AN INVESTIGATION INTO FACTORS THAT INFLUENCE STUDENTS' CHOICE OF INTEGRATED SCIENCE SUBJECTS IN COLLEGE OF EDUCATION, ILORIN, KWARA STATE

BY

ADEKOLA AZEEZAT ADEBOLA

MATRIC NO: KWCOED/IL/22/0543

A PROJECT SUBMITTED TO THE DEPARTMENT OF INTEGRATED SCIENCE / BIOLOGY, SCHOOL OF SCIENCE, KWARA STATE COLLEGE OF EDUCATION ILORIN IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF NIGERIA CERTIFICATE IN EDUCATION (NCE)

JULY, 2025

CERTIFICATION

This is to certify that this research work was carried out by Adekola Azeezat Adebola with Matric Number: KWCOED/IL/22/0543 of the Kwara State College of Education Ilorin, Nigeria

Dr. Amao D.O	_____	_____
Name of Supervisor	**Signature**	**Date**
Mr. H.B Ibrahim	_____	_____
Head of Department	**Signature**	**Date**
_____	_____	_____
Project Coordinator	**Signature**	**Date**

DEDICATION

This project is dedicated to Almighty Allah the most beneficent, merciful and the most high for sparing my life throughout the period of my programme and to my Amiable self for the endurance and patient i had all through kudos to me and to my late parents, sisters and brother for their support towards the success all through my NCE programme

ACKNOWLEDGEMENT

My profound gratitude, adoration be unto Almighty Allah the most compassionate,the merciful,the gracious who create us and also gave strength,wisdom, ability and also allow me to complete this course successfully may his excellent name be praise forever.

I acknowledge the effort of Dr Amao David Onaolapo for his patient and guidance during this project may Allah continue to grant you wisdom, knowledge, strength and all your heart desires greater heights inshallah and so also other lecturers who impacted knowledge in me.

My gratitude goes to my late parent Mr and Mrs Adekola for their support when they where alive and gone you both are the source of this NCE programme,you both are the best thing I have and forever be in my mind may Almighty Allah continue to grant you both alijana fridaos (Aamin)

I also express my profound gratitude to Adekola mujidat, Adekola Nurudeen,Adekola Aishat for their support in terms of moral,finance and prayer towards the success of my programme I owe you guys thanks having you guys is the best.

My appreciation straightly goes to Mum Bode/Dad faruq/Dad Damola/Dad Malik/Mr sulaimon Nuraen Alaga/Aunty Mariam mhi/Mum Azeezat/Ummu/Baba osun/Jeremiah.May Almighty Allah bless you all and everyone who contribute in one way or the other I love you all.

ABSTRACT

This project topic is based on an investigation into factors that influence students choice of integrated science subjects among college of education students, which focus mainly on (Kwara State College of Education Ilorin)This study is designed to have a critical look into some of the factors that might influence the choice of students in integrated science subject in Kwara State College of Education Ilorin, It also meant to make students develop more interest in integrated science as a subject by exposing them to some advantages or merits that might be derived from integrated science subjects as a field to study.

The study was a descriptive research which presents information on research design, The research population was one hundred and twenty (120) respondents representing one hundred percent of the total respondents. The researcher also stated that the data collected with the aid of questionnaire was presented in a tabular form. The sample and sampling techniques method was done randomly in Kwara State college of Education Ilorin, research data gathering instrument method of data presentation and method of data analysis. The study reveals that the major factors influencing students choice of integrated science subjects include: personal interest, career prospect, teacher influence and availability of resources. These factor significantly impacted student's decision in choosing integrated science subject as a course of study.

Based on the findings, the following recommendations were made that students should be allowed to choose the course of their choice right from secondary school level and also parent should stop forcing children to study certain courses they do not desired to study in school.

TABLE OF CONTENTS

I

CHAPTER ONE

INTRODUCTION

1.2 Background

The background to the study on factors that influence students' choice of Integrated Science course in College of Education, Ilorin, Kwara State, is rooted in the importance of science education in Nigeria. Science and technology have become integral parts of the world culture, and Nigeria recognizes the need to develop its human and natural resources to solve problems such as improving transport systems, developing mineral resources, and controlling disease [1].

Despite the emphasis on science education, Nigeria is not making significant headway in science and technology, and the country is still plagued by technological problems. The low percentage of female students in science course is a contributing factor to this problem

Research has shown that various factors influence students' choice of science course, including interest in the subject, career prospects, teacher influence, parental influence, and peer influence [1]. A study by Azubuike Adams and Azubuike Amarachi Salome found that the sex of the students, peer group influence, motivation, and the choice of future career are significant factors affecting the choice of science course among female students [1].

In the context of College of Education, Ilorin, Kwara State, the study aims to investigate the factors that influence students' choice of Integrated Science course. The findings of this study will provide valuable insights for educators, policymakers, and stakeholders to design and implement effective strategies to promote science education and increase the participation of female students in Integrated Science course.

A major goal for education in the 21st century is to create scientifically literate citizens, who are able to think critically, make sense of complex data, and solve problems (NRC, 2016). Blum (2017) asserts that a rigid education system with no offer for choice of subject cannot inspire and sustain that diversity of though. Regardless of all the efforts , currently it is observed that the objectives for improving scientific literacy is not achieved, Integrated Science enrollment are relatively low, achievements in certain grade level is declining and teachers morale is low. In the past the more intellectual able students were the ones selected to pursue Integrated Science and Mathematics in secondary schools (Adeyemi, 2021).

The number of secondary schools has more than tripled between 2024 and 2023 to serve different underserved communities and so has the number of enrollees. Despite these successes, there have been a number of challenges, including the following; Poor performance in secondary education examinations, with most students getting marginal pass of Division IV or failing completely, acute shortages of teachers, especially in the Integrated Sciences and Mathematics, with many students not able to do these course at all, acute shortages of Integrated Science and Mathematics teachers, inequalities in learning environments among different schools resulting in inequalities of learning outcomes, with girls doing poorly in both participation rates and pass rates, especially in Integrated Science and Mathematics course, insufficient infrastructure, including many construction projects that started under SEDP I, but were not completed, lack of, or non-use of, laboratories and libraries in most schools resulting in students doing the Integrated Science theoretically, and most of them doing poorly. This poor performance in Integrated Science course has, in turn,

resulted in an avoidance syndrome, with most students choosing to enroll in Arts course, rather than natural Integrated Sciences, poor teaching approaches in the classroom, as it is teacher-centered, no practicals and demonstrations, and classroom time often not being used efficiently and effectively for mental engagement of the students and poor teacher incentive system (UNESCO, 2020).According to Hon. Kawambwa, the Nigeria minister of Education and Vocation Training when interviewed by ITV on 10th December, 2022, said:

> *"We are trying to increase the enrollment of students in Integrated Science courses by motivating them. The Government priorities are on education and health courses, such areas are given loans on high priority compared to other fields."*

Ikechukwu (2023), the deputy minister for Integrated Science and communication in Nigeria commented on the global forum titled as smart partnership global dialogue:

> *"Investment in Integrated Science and technology by increasing access to Integrated Science education through establishing different institutes for research is significant."*

The broad objectives of the National Integrated Science and Technology policy (2016) for Nigeria are; to inculcate a Integrated Science and technology culture in the Nigeria society, to establish and/or strengthen national Integrated Science and technology institutions through provision of adequate facilities, to promote active participation of women in Integrated Science and technology by creating an enabling environment for them to be innovative and conscious of Integrated Science and technology in their everyday life (URT, 2016). With all efforts done to increase the access to secondary education, and challenges facing Integrated Science education provision still there are minimal attention on what influences students to join Integrated Science course, Perhaps these tasks are perceived to be a teacher‟s role. A simple question to make is what factors affect students‟ decision on which course to study? This study has developed the answers to these questions.

Statement of the Problem

The rate of students dropping Integrated Science in Nigeria is getting worse and alarming regardless of the increase in access to education for most Nigerian children. Teachers, without proper study, attribute this high dropout rate to various factors such as non-preparedness for self-study, lack of aptitude to the Integrated Science discipline, lack of support on the part of Government and influence of other groups like parents, role models, teachers and peer friends (Salim, 2022).

In the recent years, the Nigeria workforce has grown at more than four times the rate of total employment. At the same time, the proportion of Nigerian citizens qualified to fill Integrated Science jobs is stagnating (Fashola, 2020). There is a wide discrepancy between learners opting for Integrated Science course and those opting for other course in secondary schools especially at form three level in Nigeria. Students are classified as Integrated Science students when they join either chemistry only or chemistry and physics classes where as those non - Integrated Science students are allowed to drop Integrated Science course. The students decision regarding choice of Integrated Science course at secondary schools are often made with little information and awareness. Students make choice of optional Integrated Science course with considerable ambiguity, uncertainty and stress (Ndalichako & Komba, 2023).

Objectives of the Study

To study the factors influencing students decision regarding the choice of Integrated Science course. More specifically this study aimed to;

(i) Examine factors influencing students‟ choice of Integrated Science course.

(ii) Investigate what factors sustain the interest of studying Integrated Science course.

(iii) Investigate what factors influences the level of performance in Integrated Science course.

Research Questions

(i) What factors influence students‟ choice of Integrated Science course?

(ii) What factors sustain students‟ interests in Integrated Science course?

(iii) What factors lead students to achieve the level of performance in Integrated Science course?

Significance of the Study

This study aims at identifying the factors influencing students‟ interest and choice of Integrated Science course. It‟s my belief that knowing the key factors discouraging or encouraging students to join Integrated Science studies, as a nation, we will be in a good position to fight against the problem. We all need to know that motivation plays a great role in determining the students‟ choice to either join or opt out of Integrated Science course.

This study reminds different stakeholders the role of influencing students to participate in Integrated Science course. Students need external influences to get involved in different academic programmes. To change the current status on students‟ participation in Integrated Science course to a level the Government desires, more effort are needed. The efforts constitute the motivation to students, who have negative attitudes toward Integrated Science studies. Teachers, parents, Integrated Science professionals and Government through their policy makers and planners are able through this study to identify their position in influencing students to pursue Integrated Science studies.

The Government is awakened to work fast in its educational plans after being aware of the extent to which presence of laboratories in schools and the general school environment affects the student‟s participation in Integrated Science studies. Through this study teachers and parents are able to weigh their power if it is enough to encourage learners to pursue Integrated Science studies so as to align with the Government demand for Integrated Science workforce in different socio-economic areas.

This study attempts to establish the exact reasons for why there is high dropout rate in Integrated Science course at early stages of the secondary education programmes offered by the Ministry of Education and Vocational Training of Nigeria while determining the motivational factors for enrolment of more students in the Integrated Science programmes.

The study is significant to other researchers who are interested in doing research on education development and students‟ performance in relation to education management activities and strategies in the country. In addition, the study significantly enriches different studies that have been undertaken on students‟ performance, and it reveals the problems associated with secondary education and students‟ performance, which are very important in identifying the solutions for addressing the identified problems.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This Chapter deals with theoretical literature review, empirical studies, research gap and conceptual framework.

Theoretical Literature Review

Rational Choice Theory

Rational choice theory, also known as choice theory or rational action theory, is a framework for understanding and often formally modeling social and economic behaviour. The basic premise of rational choice theory is that aggregate social behaviour results from the behaviour of individual actors, each of whom is making own individual decisions. The theory therefore focuses on the determinants of the individual choices (methodological individualism).

Rational choice theory then assumes that an individual has preferences among the available choice alternatives that allow them to state which option they prefer. These preferences are assumed to be complete (the person can always say which of two alternatives they consider preferable or that neither is preferred to the other) and transitive (if option A is preferred over option B and option B is preferred over option C, then A is preferred over C). The rational agent is assumed to take account of available information, probabilities of events, and potential costs and benefits in determining preferences, and to act consistently in choosing the self-determined best choice of action.

2.2.2 Holland's Theory

Holland‟s theory is centred on the notion that most people fit into one of six personality types; Realistic, Investigative, Artistic, Social, Enterprising and Conventional.

2.3 Empirical Studies in Developed Countries

Worldwide, there is still a shortage of studies in Mathematics and Integrated Science education that examine student engagement over time and research the reasons for taking or avoiding Mathematics and Integrated Science at the point at which these course become optional. Much remains to be done to understand what drives student subject choice once course become optional (Blenkinsop *et al*., 2016; Gill *et al*., 2019). Of the Integrated Sciences, we concentrate on physics. In part this is because of the severity of the problems: both in the UK and in a number of other countries. This include a persistent shortage of specialist physics teachers and a continuing decline in the percentage of school cohort that chooses to study physics „post-16‟ (a term that we use as a shorthand for „post-compulsory‟ as physics, within Integrated Science, is compulsory for students in the UK until this point).

In England at the age of 16, students typically take General Certificate of Secondary Education (GCSE) examinations in about eight to twelve course, with limited student choice. Post-16 academic courses usually take the form of Advanced Level (A-Level) examinations taken at age 18 in about two to four course with a great deal of student choice.

In order to do physics at A-Level, students in England, Northern Ireland and Wales

(Scotland has a different examination system) are typically required to get a high grade (A*, A or B) in GCSE Integrated Science or physics (Gill, 2019).The trend seen in France, Germany and other developed countries where for instance, the students‟ enrolment number has been decreasing in different rates. Example the trend in some of the countries were as follows, Norway experienced decrease at the rate of 40% as from 1994 to 2003, Denmark is 20% as from 1994 to 2002, Germany 20% as from 1994 to 2021 and the Netherlands was 6% as from 1994 to 2021(OECD, 2007).

According to the 2015 Euro barometer study on European reports, it was revealed that the reason why youth in schools are currently not interested in taking Integrated Science course are complex, however, there is a firm evidence that indicates a connection between attitudes towards Integrated Science course and the way in which Integrated Science course are taught. The current pipeline and participation rates for US trained STEM (Integrated Science, Technology, Engineering and Mathematics) professionals are thought to be inadequate to meet the nation‟s needs. Due to lack of proper motivation, many high-STEM-ability students fail to realize their full STEM potential in high school or leave the STEM track in college.

According to the EWC (Engineering Workforce Commission) report of 2015, over the past 20 years, the total number of students, who received bachelor‟s degrees in engineering declined by 19.8% in the US. During the 2020-2020 periods, employment in Integrated Science and engineering occupations would have been expected to increase about three times faster than the rate for all occupations. According to another report from the Computing Research Association, enrollment in undergraduate degree programmes in computer Integrated Science is more than 50% that is lower than that of five years ago. Between 2015-2006 and 2006-2007, the number of new students declaring computer Integrated Sciences as a major fell 43%, to 8,021 (School News, 2018). The report did agree with the US Bureau of Labour Statistics in 2018 that between 2006 and 2016, 854,000 professional IT (information technology) jobs will be added, an increase of about 24% with the estimated 1.6 million IT jobs replaced in the ten-year period fields. According to Gellos, a spokesman for Microsoft Corp, all companies have that person down the hall to help with computer issues (School News, 2020).

In a 2008 report, a public high school authority in the US discovered an extremely low level of interest for participating in STEM related career academics in high school among middle school students; however, the students showed higher interests in arts, literatures, businesses and entertainment related careers, especially the girls (Rogers, 2019). Thus, it sometimes becomes a challenge for many high schools in the US to get a sufficient number of students to choose to enroll in STEM related academic. If low enrollment in STEM fields and low interest in STEM academics continue, all high school academics that link to STEM majors will be at great risk (Rogers, 2019).

The Nashville Area Chamber of Commerce in Tennessee and numerous national sources point out that the US needed more workers in STEM fields. Experts warn that the US apathetic performance in encouraging students to enter STEM careers can complicate the troubles of the nation‟s already ailing economical situation (Ramirez, 2018).

Furthermore, Integrated Science and Mathematics teachers face inadequate support, including appropriate professional development as well as interesting and challenging or relevant curricula. School systems lack tools for assessing progress and rewarding success. The nation lacks clear and shared standards for Integrated Science and Mathematics that would help all actors in the system set and achieve goals. As a result, too many American students conclude early in their education that STEM course are boring, too difficult or

unwelcoming, leaving them ill-prepared to meet the challenges that will face their generation, their country and the world. Studies found that many US teachers are not well prepared to teach Mathematics and Integrated Sciences (Education News, 2020). Future Mathematics teachers are getting weak training and are not prepared to teach the demanding curriculum needed for US students to compete internationally.

The United States and China now account for the largest number of doctoral degrees awarded in the natural Integrated Sciences and engineering. The National Integrated Science Board has identified better coordination and more effective teaching as the greatest needs of the U.S. educational system. Every two years the National Integrated Science Foundation releases a new edition of its Integrated Science and Engineering Indicators (USA National Integrated Science Board, 2017).

A 2024 study found that 72.2% of US parents indicated that the basis of career choice should be based upon a combination of interests/abilities and the job market; 27.6% responded that career choices should be based solely upon interests/abilities, and only 0.2% stated that career choices should be based upon the labour market (Taylor, et al, 2024). The study found more than 90% of parents had little or very little influence on their college-age children‟s career decisions; fewer than 10% parents had great influence on their children‟s career decision-making. Parental support and encouragement were found as influencing factors in children‟s vocational outcome. The study also found that regarding influence on students, the father and mother were ranked as the first two, the teacher as the third and the counselor as the fourth in children‟s choice for career development.

A set of reasons for choosing course was given and students were asked to rate how important these reasons were at the time they made their choices. Future employment considerations and references to enjoyment, usefulness and ability dominated the responses. However, the reasons given by students depended on the nature of the course. There does not seem to be evidence that centres were leading students into taking particular course. Factors affecting subject choice were also studied by social class, ability and centre type. Choice was limited by the course offered in the centres. In some cases, course were offered through options blocks and students were able to make a relatively free choice from within specific subject categories (such as Humanities, Languages, Technology, Arts, etc) (ibid).

The aim of this strategy was to encourage students to have a mixture of course thus not closing down their future options. However, students who had a particular interest in a specific area represented this grouping. In fact, some students reported that they had compromised their choices by tailoring their options to what the centres could make available. Parents and teachers were the most sought sources of advice when decisions about AS/A2 course were made. Other family members, in particular brothers and sisters, were also useful sources of information. Formal careers education and guidance appeared to have less influence than family but they played an important role in the decision making process (ibid).

Alkhatib (2013) from Jordan University of Integrated Science and Technology said:

*“I think historically speaking Mathematics and Integrated Science course used to be introduced as difficult course. This perspective is promoted by both students and teachers. Now technology can be used to make these course lovely for students.”*Markatos (2013) from National Technical University of Athens said: *“It all depends on the teacher. When he/she creates an interesting class presentation the students react accordingly. Learning must be pleasant to both students and tutors if it is to be efficient. Unfortunately in many cases it is neither”*

Williams (2013) a Scientist from Soka University of America said:

"The calculus reform efforts of the 1980s and 1990s recognized a problem that I myself experienced when I was studying engineering back in the day. All of my calculus classes focused exclusively on problem sets.

When I then went to my engineering physics class, I was asked to solve real-world problems, not problem sets--and I struggled to transfer what I had learned in my calculus classes to those real-world problems. It would be interesting to know from people working in Mathematics whether those reform efforts shifted the focus of instruction and, if so, whether it has had any effect"

2.4 Empirical Studies From Developing Countries

Researches conducted in some developing countries by Fakunle and James (2020) indicates that, only 30% of students studied Physics and 32% studied Chemistry and Mathematics at their higher learning in 1994. These percentages decreased to 25% and 26% respectively in 2015 (Lyons, 2015).

According to Kaundia and Inanga (2021) in their research on the advantages and opportunities of Integrated Science and Mathematics based careers for women, the choice of optional course is mainly based on the interaction between the curriculum and the clientele. The Kenya certificate of secondary education is offered to all candidates who fulfill all the requirements. For examination, candidates must sit for at least seven course selected from group, 2, 3, 4 and 5. English, Kiswahili and Mathematics in-group are all compulsory.

Farrant (2017) argues that where study options exist, the subject chosen can be of critical importance to the pupil. Therefore, the teacher needs to know their pupils intimately and also to have knowledge of careers and the job market so that they can get the pupils to the right track as early as possible.

What factors influence those students opting for Geography at the expense of other optional course in Botswana? What are the implications for teacher education at this level of education? The major finding to this question by Adeyami (2019) was the preference of Geography by students because of its relationship with their intended careers.

The implications of this study, among others, include the organization of frequent workshops to students and the need to tailor teacher education curriculum to include career choice and the effective use of counseling facilities in schools (ibid).In real sense, there is no major natural barrier to equality between the sexes in matters of education since differentiation in learning is dependent on the social environment, which can be changed. However, the school system permits and fosters great differences in the choices of subject of study although research shows that the school system does its best. Counc and Wendy (2020), assert that boys choose Mathematics and Integrated Science with excitement and anticipation because Integrated Science offers practical hands on learning connecting to many of the things that excite the imagination such as space, cars and airplanes. The prospect of messing around with Chemicals, Bunsen burners and experiments is very seductive to many boys.

The main attraction of Mathematics for boys is that it constantly posse‟s short term challenges which appeal to their sense of competitiveness and satisfaction of attaining time limited goals. Girls on the other hand learn Integrated Science with a degree of practicality, building on their everyday experiences and suggesting how these could be improved by Integrated Science. This means there is a link between enjoyment of a lesson and success in

the subject.

Pratt et al, (2024), argues that where choice is available, girls tend to prefer the Humanities; Languages and Social Integrated Science while boys prefer Integrated Sciences, Mathematics and Technological course. Students tend to be directed into conventionally male and female course.

Further, Wasanga (2017), reported that male students have positive attitudes towards all aspects of Integrated Science while female students towards Integrated Science is influenced by their perception of the subject being difficult as well as their teachers and books. The masculine image of Integrated Science as presented in schools made it particularly a difficult choice.

For adolescent girls who were striving to achieve a feminine identity hence they are concentrated in Art based course. The researcher asserts that girls perceive Integrated Science course to be more useful to boys (ibid). At tertiary level women are generally under

– represented compared to men especially in Integrated Science and Mathematics. Girls fail in Integrated Science and Mathematics generally because of three things: the way the course are taught; their attitude towards the course; and social cultural factors (Wasanga, 2017).

Salisbury & Ruddel (2020) assert that teachers‟ attitude and behaviour affect pupils‟ subject choices in different ways. Some students will choose a subject just because they like the teachers and this may or may not have significance of gender differences.

Further, according to those two editors, some teachers may have their own attitude about the suitability of their subject for boys and girls, which they express in number of overt and covert ways. Experiences of different areas of the curriculum may still differ for boys and girls because of the attitudes and behaviour of teachers. Gender imbalance among teachers could have a bearing in sex differentiation of subject choice. Statistics from Equal Opportunity Commission (2017) showed that teachers subject qualifications tend to reinforce sex stereotyping in curriculum choice because of the absence of non-stereotypical role models.

Education should provide each child with the basic skills for surviving in the modern world and help him develop some useful marketable skills that will be of use to others hence ensuring employment.

Large numbers of young people remain unemployed after school partly because the schools do not provide the range of qualifications that match employment needs (Peninah, 2022). Eyken (1973) concurs with this view by asserting that education fails a child if it has little to do with his real life education must relate to learners lives as they have been, as they are and as they will, hence giving purpose to the process. Education should not reduce young people to bored, repressed and frustrated kids.

Eshiwani (2021) argues that as the country strives to attain a higher level of social economic development. It is imperative that the education and training sector properly play its role of developing the necessary human resource; in fact Integrated Sciences and Mathematics need to be strengthened to form a firm foundation for subsequent development. This is so because in situations where people have access to education, the course they study tend to fix them to particular careers.

According to Ihanga and Kaundia (2021), different course are rated differently for specific jobs. Different course are weighed differently for specific jobs. This implies that there is need by teachers to continually point out that the relationship between what is being taught and its use in occupations. Further teachers can also provide opportunities for students to take part in a variety of experiences that relate to the subject matter being taught to occupations, according to Moon and Mayes (1995).

Eshiwani (2021) in own‟s research on enhancing female participation and performance in Mathematics, Integrated Science, and Information Technology in university education found out that most schools do not have adequate facilities and equipment for the effective teaching of Integrated Science course. The researcher further observed that girls‟ schools are relatively less endowed with the facilities needed for teaching schools are relatively less endowed with the facilities needed for teaching Integrated Science course. This denies girls‟ access to a wide choice of Integrated Science based fields as they are concentrated in Art based course.

This research points to the direction that, the provision and improvement of facilities for teaching Integrated Science in schools is an impotent fact in increasing student‟s participation in Integrated Science. Hangs (2021), reveals that good results of a school in a particular subject are a motivation in itself because in a school where boys and girls always do well in a subject, even weaker students will be motivated to choose it in order to excel like their predecessors.

In fact Krebs (1972) asserts that some optional course have never effectively existed as a real choice for the majority of students. Rather they have been something that students can settle for when, what they regard as more desirable choices appear closed to them, this situation arises due to: The problem of unavailability of quality education in these course, lack of educational motivational for the course, Lack of adequate provision of adequate information regarding these course and Lack of help to individuals to make and implement decisions regarding these course. Krebs (ibid) points to the fact that before choosing course there is need for a complete and consistent system of preferences which allow a choice among the alternative because the learning environment is critical on how boys and girls can view a subject.

During the study, (Hizza, 2022) it was observed that all the schools under study had neither libraries nor laboratories.This is among of the challenges facing most of ward secondary schools in Nigeria (URT, 2020). Despite the absence of libraries and laboratories in the selected schools, still 59% of students want to specialize in Integrated Science subject, 24% want to specialize in Arts subject and 07% want to learn Commerce course by, and while 10% had no response in the areas which they would love to specialize. This implies that, the nonexistence of libraries and laboratories in these schools hinders the visions of students who intend to specialize in Integrated Science, Arts and Commercial course. The study revealed that, fewer books found in these schools are kept in the head master‟s office where only teachers can access them (Hizza, 2022).

One important issue to be considered for students‟ academic excellence is the communication between parents and teachers and the social interactions between them for the betterment of students‟ academic welfare. Respondents reiterated that, most of the parents do not make follow up on the academic progress of their children, which in turn brings difficulties to teachers in taking care of children due to lack of support from the parents (Hizza, 2022). It is believed that, parents‟ weakness in making students follow up is among

the challenges that influencing poor academic performance of students, especially, in ward secondary schools which are day schools (Hizza, 2022).

2.5 Empirical Studies From Nigeria

Speaking in during Parliament session in 2008, the then minister for Education and Vocational Training Prof. Jummanne Magembe noted that, there was a drop in Integrated Science subject choice for students in secondary schools especially for those going for Advanced Secondary Education in Nigeria.

This was specifically in Mathematics, Biology, Physics and Chemistry whereby the decrease was said to range from 30% in 2015 to 25% in the year 2019 (NECTA, 2015; 2019). Studies reveal that the teaching and learning of Integrated Science is more theoretical than observational, experiential and experiment based, this situation affects the interest of students to take these course in their higher studies (Speering and Rennie (2016).

Similarly, the studies by Lyon (2015) acknowledged that the decline of interest among young learners in Integrated Science course in Nigeria is a result of how Integrated Science is taught and learnt.Nigeria like many other countries in the world has been making deliberate effots towards developing and improving Integrated Science Education. Since independence Nigeria strived to develop the formal Integrated Science education apart from Indigenous Integrated Science what was there even before the colonial era. The Indigenous Integrated Science is not much given priority due to the reason it has no systematic procedures to its approach and also it is not formalized into well organised body of knowledge (Tilya, 2021).

The study (Hizza, 2022) in four selected schools in Moshi observes that Art course like Geography, History and Kiswahili have more teachers in each secondary school compared to Integrated Science course like Physics, Mathematics and Chemistry. Other course such as Commerce and Book keeping have fewer numbers of teachers in both schools. This implies that, the government efforts to increase number of qualified scientists in the country will not be easily attained because of inadequate number of Integrated Science course‟ teachers in the country particularly in ward secondary schools where children of the low income earners are studying. These results show the worrying future of scientists in a country, especially, from the newly established ward secondary schools where a very significant number of standard seven leavers are enrolled (ibid).Shortage of teachers and school libraries in most schools has been one of the factors that have contributed immensely to poor students‟ performance in Nigeria (TLA, 2022).

During the study in Moshi Municipality, (Hizza, 2022) observes that all the schools under study has neither libraries nor laboratories. This is among of the challenges facing most of ward secondary schools in Nigeria (URT, 2020). Despite the absence of libraries and laboratories in the selected schools, still 59% of students want to specialize in Integrated Science subject, 24% want to specialize in Arts subject and 07% want to learn Commerce course by, and while 10% had no response in the areas which they would love to specialize (Hizza, 2022).The study reveals that, fewer books found in these schools are kept in the head master‟s office where only teachers can access them (Hizza, 2022).

In Nigeria, admission to secondary school is based on the perfomance at the primary school leaving examination(PSLE). There are seven compursoly course at the lower secondary and these include Mathematics and Biology. Before entry into form three, students are advised by their teachers based on their perfomance on selection of course in the Arts or Integrated Sciences (Unesco,2020).

According to Zsuzsa (2018), the choice of educational programmes is made in direct

ratio to information and guidance available to the individual and the breadth of educational opportunities available. The school should therefore ensure that learners make informed choices. Tiqet (2019) revealed that good performance in internal and external examinations in any subject creates an academic discipline commitment and desire to pursue the subject.

Regardless of all the efforts, currently it is observed that the objectives for improving scientific literacy is not achieved, Integrated Science enrollment are relatively low, achievements in certain grade level is declining and teachers morale is low.

In the past the more intellectual able students were the ones selected to pursue Integrated Science and Mathematics in secondary schools. But nowadays more of these students are more less interested to continue with Integrated Science when they join universities (Adeyemi, 2021).

Students start secondary school with an expectation that the school will provide them with an environment that will allow them to freely decide the course to study based on their ability and interest. Interest in the subject is regarded as the most important motivational factor in learning (ibid).

The study by Ndalichako (2023) aimed at providing answers to two key questions: 1) Which course are most preferred by students in secondary schools? 2) What are the reasons behind the students‟ interest, or lack thereof, in particular course?

Through Observation, Documentary Review and Focused Group Discussion with form three and form four students, The findings showed that the majority of students in secondary schools preferred arts course notably because of the challenges they experience in learning Integrated Science. The reasons for students preference of a particular subject included the inspirational from significant others, commitment and support provided by the subject teachers, the availability of teachers and their teaching approaches and relevance of the subject to their daily life experiences. (Ndalichako et al, 2023).

Table 2.4: Number of Students, Who Sat For CSEE 2013 in Selected Optional

Subject	Reg. Candidates	% of total candidates
Chemistry	150,010	40.9
Physics	108,609	29.6

Source: Ndalichako (2023)

The study by Mabula (2022) on promoting Integrated Science course choices for secondary school students in Nigeria revealed that poor quality of Integrated Science classroom teaching and a serious decline in interest of students in Integrated Science course. It is therefore concluded that, teacher-students interaction and relationships in classroom teaching and learning of Integrated Science need improvement. It is suggested that, future research make observations on the influence of social factors in the decline of interest in Integrated Science course among secondary school students in Nigeria.

People frequently want jobs that meet their academic interests. People in general find that, for whatever reasons, they tend to be interested in certain course and disinterested in others from the time they are young children, and no matter what the financial rewards, taking a career in an area where one holds no interest is likely to be unbearable (Ryan, 2020). In this rapidly growing competitive market, industry prefers graduates, who have the potential to meet their research and development needs, and compete effectively with their counterparts worldwide. The overall situation that the wide discrepancy between learners opting for Integrated Science and those opting for Arts course in Nigeria is a warning that it is less likely Nigeria will improve its local and global leadership in Integrated Science unless the Government takes remedial action to produce or import enough experts in these fields (Ibid).

A major goal for education in the 21st century is to create scientifically literate citizens, who are able to think critically, make sense of complex data, and solve problems (NRC, 2016). Research suggests that, if all students are to become scientifically literate, Integrated Science instruction must convey greater engagement and meaning to them. To achieve this, Integrated Science instruction in secondary schools must provide students with opportunities to explore the world, to apply scientific principles, to sample and analyze data and to make connections among these explorations, their personal lives, and communities (ibid).

2.6 Summary of Literature Review

This chapter has reviewed how various factors influence students‟ decisions in their choices of course in secondary schools. These factors include the individual factors, school factors, social- economic factors and political factors. Wanyama (2016) documented that the labour market is in demand for specific skills that are related to Integrated Science course.

This makes boys and girls to rate the Humanities course lowly. In most cases, especially in Nigeria secondary schools, chemistry subject is taken by all Integrated Science students whereas those opting for Art take History as one of their combination subject. Chemistry makes most of the Integrated Science combinations and History makes most of the Arts combinations. Mathematics and Biology are compulsory Integrated Science course in the Nigeria secondary school education system (Ndunguru, 2011). Society also believes that education is a vital asset that brings important benefits to an individual and in the long run to the society. This has therefore destructed learners from pursuing what the society views as marginal course (Peninah, 2022).

2.7 Synthesis of Literature Review and Identification of Knowledge Gap

Most of the findings show that the role of motivating students is a teacher‟s task. Some of the said studies are Murphy (2020), Vygotsky (1986) and Killermann (1988) in USA. A study in Kenya by Peninah (2022) which used form two students as respondents shows that both girls and boys are motivated to make choice of optional course mainly by three grouped factors; individual factors, school factor and social economic factors. A case study by Ndalichako and Komba (2023) in Nigeria shows that there are inequalities in terms of how students select course in various schools. The study reveals that majority of students enrolled in ward/community secondary schools make unwise decision contrary to their interest and ability. Ndalichako and Komba (2023) based on pupils performance in CSEE to select schools in different regions in Nigeria for the study. The schools selected for the study were both private and government schools, also both single sex and co – education schools were involved in the study. This study used public and private schools with only co-education system from Kibaha district. The researcher wanted to include both sexes in the evaluation of

the study. Therefore gender was considered in this study as an important aspect for students‟ choice of Integrated Science course.

The findings show that the majority of students in secondary schools prefer Arts course notably because of the challenges they experience in learning Integrated Science. The reasons for students preference of a particular subject included the inspirational from significant others, commitment and support provided by the subject teachers, the availability of teachers and their teaching approaches and relevance of the subject to their daily life experiences. (Ndalichako et al, 2023).

The study by (Ndalichako et al, 2023) was silent on why some students choose Integrated Science regardless of the challenges they face. The challenges experienced by students in learning Integrated Science were not well disclosed. The fact that some students are forced to choose certain course was not discussed.None of the study has specifically documented the factors influencing students‟ decision to choose Integrated Science course. This study through Questionnare, Observation, Documentary Review and Interviews with form four students studying Integrated Science course investigated the factors that influence them to decide to take Integrated Science course at form three level. The researcher believes that these students made a wise decision of joining Integrated Science class with a number of reasons behind them.

The study went further by finding out the factors sustaining students‟ interests in Integrated Science course. The researcher believes that after two years of study a student has developed an interest in Integrated Science course that has sustained the decision of taking Integrated Science course. Last but not least through form IV mock examination results 2015, the study explored the factors that lead students to achieve the level of performance in Integrated Science course.

2.8 Conceptual Framework

A conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply (Henry, 2013). Below is framework of the factors that influence students‟ choice of Integrated Science course at secondary school level. The model focuses on the determinants of the choice of Integrated Science course by students in secondary schools. The variables considered are individual factors, school factors, social economic factors and political policy factors. Each variable in the model affects the students‟ choice and awareness of Integrated Science subject and each interacts with most of other variables. These factors govern the will to decision making as suggested by the choice theory.The theory focuses on the determinants of the individual choices (methodological individualism). The most powerful factors influencing students to choose Integrated Science course in secondary schools are the individual factors whereby interest and belief are on top of other individual factors.

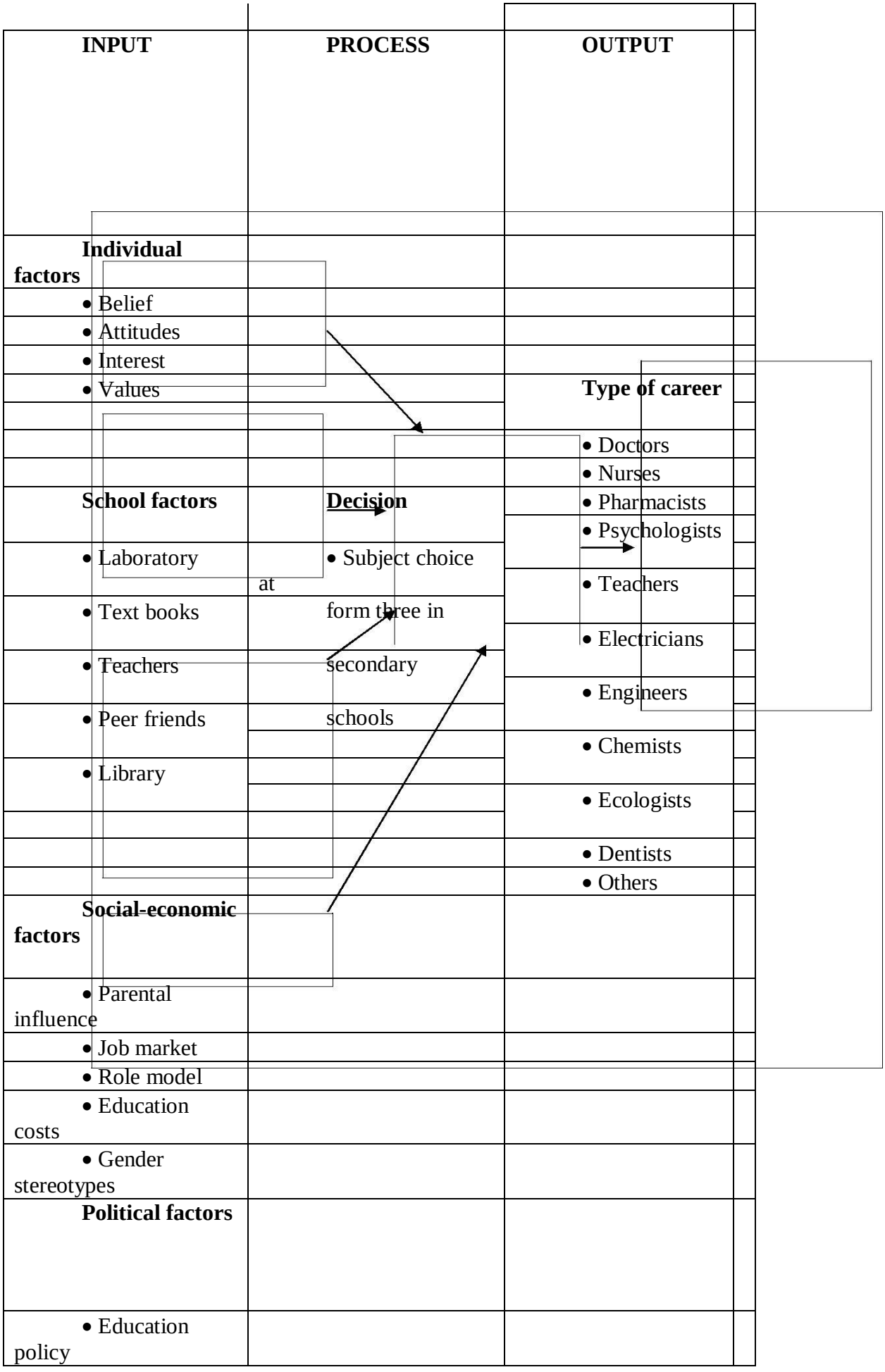
INPUT
PROCESS
OUTPUT
Individual factors
• Belief
• Attitudes
• Interest
• Values
School factors
• Laboratory
• Text books
• Teachers
• Peer friends
• Library
Social-economic factors
• Parental influence
• Job market
• Role model
• Education costs
• Gender stereotypes
Political factors
• Education policy
Decision
• Subject choice at form three in secondary schools
Type of career
• Doctors
• Nurses
• Pharmacists
• Psychologists
• Teachers
• Electricians
• Engineers
• Chemists
• Ecologists
• Dentists
• Others

Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter outlines the research methodology used to investigate the factors that influence students' choice of Integrated Science course in College of Education, Ilorin, Kwara State. The chapter discusses the research design, population, sample, instrumentation, data collection, and data analysis procedures.

Research Design

The study employed a descriptive survey research design. This design was chosen because it allows for the collection of data from a large sample of students, providing a comprehensive understanding of the factors that influence their choice of Integrated Science course.

Population

The population of the study were randomly selected students in the College of Education, Ilorin, Kwara State. The selected students of college was a total of 50 students in the science department.

Sample and Sampling technique

A sample of 50 students was selected from the science department using a stratified random sampling technique. The sample consisted of 10 male students and 40 female students.

Instrumentation

The instrument used for the study was a structured questionnaire designed by the researcher. The questionnaire consisted of 15 items, with 5 items measuring each of the following variables:

- Student-related factors
- Teacher-related factors
- School-related factors
- Societal factors

Data Collection

The questionnaire was administered to the students by the researcher. The students were assured of confidentiality and anonymity, and they were given 30 minutes to complete the questionnaire.

Data Analysis

The data collected were analyzed using descriptive statistics, such as frequencies, percentages, and means. The data were also analyzed using inferential statistics, such as chi-square and regression analysis.

Reliability and Validity

The reliability of the questionnaire was determined using the Cronbach alpha coefficient. The coefficient was found to be 0.85, indicating a high level of reliability. The validity of the questionnaire was determined using content validity. The questionnaire was reviewed by experts in the field, and their feedback was used to revise the questionnaire.

Ethical Considerations

The study was approved by the ethics committee of the College of Education, Ilorin, Kwara State. The students were assured of confidentiality and anonymity, and they were given the option to withdraw from the study at any **time.**

Research Instruments

Research Instruments are measurements tools (for example, questionnaires or scales) designed to obtain data on a topic of interest from research course (Cinahl, 2013). This study used questionnaire, interviews, documentary reviews and observation. Each tool has been taken for the study as it fits exactly with the needs of this study. Explanations for selection of each tool are given below.

CHAPTER FOUR

FINDINGS AND DISCUSSION

Introduction

This chapter presents the findings of the study. It also analysed and discussed the findings of the study in line with the objectives of the study stated in chapter one. The chapter begins by providing the demographic profile of the respondents.

Characteristics of the Respondents

This section provides the characteristics of the respondents in terms of gender, educational level of guardian, economic status of guardian/Parents and level of education aspired by the respondents.

Table 4.1: Gender Distributions of Respondents

Gender of the Respondents	Frequency	Percentage
Boys	70	58.3%
Girls	50	41.7%
Total	**120**	**100**

Source. Data collected and processed by the researcher, 2025

A total of 70 (58.3%) of the respondents were male and 50 (41.7%) were female. This clearly indicates that the majority of Integrated Science students in College of Education, Ilorin are males, since all students taking Integrated Science in each college of education were involved in the study. This also shows that the findings were obtained from both gender groups without bias.

Table 4.2:Educational Level of Parents/Guardians of Respondents

S/N	Parent/Guardian Educational level	Absolute Frequency	Percentages
1.	Never went to school	5	4.2%
2.	Primary Level	31	25.8%
3.	Secondary school	9	7.5%
4.	Tertiary Education	30	25%
5.	University Education	45	37.5%
	Total	**120**	**100**

Source: Data collected and processed by the researcher, 2025

Table 4.3: Economic status of Parents/Guardians of respondents

S/N	Parent/Guardian Economic level	Frequency	Percentages
1.	Low economic income	11	9.2%
2.	Medium economic income	94	78.3%
3.	High economic income	15	12.5%
Total		**120**	**100**

Source. Data collected and processed by the researcher, 2025

Table 4.4: Level of Education Aspired by Student Respondents

S/N	Aspired level of education	Frequency	Percentages
1.	NCE I	40	33.3%
2.	NCE II	30	25%
3.	NCE III	50	41.7%
	Total	**120**	**100**

Source. Data collected and processed by the researcher, 2025

4.3 Findings of Objective 1

This sub section presents findings for objective 1. The research question seeking response to objective one asked "what factors influence students" choice of Integrated Science course?" Descriptive statistics involving frequencies, and percentages have been computed to describe the respondents data.

4.3.1 Factors Influencing Students Choice of Integrated Science Course

Table 4.5: Factors Influencing Students Choice of Integrated Science Course

SN	Reasons for Objective 1	A	SA	D	SD
1	I decided to join Integrated Science because I have interest in the subject	44	48	12	16
2	I decided to join Integrated Science because I believe I can do it	60	48	12	0
	School factors.				
3	I decided to join Integrated Science because my school has a lot of Integrated Science textbooks	64	24	20	12
4	I decided to join Integrated Science because my school has a good Science laboratory	52	32	28	8
5	I decided to join Integrated Science because my teacher advised me to do it	0	20	40	60
6	I decided to join Integrated Science because my teacher taught me well	44	40	32	4
7	*I* decided to join Integrated Science because my teacher forced me to do it	20	36	12	52
	Social – Economic factors				
8	I decided to join Integrated Science because one of my friends also offered it	16	4	44	56
9	I decided to join Integrated Science because one of my relative is a science teacher	4	4	48	64
10	I decided to join Integrated Science because my parents want me to do it	28	20	32	40
11	I decided to join Integrated Science because I want to be an Integrated Science teacher	44	16	20	40
12	I decided to join Integrated Science because your parents want me to do it	12	4	60	44
	Political factor.				
13	My peer group influence my choice in integrated science	40	12	32	36
14	The word integrated science motivated my choice in studying the subject	52	32	16	20
15	The availability of instructional materials used by my teacher influence my choice of the subject	60	40	16	4

Source. Data collected and processed by the researcher, 2025

Objective 1: Factors Influencing the Choice of Integrated Science

The results show that the main factors influencing students' decisions to choose Integrated Science are:

- Interest in the subject: 92% of respondents (44 SA + 48 A) choose Integrated Science because they have an interest in the subject.

- School resources: 88% of respondents (64 SA + 24 A) chose Integrated Science because their school has a lot of Integrated Science textbooks, and 84% (52 SA + 32 A) chose it

because their school has a good Science laboratory.

School Factors

The results suggest that school factors play a significant role in influencing students' decisions to choose Integrated Science. Specifically:

- Availability of textbooks: 88% of respondents (64 SA + 24 A) agreed that the availability of Integrated Science textbooks in their school influenced their decision.
- Quality of laboratory facilities: 84% of respondents (52 SA + 32 A) agreed that the quality of the Science laboratory in their school influenced their decision.
- Teacher's teaching quality: 84% of respondents (44 SA + 40 A) agreed that their teacher's teaching quality influenced their decision.

Social-Economic Factors

The results show that social-economic factors also play a role in influencing students' decisions to choose Integrated Science. Specifically:

- Parental influence: 48% of respondents (28 SA + 20 A) agreed that their parents wanted them to choose Integrated Science.
- Career aspirations: 60% of respondents (44 SA + 16 A) agreed that they chose Integrated Science because they want to be an Integrated Science teacher.

Political Factors

The results suggest that political factors, such as peer group influence, have a moderate influence on students' decisions to choose Integrated Science. Specifically:

- Peer group influence: 52% of respondents (40 SA + 12 A) agreed that their peer group influenced their choice.

Discussion of the Findings

Robinson and Ochs (2008) found that friends are important influencing factor for pursuing high school students for taking Integrated Science. Peninah (2022) adds more that family background and peer socialization contribute to students‟ choice of optional course. Under this study friends have little influence. The study shows that less than 50% of students choosing Integrated Science course are influenced by their friends. This may be due to the difference in nature of the subject of interest whereby for a long time Integrated Science has been labeled by students as difficult and tough subject. Therefore most of the families lack a member, who is a scientist, who could in one way or another influence the student.

Absence of libraries and laboratories affects negatively students‟ choice of Integrated Science course. Most of the schools as observed by the researcher completely lack Libraries

and well designed laboratories. In that case, the researcher concur with Ndalichako et al, 2023 who found that Teaching style and School Environment was affecting students‟ interest during subject selection.

The findings show that most of the Students have not performed well in the examinations. The possible causes could be due to most of lecturers having not covered all topics for the students as observed in some teachers‟ schemes of work by the researcher as well as students comments. Teachers should not be blamed because the examination was done in May, 2015 while the syllabus for course are prepared to be covered during the year. Since most of the schools lack libraries and well maintained laboratories, the Integrated Science practicals examination were conducted in normal classes, that is to say even Integrated Science teaching practices have been taking place for all time in normal classes. Most of the schools have got no Integrated Science apparatuses, models and charts although teachers indicates in their scheme of work that they will be using these tools. That means a scheme of work is written just as a formality.

The researcher therefore support the argument by TLA, (2022), that shortage of teachers and school libraries in most schools has been one of the factors that have contributed immensely to poor students‟ performance in Nigeria schools. Most of the students‟ believes that they can‟t fail in their NECTA exams to the level that they become unfit in Integrated Science careers. Most of the students wish to join CBG, PCB and PCM classes after form four education. Most of the students have shown to keep the interest of studying Integrated Science to their final destination although some few responded that they are ready to switch to other Art course depending on their performance.

With all effort done, still the performance of girls‟ students in Integrated Science course lag behind as compared to that of boys. This is perhaps due to little time they devote in studying as compared to boys. For most of the day school students in Nigeria, it is expected and it is usual for girls to assist their mothers in domestic activities after school time, while

boys may have little duty or none at all. This is one of the factors that lead to differences in performance between boys and girls students.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter presents Summary, conclusion, recommendations and suggestions for further studies.

Summary:

The choice of Integrated Science as a course in College of Education Ilorin is influenced by several factors. These factors can be broadly categorized into personal, social, and institutional factors.

Personal Factors

- Interest in Science: Students' interest in science and their desire to understand the natural world play a significant role in their choice of Integrated Science.
- Career Aspirations: The prospect of becoming a science teacher or pursuing a career in science-related fields motivates students to choose Integrated Science.

Social Factors

- Parental Influence: Parents' encouragement and support can influence students' decision to choose Integrated Science.
- Peer Influence: Friends and peers who are studying science or have an interest in science can also influence students' choice.

Institutional Factors

- Availability of Resources: The availability of resources, such as science laboratories and equipment, can influence students' choice of Integrated Science.
- Quality of Teaching: The quality of teaching and the expertise of lecturers in the science department can also impact students' decision.

Other Factors

- Job Prospects: The prospect of getting a job as a science teacher or pursuing a career in

science-related fields after graduation can influence students' choice.

- Personal Satisfaction: The desire to understand the natural world and the satisfaction of learning science can also influence students' choice.

Conclusion

After presentation of the findings and discussion, the study makes the following conclusion.

(i) Parents play very little part in influencing their children to select Integrated Science course.

(ii) Teachers do not force students to select Integrated Science course. They advise students to select Integrated Science course.

(iii) Most of the schools lack well designed laboratories and libraries. Absence of these school facilities affects students‟ performance and students‟ decision in selecting Integrated Science course. Also Performance in Integrated Science course in College of Education, Ilorin is a product of good supportive school environment.

(iv) Presence of laboratories and scientific Teaching/Learning tools in schools influence students to select Integrated Science.

(v) Big Results Now Policy is not well communicated to students.

(vi) Intrinsic factors are mostly powerful factors in influencing and sustaining students in studying Integrated Science course.

(vii) Performance of students in Integrated Science course depends on; coverage of the syllabus, physical fitness during exams, presence of well planned laboratories,

marking system which is fair and just and time devoted in studying by students and availability of learning materials.

(viii) The performance of girl students in Mock Integrated Science course is poor as compared to that of boys.

5.3 Recommendations

In the light of the research findings the study wishes to make the following recommendations.

(i) Since there have been shortage of Integrated Science textbooks in Schools, and little information is available to students on why should they study Integrated Science course, Students should be provided with adequate Integrated Science books and information about Integrated Science course to attract them to select Integrated Science course.

(ii) For the reason that most of the Schools were found to have their laboratories under construction, but no libraries, after the completion of a campaign for laboratory construction in all schools, another campaign for libraries construction for all schools should be mounted.

(iii) As it has been discussed earlier in this study, that most of the students are unaware of the educational policies. Thus, any introduced policy that affects students‟ welfare and education need to be well communicated to students.

(iv) All education stakeholders should find and play their part in encouraging, influencing and sustaining students studying Integrated Science course. It should not be left to teachers alone as the study shows.

(v) Since students are influenced and sustained to join in Integrated Science course by access to loan from HESLB, I recommend the Government through its

Ministry of educational and Vocational Training to empower the organ to the level that its service can benefit the students undertaking Certificate and diploma courses so as to attract more students in Integrated Science course.

Suggestions for Further Studies

(i) The impact of the constructed school laboratories in accessing Integrated Science education.

(ii) The assessment of the use of the capitation grant in promoting the studying of Integrated Science course.

(iii) The Influence of a Teaching Styles as an Enhancing Factors in Students‟ Course Selection.

(iv) The role of motivation to Secondary School Students in Nigeria to study Integrated Science Subject.

REFERENCES

Ader, H.J.,Mellenberg, G.J. & Hand, D.J. (2008). *Advising on Research Methods*:*A Consultant's Companion*. Huien: Johannes van Kessel Publishing.

Alford, G., Frangenheim, E. & Herbert, P. (2007). *Innovative teacher's companion: Primary edition 2007.* Sydney: ITC Publications.

Asia-Pacific Forum on Integrated Science Learning and Teaching, (2015), *Volume6, Issue 2,*Article 2, pg 102.

Ball, D. and Feiman-Nemser, S. (1988). *Using Textbooks and Teachers' Guides:* A dilemma for beginning teachers and teacher educators. Curriculum Inquiry,pg *18*, 401–423.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive Theory*. Englewood Cliffs, NJ: Prentice- Hall, Inc.

Bell, J. (2019). *Doing your research project*. Buckingham: OUP.

Blenkinsop, S., McCrone, T., Wade, P. & Morris, M. (2006). *How do Young People Make Choices at 14 and 16? Research Report 773*. Nottingham.

Canter,L. & Canter, M. (1992). *Assertive discipline: Positive behaviour management for today's classroom.* Santa Monica, CA: Canter and Associates.

Cassels, J. and Johnstone, A. (1985). *Words that Matter in Integrated Science*. London: Royal Society of Chemistry.

Creswell, J.W. (2022). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research.* Upper Saddle River, NJ: Prentice Hall.

Driver, R. & Erickson, G. (1983). Theories-in-Action: Some Theoretical and Empirical Issues in the Study of Students' Conceptual Frameworks in Integrated Science'. *Studies in Integrated Science Education,*10, 37-60.

Gill, T., Vidal Rodeiro, C. L. & Bell, J. F. (2019). The complexities surrounding the uptake of A-level Physics. Paper presented at the British Educational Research Association Annual Conference, Manchester University, September 2019.

Hizza. E. L, Komba, C. K, & Jonathan, T. Y. (2022). *Factors Influencing Academic Performance of Ward Secondary Schools: A Case of Selected Schools in Moshi Municipality and Moshi District.* MUCCoBS.

House, E. R, (1980). *Evaluating with Validity*. London: Sage publication.

Hudson, P. (2007). High-impact Teaching for Integrated Science. *Teaching Integrated Science, 53*(4), 18-22.

Johnstone, A. & Selepeng, D. (2021), A language problem revisited**.** *Chemistry:*

Research and Practice in Europe, 2(1), 19-29.

Mabula, N. (2022). *Promoting Integrated Science Course Choices for Secondary School Students in Nigeria: Challenges and Opportunities,* (Udsm).

Ministry of Education and Culture, (1995). *Education and Training Policy,* (URT). National Integrated Science Teachers Association (NSTA) (2008), New Integrated Science teacher

academy. Retrieved December 12, 2008, from Obama, B. (2019). What Integrated Science can do?*ISSUES in Integrated Science and Technology, 25th Anniversary Issue, 25*(4), 23-30.

Ndalichako, J. L. & Komba, A. A. (2023), Students‟ Subject Choice in Secondary Schools in Nigeria: A Matter of Students‟ Ability and Interests or Forced Circumstances? Scientific research. (Retrieved October 2nd, 2015).

http://www.scirp.org/journal/jsshttp://dx.doi.org/10.4236/jss.2023.28008.

Organization for Economic Co-operation and Development (2019), *Education at a Glance 2019: OECD indicators.*

Patton, M.Q, (1980). *Qualitative Evaluation Methods.* Beverly Hill. CA:

Sage publication.

Patrick, S. & Thomas, W. R. (2019). *Breaking Away from Tradition*: *E-education Expands Opportunities for raising achievement.*

Peninah, G. (2022). *Factors Influencing Form Two Boys' and Girls' Choice of KCSE Course in Kieni Division, Nyeri North district, Kenya,* University of Nairobi.

President‟s Council of Advisors on Integrated Science and Technology (2020). *Prepare and inspire: K-12 education in STEM.*

Ramirez, E. (2008). *H ow to Solve our Problem with Math.US News and World Report*, December 4, 2008. Retrieved March 15,Retrieved April 10, 2020, fromhttp://www.uncw.edu/Stuaff/career/documents/parentssay%5B1%5D. pdf

Robinson, M. & Ochs, G. (2008). Determining why students take more Integrated Science than required in high school. *Bulleting of Integrated Science*.

Robson, C. (1993). *Real-World Research: A resource for Social Scientists and Practitioner - Researchers.* Malden: Blackwell Publishing.

Rogers, S. (2019, September). *Rapid Prototyping: A Strategy to Promote Interest in STEM Careers.* Paper Presented on *US-Turkey.*

Sanders, T. (2024). *No time to waste: The Vital Role of College and University Leaders in Improving Integrated Science and Mathematics.* Unpublished document.

Savickas, M. & Lent, R. (2006). „Convergence in Career Development Theories", Palo Alto, California, USA.

Savin-Baden, M. & Major, C. (2013). *Qualitative Research: The essential guide to Theory and Practice*. *London* and New York: Routledge.

Setda.org. (2008). *Integrated Science, Technology, Engineering and Math.* Retrieved February 16, 2020, from http://www.setda.org/c/

Stake, R. E, (1978). *The Case study Method in social Inquiry*. Education Research, Vol. 7, No.2.

Taylor, J., Harris, M. B. & Taylor, S. (2024). Parents have their say… about their college-age children"s career decision. Technology Counts. Retrieved March 12,2020.https://www.hampshire.edu/sites/default/.../Parents_Have_Their_*Say .pdf*

University of California. (2020). *Degrees of success: Bachelor's degree completion rates among initial STEM majors,. UN Press.*

Washington, D. C.: OECD. Retrieved March 12, 2020, from http://www.oecd.

org/edu/eag2019.

Wasserman, L. (2008). *Compiled perspectives on STEM education.* Retrieved February 16, 2020, from http://www.nsf.gov/nsb/meetings/2019/0824/ Louis_Wasserman_Compiled_Perspectives_on_STEM_Education.pdf.

Watts-Taffe, S., Gwinn, C. B., Johnson, J. R. & Horn, M. L. (2003). Preparing pre-service teachers to integrate technology with the elementary literacy program. *The Reading Teacher, 57*, 130-138.

QUESTIONNAIRE
KWARA STATE COLLEGE OF EDUCATION, ILORIN

FACTORS INFLUENCING THE CHOICE OF INTEGRATED SCIENCE COURSE Dear Respondents

The Questionnaire is designed to survey the **Factors Influencing The Choice Of Integrated Science Course**

You are kindly requested to respond as objectively as possible to all the items in the questionnaires. The information collected shall be treated with absolute confidentiality and be used only for research purpose.

Thanks for your kind anticipated co-operations.

SECTION A: General Questions. (Put **Tick[√]** where necessary and fill the blanks with your own words)

Gender: Male [ ] Female [ ]

Parent/Guardian‟s highest level of education attained.

Never went to school [ ] Primary school [ ] Secondary School Certificate [ ]

Tertiary level college [ ] University degree [ ]

Your Guardian/Parent Economic Status.

Low [ ] Medium [ ] High [ ]

Your school provided you with adequate information to guide you in your choice of optional course? i)Yes [ ] ii) No [ ]

Your highest aspired level of education you want to attain. (Tick only one).

i) Secondary School Certificate [ ]

ii) NCE [ ]

iii) University degree [ ]

SECTION B

The following list of factors is assumed to influence your decision of taking Integrated Science subject

Please Tick[√] The Most Appropriate

S/N	ITEMS	A	SA	D	SD
A	**Intrinsic factors**				
1	I decided to join Integrated Science because I have interest in the subject				
2	I decided to join Integrated Science because I believe I can do it				
	School factors.				
3	I decided to join Integrated Science because my school has a lot of Integrated Science books				
4	I decided to join Integrated Science because my school has a good laboratory				
5	I decided to join Integrated Science because my teacher advised me to do it				
6	I decided to join Integrated Science because my teacher taught me well				
7	*I* decided to join Integrated Science because my teacher forced me to do it				
	Social – Economic factors				
8	I decided to join Integrated Science because one of my friends also offered it				
9	I decided to join Integrated Science because one of my relative is a science teacher				
10	I decided to join Integrated Science because my parents want me to do it				
11	I decided to join Integrated Science because I want to be a Integrated Science teacher				
12	You decided to join Integrated Science because your parents want you to do it				

	Political factor.				
13	My peer group influence my choice in integrated science				
14	The word integrated science motivated my choice in studying the subject				
15	The availability of instructional materials used by my teacher influence my choice of the subject				