(37.2)	48(14.2)	49(15)	2.50	0.961
9	I understand the rules and ethics guiding the use of library	150(44.4)	137(41)	25(7.4)	24(6.2)	2.59	0.811
10	I understand the process of charging out library resources to users	151(44.5)	123(32)	34(10.1)	33(9.8)	2.95	0.712
						2.75	

Skills/Competence

11	I can catalogue books using library management software	101 (30)	149(44.1)	49(15)	48(14.2)	2.92	0.777
12	I can create a worksheet for bibliographic description	115(34)	134(40)	46(14)	43(13)	2.75	0.845
13	I can effectively apply all the library tools for example DDC,AACR2 and library of congress classification scheme	127(38)	141 (42)	34 (10.1)	35 (10.4)	2.76	0.919
14	I can effectively carryout library resources borrowing system to library users	134(40)	132(39)	44(11.3)	28(8.3)	2.87	0.788
15	I can produce error free catalogue cards for the academic library	101(30)	149(44.0)	49(14.5)	47(14)	2.50	0.890

Overall Mean **2.71**
2.73

Decision rule: 1.00-1.44= very low, 1.45-2.44= low, 2.45-3.44= high and 3.45-4.00= very high

Source: Researcher's Fieldwork, 2024.

Table 4.3 above shows the level of library and information science student's knowledge experience and competence of their learning outcomes in universities and polytechnic in Osun state Nigeria. The result shows that scale 3.26-4.00 is "Very High", 2.51-3.25 is "High", 1.76-2.50 is "Low" and scale 1.00-1.75 is "Very Low". The overall mean response for the level of learning outcome of library and information science students in the tertiary institutions in Osun State, (M=2.75) falls within the scale 2.51-3.25 High", which is an indication that the students have a high level of learning outcomes. The item with the highest mean response for the indicator *knowledge experience* is "*knowledge of carrying out reference services in the library*" (MS=2.96 SD=0.839), and for the indicator "*I understand the process of charging out library resources to users*" (MS=2.95 SD=0.712). These are the items that contribute mainly to the high level of learning outcomes of library and information science students' in tertiary institutions in Osun state Nigeria.

Table 4.3 showed that library and information Science students can explain classification to other student at a high level with the mean response of 2.80 and SD 0.899. The mean response of 2.68 and 2.65 respectively indicated a high level at which the student volunteer opinion in class and do have feeling of being professionally competent as a result of learning experiences. The table also revealed mean response of 2.72 showing that students think about what they have learnt when outside the classroom at a high level. The table revealed that library and information science students can favourably compete in their most challenging technical courses in cataloguing and classification at a high level with mean response of 2.86. Mean response of 2.96 indicated that the students have knowledge of carrying out reference services in the library. I understand the reason why library resources are arranged by subject on the shelve with 2.78 mean. However, learning outcomes relating to knowledge of how to evaluate

and weed out obsolete resources in the library was at a low level with mean response of 2.50. Results on the table showed mean responses of 2.59 indicating that the students understand the rules and ethics guiding the use of library was at a high level.

The results in Table 4.3 revealed mean responses of 2.92 indicating high level at which library and information Science students practice the technical skills learnt in the class, 2.75 indicating high level at which students can create worksheet for bibliographic description, and 2.76 which also indicated that the students can effectively apply all the library tools for example Dewey Decimal Classification, Anglo-American Cataloguing Rules 2 and Library of Congress Classification Scheme learnt at a high level. The mean response of 2.87 also indicated a high level at which library and information science students can effectively operate library management solutions to disseminate information to users, Also results in the table showed that library and information science students can create error-free catalogue cards using the KOHA as library management software solution at a high level with mean of 2.55.

Research Question Two: What is the level of self-efficacy of Library and Information Science students in tertiary institutions in Osun state Nigeria?

Table 4.4: Self-efficacy of Library and Information Science Students on learning outcomes in tertiary institutions in Osun State, Nigeria

S/N	Items	Frequency (%)				Mean	SD
		VH	H	L	VL		
	Magnitude of Strength	4	3	2	1		
1	I have the confidence using library OPAC to access library resources	155(40)	172(44.3)	6(1.8)	5(1.5)	2.99	0.657
2	I am not discouraged when I couldn't find library materials needed	143 (44.3)	159(47.0)	18(5.3)	16(4.7)	2.71	0.762
3	I am not nervous anytime I use the library database	135(35)	141(36)	31(9.2)	29(8.6)	2.80	0.741
4	I am aware and motivated accessing the library of digital content.	118(35)	132 (39)	44(13.0)	43 (13)	2.55	0.843
5	I am confident in my ability to use electronic documents available in the library.	115(34)	148(38.1)	38(11.2)	36(9.5)	2.84	0.712
	2.73						
	Strength of Self-efficacy						
6	Despite discouragement from my peers I enjoy using library OPAC to access information.	164(49)	146(43.2)	14(4.1)	13(4)	2.71	0.762

7	In spite of the complexity in carrying out indexing and abstracting I still maintain my efforts.	118(35)	136(40.2)	42(12.4)	40(12)	2.60	0.772
8	Regardless of the obstacle in a cataloguing and classification process I keep moving towards perfection.	102 (30.2)	151(45)	38(11.2)	36(11)	2.75	0.706
9	I consistently figure out how to perform the most complex library task.	112(30)	125(37)	35(10.4)	33(10.1)	2.57	0.873
10	I persistently work hard to master all the library daily routine.	106 (31.4)	153(45.2)	29(7.4)	27(8.0)	2.82	0.724
2.73							
Overall Mean						2.75	

Decision rule: 1.00-1.75= very low, 1.76-2.50= low, 2.51-3.25= high and 3.25-4.00= very high
Source: Researcher's Fieldwork, 2024.

Table 4.4 above shows the Level of self-efficacy of library and information science students in tertiary institutions in Osun state. The result shows that scale 3.26-4.00 is “Very High”, 2.51-3.25 is “High”, 1.76-2.50 is “Low” and scale 1.00-1.75 is “Very Low”. The overall mean response for the Level of the self-efficacy of library and information science students in tertiary institutions in Osun State, Nigeria, (M=2.99) falls within the scale 2.51-3.25 “High”, which is an indication that the self-efficacy of library and information science have a high level of confidence and believe in tertiary institutions in Osun State, Nigeria. The item with the highest mean response for the indicator “*I have confidence in using OPAC to access information resources or need*” (MS=2.99 SD=0.657),

for the indicator “*I am confident in my ability to use electronic document management system*”. (MS=2.84 SD=0.712), and for the indicator “*I presently work hard to master all the library routines*” (MS=2.82 SD=0.724). These are the items that contribute mostly to level of self-efficacy library and information science student’s in tertiary institutions in Osun state, Nigeria.

Relating to the level of self-efficacy of Library and Information science students, Table 4.6 presented the results that showed the level at which the Library and Information science students with confidence using library Online Public Access Catalogue to access library resources at high mean response of 2.99. The mean responses of 2.71 specified that the students in study were not discouraged when they couldn’t find library materials needed. Results from the table showed that Library and Information science students are not nervous anytime they use the library database with the mean response of 2.80. The mean response of 2.84 also discovered that the level of the students am confident in their ability to use electronic documents available in the library is high.

The table also showed a mean response of 2.55 specifying a little high level at which library and information Science students observed themselves as being aware and motivated accessing the library of digital content. Regarding strength of self-efficacy of library and information science students, the result analysis in Table 9 showed a mean response of 2.71 indicating high level of persistent to study hard despite discouragement from peers. This implies that library and Information Science students under study have strong capability to be persistent in study while facing discouragements. The table also showed a mean response 2.60, indicating that the strength of capability to maintain efforts when challenged. It was also shown, by mean response of 2.75, that library and information science students never stop trying during hard times, in spite of the complexity in carrying out indexing and abstracting they still maintain their

efforts. Also from the table, mean responses 2.57 that library and information science students, at a high level, can consistently figure out how to perform the most complex library task. Results further shown a mean of 2.82 indicating that they can persistently work hard to master all the library daily routine. Magnitude and strength of self-efficacy of library and information science students in the study were both high. The table showed a grand mean of 2.75, indicating that the level of self-efficacy of library and information science students in tertiary institutions in Osun State Nigeria under study was high. This implies that library and information science students have relatively high confidence in their academic competence.

Lead City University Ibadan DO NOT COPY

Research Question Three: What is the level of information seeking behaviour of library and information science student's in tertiary institutions in Osun State, Nigeria?

Table 4.5: Information seeking behaviour of library and information science students in tertiary institutions in Osun state Nigeria

S/N	Items	Frequency (%)				Mean	SD
		VH	H	L	VL		
	Initiating Information Seeking	4	3	2	1		
1	If I have information need the first step I usually take is to begin my search with initiating the information seeking	135(40)	147(43.5)	28 (8.3)	27(8)	3.09	0.671
2	I usually describe my thoughts and feelings as I start to gather information.	118 (35)	143(42.3)	48(14.2)	47 (14)	2.46	0.837
3	I have strong feelings about my ability to begin information search process.	115 (34)	146(43)	39 (12)	37(11)	2.89	0.832
4	I usually decides on which source to focus on when I explore different sources	112(33)	137(41)	48(14.2)	47(14)	2.96	0.785
5	The credibility and usefulness of these source of information I decided to explore is important to me	126(37.3)	149(44.1)	36(11)	36(11)	2.79	0.859
	Selection of Information Sources						
6.	I usually felt uncertain or confused during information selection process.	107 (32)	153(45.2)	39 (12)	38 (12.2)	2.68	0.807
7	I use some strategies to walk through when I am confused duringselection of information.	118(35)	130(38.5)	45(13.3)	45(13.3)	2.97	0.786
8	My focus and understanding of my information need evolved as I collect more information.	126(37.3)	149 (44.1)	36 (11)	36(11)	2.81	0.881

9	My thought and feelings usually change over the source of information been selected.	131(39)	197(58.3)	4(1.2)	4(1.2)	2.96	0.785
10	The confidence in the integrity of the source of information is a determinant of the information that I usually select.	139(41.1)	146(43.2)	27 (8)	27(8)	2.74	0.734
							2.83

Formulation of Information Selected

11	At certain point, I usually feel that I have enough information to formulate.	113 (33.4)	135(40)	45(13.3)	44(13)	2.62	0.685
12	I usually perceive some signal that I have reached the stage of formulating the information I selected.	97(29)	123 (36.4)	59(17.5)	59(17.5)	2.54	0.982
13	When I am ready to formulate and synthesize the information I selected, I go about structuring them.	83(25)	165 (49)	46(14)	45(13.3)	2.75	0.863
14	My formulation of information evolved, particularly when I am convinced of the integrity of the information.	112 (33.1)	137(41)	48 (14.2)	46(14)	2.64	0.858
15	My prior knowledge and experience in information selection influence how I formulate the information selected.	79(23.4)	169(50)	45(13.3)	45(13.3)	2.72	0.770

2.66

Overall Mean

2.77

Decision rule: 1.00-1.75= strongly disagree, 1.76-2.50= disagree, 2.51-3.25= agree and 3.26-4.00= strongly agree

Source: Researcher's Fieldwork, 2024.

Table 4.5 above shows the Level of information seeking behaviour of library and information science students in tertiary institutions in Osun State, Nigeria. The result shows that scale 3.26-4.00 is “Very High”, 2.51-3.25 is “High”, 1.76-2.50 is “Low” and scale 1.00-1.75 is “Very Low”. The overall mean response for the level of information seeking behaviour of library and information science students in tertiary institutions in Osun State, Nigeria, (M=2.77) falls within the scale 2.51-3.25 “High”, which is an indication that the Library and information science students information seeking behaviour have a high level of information seeking behaviour. The item with the highest mean response for the indicator *initiating information seeking* is “when I have information needs, the first step I typically take is to begin with initiation”(MS=3.09 SD=0.671), for the indicator *selection of information sources* is “I usually use some strategies to work through when I am confused during information selection”(MS=2.97 SD=0.786), and for the indicator *formulation of information selected* is “At some point I typically feel I have enough information to formulate” (MS=2.74 SD=0.734). These are the items that contributed mostly to the high level of digital information services of Library and Information Science students in tertiary institutions in Osun state, Nigeria.

The library and information science students in tertiary institutions in Osun State Nigeria have strong feelings about their ability to initiate information search with mean response of 3.09. The table discovered that the student’s usually describe their thoughts and feelings as they start to gather information with the mean response of 2.46. Mean responses of 2.89 and 2.68 showed that library and information science students’ credibility and usefulness of the information they find is usually evaluated using some criteria and there are times they feel uncertain or confused during information gathering process respectively. Respondents’ mean scores of 2.97 and 2.81 respectively revealed that they usually use some strategies to work through when they are

confused during information selection and their focus and understanding of the topic evolves as they collect more information are both at high levels. The library and information science students mean on their thoughts and feelings which change over the course of their research was high levels with 2.96. Results on level of information selection of the library and information science students in the study showed overall high level with mean response of 2.83. From the table, library and information Science students at some point will typically feel they have enough information to formulate and a focused perspective or conclusion on the topic at high level with mean responses of 2.72, 2.74 and 2.62 respectively.

The results presented mean of 2.54 indicating high level at which library and information science students formulate and synthesize the information they have selected and how they go about structuring their findings. It was also shown from the table that the respondents' information formulation evolved, particularly as new technologies and information resources becomes available at high level with mean of 2.75, and that library and information science students' prior knowledge and experience with information formulation influence how they approach an information search at a high level with mean response of 2.64. The results in the Table 4.4 showed a total of 2.83 for initiation of information search and selection of information. This indicated that initiation of information search and selection of information source of the respondents is at high level. Likewise, the total mean of 2.66 for formulation of information selected of the library and information science students indicated a high level formulation. The table indicated a grand mean of 2.77 revealing overall high level of information seeking behaviour of library and information science students in tertiary institutions in Osun State Nigeria. The results imply that the students exhibit attitudes favourably with high initiation of information search, selection of information source and

formulation information selected in relation to information seeking behaviour is at a high level in their opinion and perception.

4.3 Presentation of Hypotheses

H₀₁: There will be no significant influence of self-efficacy by library and information science students on learning outcomes in tertiary institutions in Osun State Nigeria.

Table 4.6(a-c): Regression analysis of self-efficacy on library and information science students in tertiary institutions in Osun state Nigeria.

a. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.749	.562	.560	.105

b. ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.749	1	3.50	425.281	.000
Residual	.562	338	5.62		
Total	27.21	337			

c. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	.606	.105		5.767	.000
Self-efficacy	.773	.037	.749	20.622	.000

a. Predictors:(Constant, Self-efficacy)

b. Dependent variable: learning outcomes of library and information science students in universities and polytechnics in Osun State, Nigeria.

Source: Researcher's SPSS Analysis Output, 2024

The regression analysis presented in table 4.6 (a-c) shows the influence of self-efficacy of library and information science students in tertiary institutions in Osun State, Nigeria. The model summary explain 56.2% variance in learning outcomes of library and information science students in tertiary institutions in Osun State, Nigeria ($R^2 = .562$), and the remaining 43.8% variation are explained by other factors not represented in this study. Self-efficacy also show a positive significant relationship ($R = .749$) with the learning outcomes of library and information science students in tertiary institutions in Osun State, Nigeria. Table 4.6b presents the analysis of variance in the influence of self-efficacy of library and information science students in tertiary institutions in Osun State, Nigeria. From the values presented in the table, it shows that self-efficacy has a significant influence on the learning outcomes of library and information science students in tertiary institutions in Osun State, Nigeria ($F(4, 281) = 69.54$, $p\text{-value} = 0.00 \leq 0.05$).

Table 4.6c also shows that if other factors remain constant, a change in self-efficacy will lead to 0.53 change in the learning outcomes in tertiary institutions in Osun State, Nigeria at 95% level of confidence ($\beta = 0.53$, $p \leq 0.05$). Therefore, based on the result shown by the regression analysis, null hypothesis was rejected and we conclude that self-efficacy has a significant influence on the learning outcomes of library and information science students in tertiary institutions libraries in Osun State, Nigeria.

H₀2: There will be no significant influence of information seeking behaviour on library and information science students in tertiary institutions in Osun State, Nigeria.

Table 4. 7(a-c): Regression analysis of information seeking behaviour of library and information science students on learning outcomes in tertiary institutions in Osun state Nigeria.

a. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837	.700	0.09	.034

b. ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	15.37	1	5.54	776.636	0.00
Residual	8.35	337	16.70		
Total	23.72	338			

c. Coefficients

<u>Unstandardized Coefficients</u>	<u>Standardized Coefficients</u>				
	B	Std. Error	Beta	T	Sig.
Model (Constant)	.149	.095		1.561	.000
Information seeking behaviour	.948	.034	.837	27.868	.000

d. Predictors:(Constant, information seeking behaviour)

e. Dependent variable: learning outcomes of library and information science students in Osun State, Nigeria.

Sources: Researcher's SPSS Analysis Output, 2024

This implies that when all variables are held constant, information seeking behaviour will be at intercept which is 0.149. A unit increase in information seeking behaviour will result in 0.948 increase in learning outcomes of library and information science students. This implies that increase in information seeking behaviour will have a positive influence on learning outcomes of the students.

The regression analysis presented in table 4.7 (a-c) revealed R^2 of .701 showing that that information seeking behaviour will account for 70.1% variation in learning outcome of library and information science students in tertiary institutions in Osun state Nigeria. From the values presented in the table, it shows that information seeking behaviour by library and information science students has a significant influence on the learning outcomes in tertiary institutions in Osun State,

Nigeria F_{cal} 776.636 and $P < 0.05$ value = (0.00) indicating that the influence of information seeking behaviour on learning outcomes of library and information science students is significant at 0.05 level of significance. Therefore, the null hypothesis two which state that there will be no significant influence of information seeking behaviour on learning outcomes of library and information science students in tertiary institutions in Osun state is rejected

H₀₃: There will be no significant combined influence of self-efficacy and information seeking behaviour by library and information science student on learning outcomes in tertiary institutions in Osun State, Nigeria.

Table 4.8(a-c): Regression analysis on combined influence self-efficacy and information seeking behaviour of library and information science students on learning in tertiary institutions in Osun State, Nigeria.

a. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.787	.620	.618	.300

b. ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	12.38	2	4.44	270.174	0.00
Residual	18.33	336	0.18		
Total	30.71	338			

c. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	
(Constant)	1.291	.137		9.4	.000
Self-efficacy	.751	.035	.728	21	.000
Information seeking behaviour	.203	.028	.245	-7	.000

f. Predictors: (Constant, self-efficacy and information seeking behaviour)
g. Dependent variable: learning outcomes of library and information science students in universities and polytechnics in Osun State, Nigeria.

Source: Researcher's SPSS Analysis Output, 2024

The regression analysis presented in table 4.8 (a-c) shows the combined influence of self-efficacy and information seeking behaviour of library and information science students in in Osun State, Nigeria account for 61.8% variation in learning outcomes of the library and information science students in universities and polytechnics in Osun State Nigeria. . The model summary explain 38.2% variance in learning outcomes of library and information science students in Osun State, Nigeria ($R^2= 0.38.2$), and the remaining variation are explained by other factors not represented in this study. Self-efficacy and information seeking behaviour by library and information science students also show a combined positive significant relationship ($R=7.87$) with the learning outcomes in tertiary institutions in Osun State, Nigeria.

Table 4.8b presents the analysis of variance in the combined influence of self-efficacy and information seeking behaviour by library and information science students in universities and polytechnics in Osun State, Nigeria. From the values presented in the table, it shows that self-efficacy and information seeking behaviour jointly have a significance the result showed F_{cal} 270.174, $p\text{-value} = .000 \leq 0.05$) indicating that the combined influence of self-efficacy and information seeking behaviour of library and information science students significant at 0.05 level significance. Therefore the null hypothesis three which states that there will be no significant combined influence of self-efficacy and information seeking behaviour on learning outcomes of library and information science students in universities and polytechnics in Osun State is not accepted.

Endnotes

1. N. Ismail, & G. Miller. *Factors that motivate high school agriculture teachers to teach.* **Journal of Agricultural Education**, 62 (1), 2021, pp.331-346. <https://doi.org/10.5032/jae.2021.01297>
2. H. Taherdoost. *What is the best response scale for survey and questionnaire design: review of different length of rating scale/attitude scale/Likert scale.* Hammed Taherdoost, 2019, pp.1-10.
3. D. Nushche. *Assessment of learning outcomes in higher education: A Comparative review of selected practices.* OECD Education Working Paper, 15, 2019. <https://dx.doi.org/10.1787/244257272573>
4. N. E. Mateos, A Fernandez-Zabala, E.G. Palacios, & I.I Diaz-de Cerio. *School climate and learning Outcomes. Direct or resilience-mediated relationship?* Sustainability, 13, 68. 2021, pp.114. <https://doi.org/10.13390/su13010068>
5. C. R. Star, & S. D. Simplkins. *High school students' Maths and Science information seeking Behaviour: Relations with their STEM outcomes and socializers.* Social Psychology of Education, 24, 2021, pp.173-198. <https://doi.org/10.1007/s11218-02109611-4>
6. A. Greco, C. Annovazzi, N. Palena, E. Camussi, G. Rossi, & P. Steca. *Self-efficacy Beliefs of University students: Examining Factor Validity and Measurement Invariance of the New Academic self-efficiency Scale.* Frontiers in Psychology. 12:498824, 2022, pp.1-14. doi:10.3389/fpsyg.2021.498824
7. H. Nurhikmah, F. Febriati, & Ervianti. *The impact of Computer-based test and students' ability in computer self-efficacy on Mathematics learning outcomes.* **Journal of Education Technology**, 5(4), 2021, pp.603-610.
8. F. Firmansyah, R. Komala, & Rusdi. *Self-efficacy and motivation: Improving Biology learning outcomes of senior high School students.* **JPBI (Jurnal Pendidikan Biologi Indonesia)**, 4(3), 2019, 203-208
9. Q. Yang, Q. Chen, J. Wang, & R. Ou, *The effect of student self-efficacy on learning outcomes in a business simulation mobile game: A quasi experimental study.* Library Hi Tech, 2022. <https://doi.org/10.1108/LHT-02-2022-0114>

10. R. Cobo-Rendon, M. V. Perez-Villalobos, D. Paez-Rovira, & M. Gracia-Leiva. *A longitudinal study: Affective wellbeing, psychological wellbeing, self-efficacy and academic performance among first-year undergraduate students*. **Scandinavian Journal of Psychology**,2020,pp.1-9.DOI:10.1111/sjop.12618.
11. R. H. Rafiola, P.Setyosari, C. L Radjah, & M. Ramli. *The effect of learning motivation, self-efficacy, and blended learning on students' achievement in industrial revolution 4.0*.iJET, 15(8),2020,pp. 71=82.<https://doi.org/10.3991/ijet.v15i08.12525>
12. T Honicke, & J. Broadbent. *The relation of academic self-efficacy on academic performance: A systematic review*. *Education Research Review*,17 ,2020,pp.63-84.<http://dx.doi.org/10.1016/j.edurev.2020.11.002>
13. A. A. Hayat, K. Shateri, M. Amini, & N. Shokrpour. *Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: A structural equation model*. *BMC Medical Education*, 20(76), 2020, pp.1-11.
14. S. S. Uygur,E. Asici,& M. Kocer. *Prediction of academic resilience in adolescent through academic, social, and emotional self-efficacy and information seeking behaviour*. *Research in Pedagogy*, 13(1),2023, pp.251 -266.
15. J. Hanham, C. B. Lee,& T. Teo, *The influence of technology acceptance, academic self-efficacy, and information seeking behaviour on learning outcomes through online tutoring*. *Computers & Education*,172,2021,pp.1-14

Chapter Five

Conclusion

This chapter presents a summary of findings and conclusions and provides useful recommendations, contributions to knowledge, and suggestions for further studies.

5.1. Summary of Findings

This study aimed to investigate the influence of Self-efficacy and Information Seeking Behaviour on Learning Outcomes of Library and Information Science students in tertiary institutions in Osun State. The study identified the level of self-efficacy in learning outcomes of the students; and identified the level of information-seeking behaviour of Library and Information science students in tertiary institutions in Osun State Nigeria. The study also examined the influence of self-efficacy on learning outcomes and information-seeking behaviour; determined the combined influence of Self-efficacy and Information Seeking Behaviour on Learning Outcomes.

The problem of the study was the perceived decline in learning outcomes of Library and Information Science students. Three research questions were raised, three null hypothesis were formulated and tested at 0.05 level of significance. A conceptual review was done in line with the variables of the study, and a review of empirical studies was also carried out to view the findings of previous studies related to the problem and variables of the study. The study was attached to Bloom's Taxonomy of Learning Theory published in 1956; Bandura's 2001, self-efficacy Theory, and Information Behaviour Theory propounded by Kuhlthau.

Krejcie and Morgan sample size determination technique. A set of questionnaires tagged SEISBLO, with four sections was used for data collection. The instrument was administered by the researcher and research assistants through personal contact. Both descriptive statistics (mean and Standard deviation) and inferential statistics (regression analysis) were used for data analysis. All formulated hypotheses were tested at a 0.05 level of significance. The findings of the study could be summarized as follows:

1. The level of learning outcomes of Library and Information Science students in tertiary institutions in Osun State Nigeria is high.
2. The magnitude and strength of self-efficacy of Library and Information Science students in tertiary institutions in Osun state Nigeria is high.
3. There is a positive influence of Information Seeking Behaviour on the Learning Outcomes of Library and Information Science students in tertiary in Osun State Nigeria.
4. There is a significant positive influence of self-efficacy on learning outcomes of Library and Information Science students in tertiary institutions in Osun state, Nigeria.
5. There is a significant combined influence of self-efficacy and information seeking behaviour on learning outcomes of Library and information science students in tertiary institutions in Osun State Nigeria.

5.2 Conclusion

Achieving required learning outcomes in Library and Information Science students is important for determining the quality of the educational programme. The level at which learning outcomes are attained determine the level of professionalism of Library and Information Science students. A number of factors are capable of influencing the levels of learning outcomes of the Library and information science students, including self-efficacy and information seeking behaviour of the students.

Based on the findings of this study, it was concluded that magnitude and strength has correlation with learning outcomes and that initiation, selection and formulation of information in information search process has statistically significant positive influence on learning outcomes of Library and Information Science students in tertiary institutions in Osun state, Nigeria. It could also be concluded, from the findings, that self-efficacy have significant positive influence on learning outcomes of Library and Information Science students. This study also concludes that self-efficacy and information seeking behaviour have combined significant influence on learning outcomes of Library and Information Science students in tertiary institutions in Osun State Nigeria.

5.3 Recommendation

Based on the findings and conclusion of this study, it could be recommended that: Library and Information Science undergraduate students should be aware of negative influence of information seeking behaviour on learning outcomes and be wary of endorsement of any form of information seeking behaviour relating to their profession.

1. Library and Information Science undergraduate students should redirect efforts towards improving their self-efficacy in order to experience improvement in attainment of very high level of learning outcomes required for professional competence.
2. Both students and lecturers of Library and Information Science should target improving the level of students' self-efficacy for improved learning outcomes to be at competitive advantage in the labour market and to improve the image of Library and Information Science programme in terms of quality.
3. Employers of labour should avoid information seeking bias regarding Library and Information Science profession as such affects learning outcomes of students negatively.
4. Policy makers for Library and Information Science programme, Nigerian Universities and Polytechnics National University Commission (NUC), and National Board for Technical Education (NBTE) should be aware of the influence of students' self-efficacy on learning outcomes and make appropriate decisions and policies that will enhance the level of self-efficacy.
5. The Student Industrial Work Experience Scheme (SIWES) should restructure the training work exercise to meet the skills for all students to improve learning outcome.

6. Library schools should collaborate and review the library and information science curriculum to design more time for practical training exercises.

5.4. Contributions to Knowledge

The study offers significant contributions to knowledge by providing information on the levels of learning outcomes of Library and Information Science students in tertiary institutions in Osun State, Nigeria. The study provided information on the information-seeking behaviour relating to the Library and Information Science profession. The study contributed to the body of empirical literature on the influence of information-seeking behaviour on learning outcomes and the influence of self-efficacy on students' learning outcomes.

Theoretically, the findings of the study that showed a positive significant influence of self-efficacy on learning outcomes contributes to theoretical knowledge high sense of self-efficacy will improve hard work and persistence towards achieving success. The finding of the study reinforced Bandura's Self-efficacy Theory that postulated that self-efficacy expectations are powerful determinants of behavioural changes in person towards achieving desired outcomes.

Also, the conceptual model for this study offers conceptual contribution to knowledge as it presented connections between two independent variables (Self-efficacy and Information Seeking Behaviour) and a dependent variable Learning Outcomes. This could be adapted by future researchers. It also provided literature on the combined influence of Self-efficacy and Information Seeking Behaviour on Learning Outcomes of Library and Information Science students in tertiary institutions in Osun State Nigeria which hitherto has been relatively scarce in the existing body of literature. The study significantly contributes to knowledge by providing practical information for students, teachers, employers of labour, and policymakers on ways of

Improving learning outcomes of library and information science students in tertiary institutions in Osun State, Nigeria.

5.5. Suggested Areas for Further Research

1. This study investigated the level of information initiation, selection, and formulation during the information search process and how it influenced learning outcomes of Library and Information science students. Further studies could be carried out to cover another aspect of the students' information-seeking behaviour and how they influence the learning outcomes of the students.
2. The study explored the influence of self-efficacy on learning outcomes of Library and Information Science students but did not consider what may likely influence self-efficacy of the students. Further studies may, therefore, consider factors that can improve and influence the students of Library and Information Science.
3. The current study employed descriptive research of survey type to determine the level of learning outcomes of students, future researchers may employ experimental research design to measure learning outcomes of Library and Information science students.
4. This study was also carried out for Library and Information Science students in universities in Osun State Nigeria, further studies may be carried out in postgraduate programme for comparative analysis and may include other disciplines other than Library and Information Science.

Bibliography

Articles

Davis R. & Lee M. "The relationship between self-efficacy, learning outcomes, and student engagement in library education." *Library Philosophy and Practice*, 2024(1), 1-15.

Greco, C. Annovazzi, N. Palena, E. Camussi, G. Rossi, & P. Steca. *Self-efficacy beliefs of university students: Examining factor validity and measurement invariance of the new academic self-efficacy scale*. *Frontiers in Psychology*. 12:498824 2022, pp. 1-14. Doi: 10.3389/fpsyg.2021.498824

Yi Maggie G. D.K. Barbara,& Young K. R. *On the effects of student interests, self- efficacy, and perceptions of the instructor on flow, satisfaction, and learning outcomes*. *Studies in Higher Education*,2020. DOI: 10.1080/0375079. 2020.1593348

Taylor S. & Black R, "Self-efficacy as a predictor of academic resilience in library and information science students." *Library & Information Science Research*, 45(3), 2023, 112-120.

Moller J. S, Zitzmaan, F. Helm, N. Machts, & F. Wolff. *A meta-analysis of relationsbetween achievement and self-concepts*. *Review of Educational Research*, 90(3), 2020, pp.376-419.

Greco, A. Annovazzi, C. Palena, E. Camussi, G. Rossi, & P. Steca. *Self-efficacy beliefs of university students: Examining factor validity and measurement invariance of the new academic self-efficacy scale*. *Frontiers in Psychology*. 12:498824 2022, pp. 1-14. Doi: 10.3389/fpsyg.2021.498824.

Figueroa-Cañas S. L. & Sancho-Vinuesa, T. "The effect of self-efficacy and self-set grade goals on academic outcomes." *PMC.2023*

Alshahrani, A & Alshammari, E "The Influence of Cultural Factors on Information-Seeking Behavior Among Library Science Students." *Library Hi Tech*, 41(4), 2023, 575-590.

Zhou, X & Chen, Y."Information-Seeking Behavior and Learning Outcomes in Library and Information Science Education: A Correlational Study." *Education for Information*, 38(2), 2022, 115-130.

Books

Administrative Office. *Number of Students*. Federal Polytechnic Ede, Osun State, 2024.

Administrative Office. *Number of Students*. Osun State Polytechnic Iree, Osun State, 2024.

Administrative Office. *Number of Students*. Adeleke University Ede,Osun State, 2024.

Administrative Office. *Number of Students*. Obafemi Awolowo University Ile-Ife, Osun State.2024.

Administrative Office *Number of students*. Osun State University, Osogbo, Osun state 2024.

Bandura, A. *Exercise of Personal and Collective Efficacy'' in Self-efficacy in Changing Societies*. ed. Bandura, A. New York: Cambridge University Press1995. <http://dx.doi.org/10.1017/CBO9780511527692.003>

Braman, C.H.P. Sit, O.R. & K.J. Lindner. Motivational Style and Actual Perceived Academic Performance of Secondary School Students in Hong Kong School Psychology International, 34(1), 2013, pp.17-32.6.

Vkrejcie R. & W.D. Morgan, Determining Sample Size for Research Activities. Educational and Psychological Measurement 3(30),1970, 607-610

Case, D. O. *Looking for Information: A Survey of Research on Information Seeking, Needs and Behaviour*. San Diego, CA: Academic Press.2002.

Frymier A.B & M.L. Houser, The Revised Learning Indicators Scale. Communication Studies, 50(1), 1999, pp. 1-12.

Hartikainen S, H.Rintala, L.Pylvas & P.Nokelainea. The Concept of Active Learning and Measurement of Learning Outcomes Review of Research in Engineering Higher Education. Education Sciences, 9(276),2019, pp.1-14

krejcie R.V & W.D. Morgan, Determining Sample Size for Research Activities. Educational and Psychological Measurement 3(30),1970, 607-610

National University Commission (NUC) Benchmarks Minimum Academic Standards for Undergraduate Programs in Nigerian Universities Education November 2014.

National University Commission (NUC) *Benchmarks Minimum Academic Standards for Undergraduate Programs in Nigerian Universities Education November 2014*

Silva, R.L.& Alves, S.G. "Contemporary Theories of Self-identity" in the *Wiley Encyclopedia of Personality and Individual Differences: Models and Theories*,1, First Edition.Eds. Carducci, B.J. & Nave,C.S. (Eds),2020,pp.215-219.7. 4.

Winstone, N. E. Balloo, K. & Carless. D. Discipline-specific Feedback Literacies: A framework for curriculum design. *Higher Education*,83, 2022, pp.103-127.<https://doi.org/10.1007/s10734-020-00632-0>.

Conference Proceedings

Ikhsan, R. B Saraswati, L.A Muchardie, B.G Vional,&A.Susilo.*The Determinants of Students' Perceived learning Satisfaction in BINUS Online Learning*.5th International Conference on New Media Studies,Bali,Indonesia,October 09-11,2019,pp.68-78.

Internet Resource

Guo, Y.M, B.D. Klein Y.K. Ro. *On the Effects of Student Interest, Self-efficacy and Perceptions of Instructor on flow, Sataisfaction, and Learning Outcomes*. *Studies in Higher Education*, 2019, Doi: 10.1080/03075079.2020.1593348.

Palucktoya O, A. Kappas, & C. A. Smith. *Using Bandura's Self-efficacy Theory to explain Individual Differences in the Appraisal of Problems Focused Coping Potential*. *Emotion Review*. 2023, pp. 1-31. Journal.sagepub.com

Rafiola R.H, P. Setyosari, C. L. Radjah, & M. Ramli. *The Effect of Learning Motivation, Self-Efficacy, and Blended Learning on Students' Achievement in the Industrial Revolution 4.0*. *iJET*, 15(8), 2020, pp. 71-82. <https://doi.org/10.3991/ijet.v15i08.12525>.

Hayat A.A, K. Shateri, M. Amini, & N. Shokrpour. *Relationships Between Academic Self-efficacy, Learning-Related Emotion, and Metacognitive Learning Strategies with Academic Performance in Medical Students: A Structural Equation Model*. *BMC Medical Education*, 20(76), 2020, pp. 1-11.

Lopez-Garrido G. *Bandura's Self-efficacy Theory of Motivation in Psychology*. *Simply Psychology*,2023,<https://simplypsychology.org/self-efficiency.html>.

El-Maamiry, A. A. *Self-efficacy in the Information Seeking Behaviour: Case Study of State University of Zanzibar students*. *Academia.edu*, 2022, pp.78-89

Gyesi, K. *Information Seeking Behaviour of Graduate Students of the University of Professional Studies, Accra (UPSA)*. (MPhil thesis). *University of Ghana, Legon*.2016.

Schunk D.H, & M. K. DiBenedetto. *Selfefficacy and Human Motivation*. *Advances in Motivation Science*, 8, 2021, pp. 153-179. <https://doi.org/10.1016/bs.adms.2020.10>

Fairbanks, B. 5 *Educational Learning Theories and How to Apply them*.2021. <https://www.phoenix.edu/blog/educational-learning-theories>

Lopez-Garrido, G. *Bandura's Self-efficacy Theory of Motivation in Psychology*. Simply Psychology,2023,<https://simplypsychology.org/self-efficacy.html>12.

Neroni, C.Mejis,H.J.M Gijsselaers, P.A Kirshner & R.H.M de Groot.Learning Strategies and Academic Performance in Distance Education. Learning and Individual Differences,73,2019,pp.17.<https://doi.org/10.1016/j.lindif.2019.04.007>

Sothan S. The Determinants of Academic Performance: Evidence from a Cambodian University. Studies in Higher Education, 44(11), 2019, pp.209620111. <https://doi.org/10.1080/0375079.2018.1496408>

Goh, D.H., & Chiu, K.W. *Online Learning and Self-efficacy: The Case of Library and Information Science Students 2023* Hsu,

Yakubu M.N, & A.M. Abubakar. Applying Machine Learning to Predict Students' Performance in Higher Educational Institutions.Kybernetics,51(2), 2022,pp.916-934.

Journal

Supena, I A.Darmuki, & A.Hariyadi. *The influence of the 4C (constructive, critical, creativity, collaborative) Learning model on students 'learning outcomes*. **International Journal of Instruction**, 14(3), 2021, pp.873-892.

Khan, M.A & Ali, S. "Impact of self-efficacy on academic performance of library and information science students." **Journal of Academic Librarianship**, 48(1),2022, 102-110.

Vachova, L.E. Sedlakova, & Kyintova, J. *Academic Self-efficacy as a precondition for critical thinking in University students*. **Pegem Journal of Education and Instruction**.13 (2),2023, pp.328-334.

Zhou, X. & Chen, Y. "Enhancing self-efficacy through mentoring in library and information science programs." **International Journal of Information Management**, 57, 2021, 102-110.

Topic, M. & Cunha, M.J *Women in public relations (1982- 2019)*. **Journal of Communication and Management**, 2020, pp. 1-22.

Miller, J. & Roberts, C. "Self-efficacy and its influence on ethical decision-making in library and information science." **Journal of Academic Librarianship**, 48(5),2022, 102-110.

Rorimpandey, W.H.F & Midun, H. *Effect of hybrid learning strategy and self-efficacy on learning outcomes*. Journal of Hunnan University, 48(8), 2021, pp.181-189.

Ahmadi, S. *Academic self-esteem, academic self-efficacy and academic achievement: a path analysis*. J. Foren. Psy, 5(155), 2020, 10-35248.

Parissi, M. Komis, V. Dumouchel, G. Lavidas, K. & Papadakis, S. "Enhancing Information-Seeking Behavior Through Structured Teaching Interventions: A Study on Undergraduate Students." **Journal of Information Science**, 49(2), 2023, 145-158.

Vachova, L. E. Sedlakova & J. Kyintova. *Academic self-efficacy as a precondition for critical thinking in university students*. **Pegem Journal of Education and Instruction**, 13(2), 2023, pp.328-334.

Kumar, S. & R. Singh, "Influence of Self-Efficacy on Research Skills of Library and Information Science Students." **Journal of Academic Librarianship**, 48(1), 2022, 102-110.

Garcia, J. & M. Lopez, "Self-Efficacy and Academic Performance: Insights from Library and Information Science Students." **International Journal of Library and Information Services**, 12(1), 2023, 19-34.

Hussain, A. & Akhtar, M. "Analyzing Information-Seeking Behavior Among Library and Information Science Students: A Study of Their Preferences and Needs." **Journal of Library Administration**, 61(3), 2021, 235-250.

Ha, C.Y. & Min-Jeong, C. *Development and effects of smartphone app-based walking exercise program for taxi drivers: Based on Bandura's self-efficacy theory*. **Journal of Korean Academy of Nursing**, 50(2), 2020, pp. 242-254.

Smith, T. & Jones, L. "Digital Information-Seeking Strategies of Library Science Students: A Comparative Study." **Journal of Information Science Theory and Practice**, 11(3), 2024, 123-135.

Kustyarini, K. *Self-efficacy and emotional quotient in mediating active learning effect on students' learning outcomes*. **International Journal of Instruction**, 13(2), 2020, pp.663-676.

Amini, R. Setiawan, B. Fitria, B. & Ningsih, Y. *The difference of students learning outcomes using the project learning and problem-based learning models in terms of self-efficacy*. **Journal of Physics: Conference Series** 1387, 012082, 2019, pp. 1-6. Doi: 10.1088/1742-6596/1387/1/012082.

Cobo- Rendon, R. Perez- Villalobos, M.V.D. Paez- Rovira, & Gracia- Leiva. M. *A longitudinal study: wellbeing, psychological wellbeing, self-efficacy and academic performance among first-year undergraduate students*. **Scandinavian Journal of Psychology**, 2020, pp. 1-9. Doi: 101111/sjop.12618.

Almeida, F. & Costa, D. "Exploring Information-Seeking Behavior among Library Science Students: A Case Study." **Journal of Librarianship and Information Science**, 55(2), 2023, 200-215.

Smith T.& Jones, L. (2023). "The Role of Information Resources in Shaping the Information-Seeking Strategies of Library Science Students." **Journal of Information Literacy**, 17(2),2023, 112-125.

Garcia, J.& Lopez, M. (2022). "Impact of Collaborative Learning on Information-Seeking Behavior in Library Science Education." **Journal of Academic Librarianship**, 48(3),2022, 150-159.

Science Students in Hybrid Learning Environments." **International Journal of Library and Information Services**, 12(2),2023, 91-104.

Davis, R. & Lee, M. "The Role of Social Media in Information-Seeking Behavior of Library Science Students." **Journal of Information Science**, 48(6), 2022, 850-861. .

Khan, A. & S. Ali, S."Information-Seeking Behavior of Library Science Students: A Comparative Analysis of Traditional vs. Digital Resources." **International Journal of Library and Information Science**, 12(4), 2023, 145-160.

Peterson, R. & Taylor, J. "Information-Seeking Behavior and Academic Achievement: Insights from Library Science Students." **Journal of Academic Librarianship**, 47(3), 2021, 102-110.

Nguyen, T. M. & Pham, L. H."Information-Seeking Behavior in Online Learning Environments: Challenges and Strategies for Library Science Students." **Journal of Digital Information**, 24(1), 2024, 78-90. .

Nguyen, H.T & Tran, T.A "Barriers to Effective Information-Seeking Behavior in Library Science Education: A Student Perspective." **Journal of Librarianship and Information Science**, 56(2),2024, 215-230.

Mansour, A. & El-Sharkawy, M. "The Role of Information Literacy in Enhancing Information-Seeking Behavior Among Library Science Students." **Journal of Information Science**, 48(5),2022, 650-664.

Charles Meadow,T. Gary Marchionini and Joan Cherry, M. "*Speculations on the Measurement and Use of User Characteristics in Information Retrieval Experimentation*" **The Canadian Journal of Information and Library Science** 19, no. 4, December 2020, pp.5-7

Diane Nahl and Carol Tenopir, "*Affective and Cognitive Searching Behavior of Novice End-Users of a Full-Text Database*" **Journal of the American Society for Information Science**, 47, no.4, April 2020, 285; Tenopir et al. 173.

Badu, E.E *The information-seeking habits of graduate students in the University of Ghana.* **Education Libraries Journal**, 44 (2), 2017, pp.35-39.

Dzandu, M.D & Boateng, H. *Unraveling the dilemma of the information search process: The application of Wilson's model in a Ghanaian University setting*. **International Journal of Digital Library Services**, 3(3), 2018,pp. 22-37.

Charoenkul, Sukan, and Sumalee Chanchalor. "Information Seeking Behaviour and Personality Traits in Secondary-school Students." *International Journal of Instruction* 14, no. 2 (April 1, 2021): 405–20. <http://dx.doi.org/10.29333/iji.2021.14223a>.

Mohammed, Rabiur Nurudeen. "POSTGRADUATE STUDENTS INFORMATION SEEKING BEHAVIOUR IN THE FACULTY OF MANAGEMENT SCIENCES, BAYERO UNIVERSITY, KANO, NIGERIA." *American International Journal of Multidisciplinary Scientific Research* 6, no. 4 (December 19, 2020): 1–14. <http://dx.doi.org/10.46281/ajmsr.v6i4.916>.

Jayamma, K. V., and G. T. Mahesh. "Information Seeking Behaviour of Post Graduate Students of Government Science College, Bangalore: A Study." *Asian Journal of Information Science and Technology* 10, no. 1 (May 5, 2020): 1–5. <http://dx.doi.org/10.51983/ajist-2020.10.1.303>

Thesis

Gyesi, K. *Information Seeking Behaviour of Graduate Students of the University of Professional Studies, Accra (UPSA)*. (MPhil thesis). University of Ghana, Legon.2016.

Review

Jeebakaran, M., & Shanmugathan, S. 2022. *Students' Information Seeking Behaviour*. SriLanka Library Review, 36(1), 29.

Lead City University Ibadan DO NOT COPY

Appendice

Questionnaire

Lead City University, Ibadan

Faculty of Communication and Information Science

(FCIS)Department of Information Management

**Library and Information Science Students' Self-Efficacy, Information Seeking Behaviour
And Learning Outcomes of Universities and Polytechnics Student in Osun State Nigeria**

Dear Respondent,

I am a Postgraduate student of the above named Institution gathering data for the purpose of academic research on the topic “Self-Efficacy, Information Seeking Behaviour and Learning Outcomes of Library and Information Science Students in Universities and Polytechnics in Osun State Nigeria.” I solicit your optimum cooperation and sincerity in responding to the questionnaire items. Please note that your responses will be kept confidential as they will be used for academic purposes only.

Thank you.

Rowland Kayode OLUSI

Researcher

Section A: Demographic Information

Instruction: Please () as appropriate

- a. Name of Institution:.....
- b. Sex: Male (), Female ()
- c. Age: Below 18 (), 18-25 (), 26 – 30 (), Above 30 ()
- d. Educational Level: Year 2 (), Year 3 (), Year 4 ()

Section B:

Library and Information Science Students’ Learning Outcomes

Please tick (✓) the appropriate choice that indicates your opinion on the level at which the under-listed learning outcomes occur:

Very High Level (VHL), High Level (HL), Low Level (LL), Very Low Level (VLL)

Expression of Knowledge (Cognitive learning outcome)

S/N	Items	VHL	HL	LL	VL
1	I can explain classification scheme				
2	I usually volunteer to explain concept of library tools to my peers.				
3	I feel I have learned a lot in the class to be professionally competent				
4	I understand the use of library Database				
5	I can explain vividly the process of acquisition and selection process				
6	I understand the process of carrying out reference services in the library				
7	I understand the reason why library resources are arranged by subject on the shelves				
8	I know how to evaluate and weed out obsolete resources in the library				
9	I understand the rules and ethics guiding the use of library				
10	I understand the process of charging out library resources to users				

Expression of Skills (Psychomotor learning outcome)

11	I can catalogue books using library management software				
12	I can create a worksheet for bibliographic description				
13	I can effectively apply all the library tools for example DDC,AACR2 and library of congress classification scheme				
14	I can effectively carryout library resources borrowing system to library users				
15	I can create a worksheet for any type of library for cataloguing process				

Section C: Self-Efficacy Scale (SES)

Very High Level (VHL), High Level (HL), Low Level (LL), Very Low Level (VLL)

Magnitude of Self-Efficacy (Competence)

S/N	Items	VHL	HL	LL	VL
1	I have the confidence using library OPAC to access library resources				
2	I am not discouraged when I couldn't find library materials needed				
3	I am not nervous anytime I use the library database				
4	I am aware and motivated accessing the library of digital content.				
5	I am confident in my ability to use electronic documents available in the library.				

Strength of Self-Efficacy (Persistence)

6	Despite discouragement from my peers I enjoy using library OPAC to access information.				
7	In spite of the complexity in carrying out indexing and abstracting I still maintain my efforts.				
8	Regardless of the obstacle in a cataloguing and classification process I keep moving towards perfection.				
9	I consistently figure out how to perform the most complex library task.				
10	I persistently work hard to master all the library daily routine.				

Section D: INFORMATION SEEKING BEHAVIOUR SCALE (ISBS)

Please tick () the appropriate choice that indicates your opinion on the following

Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

Initiating Information Seeking

S/N	Items	VHL	HL	LL	VLL
1	If I have information need the first step I usually take is to begin my search with initiating the information seeking				
2	I usually describe my thoughts and feelings as I start to gather information.				
3	I have strong feelings about my ability to begin information search process.				
4	I usually decides on which source of information to focus on when exploring different sources.				
5	The credibility and usefulness of the source of information I decided to explore is important to me				

Selecting Information Source

6	I usually felt uncertain or confused during information selection process.				
7	I use some strategies to walk through when I am confused during selection of information.				
8	My focus and understanding of my information need evolved as I collect more information.				
9	My thought and feelings usually change over the source of information been selected.				
10	The confidence in the integrity of the source of information is a determinant of the information that I usually select.				

Formulation of Information Selected

11	At certain point, I usually feel that I have enough information to formulate.				
12	I usually perceive some signal that I have reached the stage of formulating the information I selected.				
13	When I am ready to formulate and synthesize the information I selected, I go about structuring them.				
14	My formulation of information evolved, particularly when I am convinced of the integrity of the information.				
15	My prior knowledge and experience in information selection influence how I formulate the information selected.				

Lead City University Ibadan DO NOT COPY

Bio-data

A. Personal Data:

1. Name: OLUSI, Rowland Kayode
2. Sex: Male
3. Date and Place of Birth: 18TH April 1975
4. Marital Status: Married
5. Nationality: Nigerian
6. State of Origin & Local Govt Area: Akoko-Edo, Edo State.
7. Religion: Christianity
8. Discipline: Library and Information Science
9. Place of work: Osun State Polytechnic, Iree, Osun State
10. Number of children: 4, (19yrs, 17yrs, 13yrs & 9yrs)
11. Address: Plot12, Oke-Alafia Quarter
Eripa, Osun State
12. Name and Address of Next of Kin: Mrs Olusi Omowumi Ajike. Plot 12
Oke-Alafia Quarters, Eripa Osun State.
13. Phone number: +234 8168292811, 09079068925
14. Email Address: rowlandolusi@gmail.com

B. Institutions Attended with Dates

Lead City University Ibadan, Oyo State, Nigeria.	2022 – till date
Ambrose Alli University Ekpoma, Edo State Nigeria.	2001 – 2004
Institute of Education, Edo State University Ekpoma.	1994 – 1996
Ikakumo Community High School, Ikakumo.	1987 and 1988

C. Academic Qualifications with Dates:

Masters in Library and Information Science (MLIS)	2024
Bachelor of Library and Information Science (B.sc)	2006
Diploma in Library Science (Credit)	1997
West African School Certificate (WASC)	1982-1988

D. Work Experience with Dates:

October 2013- January 2023: Librarian, Osun State Polytechnic Iree, Osun State.

January 2023-Date: Lecturer III, Department of Library and Information Science, Osun State Polytechnic, Iree, Osun State.

E. Awards and Fellowship: Nil

F. Membership of Professional Bodies:

Librarian Registration Council in Nigeria (CLN) 2019

Member, Nigerian Library Association, Cataloguing, Classification & Indexing Section, Osun State Chapter.

G. Publications:

H. Major Conferences/Workshops Attended with Dates

43rd annual Seminar/Workshop on Metadata Management and Quality Assurance in Linked-Data Environment organized by the cataloguing Classification and Indexing Section of the Nigerian Library Association Redeemers University, Ede, Osun State. 27th October 2023.

10th Annual E-Library Management Conference 2022: Digital Preservation: Re-imagining Research Experience Through the use of E-Library organized by Centre for Public service Productivity and Development 23rd September 2022.

National Workshop for Librarians & Information managers' e-Library management: Leveraging emerging technologies for effective Library Services. Held at e-library Centre Polytechnic organized by Librarians 'Registration Council of Nigeria Ibadan June 2022.

“Workshop on Administration and Management of E-Library Platform” facilitated by Farmer-to farmer for Agricultural Education and training (F2F for AET)/Nigeria; Implemented Volunteer technical Assistance (VTA) program with Funding from the United States Agency for International Development (USAID) October 2017

I. Reference:

Mr. Kehinde ALABI

Rector
Osun State Polytechnic
Iree, Osun State Nigeria.

Mr. Stephen Olufemi OLADOYE

Dean (FICT)
Osun State Polytechnic
Iree. Osun State Nigeria.

Mr. Yunus Akanmu ATAYESE

Polytechnic Librarian
Osun State Polytechnic
Iree, Osun State, Nigeria.

Signature

Date

Lead City University Ibadan DO NOT COPY

The University Compliance Certification

This is to certify that this thesis was written by **Rowland Kayode OLUSI** with matriculation No. **LCU/PG/005027** in the Department of Information Management of the Faculty of Communication and Information Science, Lead City University, Ibadan is in full compliance with the approved university format and style.

Signature

Date

Lead City University Ibadan DO NOT COPY