

**MULTIPLE INTELLIGENCES AND TEACHING
STRATEGIES FOR ENTREPRENEURSHIP EMPOWERMENT
AND DEVELOPMENT IN NIGERIA**

by

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I dedicate this dissertation to my late mother, my husband, Andy, and our son, Oghenemeru, who have been there for me, encouraged, and graced me with their patience throughout this process. I could not have done this without you. I love you.

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ABSTRACT

Unemployment among Nigerian higher institution graduates will likely continue to rise if entrepreneurship educators do not apply inclusive pedagogy that focuses on individual differences. Therefore, as a first step, educators require self-awareness of their instructional strengths and limitations to adopt effective instructional strategies to achieve their students' employability objectives. This study aimed to improve entrepreneurship educators' teaching strategies to effectively prepare learners to become job creators, thereby, achieving the objectives for which entrepreneurship education was introduced to the Nigerian higher institution curriculum. The study's research questions included (1) what are entrepreneurship educators' Multiple Intelligences characteristics and preferred teaching strategies? and (2) is there a significant relationship between entrepreneurship educators' Multiple Intelligences characteristics and their preferred teaching strategies?. The study's participants were entrepreneurship educators in a higher institution in south-south Nigeria. The study's results might be used eventually to develop and expand Nigerian entrepreneurship educators' instructional abilities in preparing diverse students with the knowledge and skills they need to become employable. The study's data were collected using the Intelligence Survey (IS) and the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI). The findings revealed that interpersonal, intrapersonal, and linguistic strategies were the most frequently used teaching strategies by entrepreneurship educators. The strongest and recurring predictors for commonly used teaching strategies were intrapersonal, spatial, and linguistic intelligences. Future studies could include planning and designing workshops, seminars, and training based on Gardner's Multiple Intelligences Theory.

CHAPTER 1: INTRODUCTION

Nature of the Problem

The scarcity of jobs in Nigeria has led to a high poverty level that has impacted the country's economy. In 2019, graduate unemployment was estimated to be 25 million (Babalobi, 2019). Nkechi et al. (2012) stated, "graduates who are qualified, willing, and able to work cannot find a job and as such earn nothing" (p. 101). Chukwumezie and Osapka (2015) affirmed that the graduates of Nigerian higher institutions reflect the majority of unemployment in Nigeria. According to Trading Economics (2022), the nation's unemployment increased from 27.10% to 33.30% between the second and fourth quarters of 2020. About 21.7 million Nigerian youth, who are qualified to work, remain jobless (Abdulkareem et al., 2021). This disparity indicates the rate of unemployment in Nigeria.

Okoye (2017) attributed the high unemployment rate in Nigeria to an educational system that could not prepare students to achieve their educational and career goals. Similarly, Adebakin et al. (2015) traced unemployment among graduates to the gap between what employers want and what employees possess. Agwu (2018) and Fomunyam (2020) pointed out that Nigerian education is operating an outdated curriculum designed for white-collar jobs of 60 years ago. Such a curriculum may be described as a standardized curriculum, for all the students are taught in the same way. Also, students are "graded based on how well they each acquire the same information presented in the same way to all" (Bukar & Timothy, 2014, p. 12). Garba (2010) argued that such an "educational system aimed at making people the same despite the differences in them" (p.144). However, Adejimola and Olufunmilayo (2009) asserted that the skills and knowledge necessary to identify job opportunities or create a job for oneself to become employable and self-reliant are absent in standardized education. Educators' use of standardized curricula may have likely contributed to the steady increase in unemployment among Nigerian graduates.

Some strategies that have been used to reduce the unemployment rate among Nigerian graduates include: "Operation Feed the Nation (OFN), Mass Mobilization for Self-Reliance and Economic Recovery (MAMSER), Structural Adjustment Program (SAP), National Directorate of Employment (NDE), and National Poverty Eradication Program (NAPED)" (Oyebola et al., 2015, p. 54). These strategies were inadequate because the educational system was designed to prepare

students to become job seekers instead of job creators (entrepreneurs). However, Gabadeen and Raimi (2012) argued that entrepreneurship has always been Nigerians' lifestyle transferred from one generation to another.

The Federal Government of Nigeria established an entrepreneurship course in 2006 and made it compulsory for all higher institutions' students to solve this chronic unemployment problem (Ikebuaku & Dinbabo, 2018). The primary objective of entrepreneurship education is to build economic growth and create jobs; it can prepare students with the fundamental skills and competencies required to create jobs and stimulate economic development (Wilson, Vyakarmam, et al., 2009). Entrepreneurship is recognized as a critical resource in the nation's economic development process because it can equip students with skills and knowledge to become job creators (Olorundare & Kayode, 2014). Entrepreneurship education is essential for developing entrepreneurial skills, attitudes, and behaviors, which are the basis for economic growth (Wilson, Vyakarmam, et al., 2009).

As a course, program, or field of study, entrepreneurship has received serious attention from policymakers, planners, and economists as a strategy for economic growth and development. Unfortunately, students have been neither properly trained nor adequately equipped with the required entrepreneurial skills to function as entrepreneurs (Okoye, 2017). For example, Okoye et al. (2014) revealed that "[t]ertiary institutions in Nigeria do not provide entrepreneurship education that graduates would need to either start a business, [or manage] an existing family business" (p.26).

Despite the importance of entrepreneurship education and its ability to curb the increasing unemployment rate, entrepreneurship has not achieved its employability objective. Inadequately prepared entrepreneurship educators represent a significant inhibitor to implementing courses successfully. Entrepreneurship educators must focus on the necessary skills and knowledge to achieve learning outcomes that could encourage students' ideas and stimulate their entrepreneurial creativity. Such teaching contributes to cultivating an environment for developing an entrepreneurial personality (Nwekeaku, 2013).

Arasti et al. (2012) asserted that entrepreneurship education's success depends on an educator's ability to apply a variety of teaching strategies to meet students' individual needs, regardless of the nature or extent of their differences. Educators' inability to implement the curriculum effectively using multiple instructional strategies hinders students from acquiring skills

and knowledge in a course. Also, it renders students deficient in their ability to perform and succeed in the workforce (Adebakin et al., 2015). Educators are encouraged to understand and consider their students' unique differences to achieve their learning outcomes. Consequently, educators require special, formal training and experiences through seminars, conferences, and workshops to effectively teach and learn (Aja-Okorie & Adali, 2013).

Feldman and Denti (2004) explained that instructions focused on individual differences could dismantle a standardized curriculum, like the curriculum used in implementing entrepreneurship education in Nigeria. Educators' failure to recognize individual differences may likely cause difficulties in satisfying the needs of an increasing prevalence of diverse learners. These individual differences make them unique in various ways, including social-economic, life experiences, personal strengths, and limitations. Lin and Bates (2010) reported that diversity is a significant issue in a socioeconomically challenged area, as is Nigeria's case.

Educators need to be aware of and understand learners' diverse experiences to achieve their learning objectives (Lin & Bates, 2014). Educators who develop "awareness of how individuals differ will clarify the process of learning and the act of teaching in a substantial way" (Jonassen, & Grabowski, 2012, p.16). Furthermore, such educators would reflect on themselves, understand their students' differences, and substantially apply appropriate teaching strategies to suit student needs.

The gap between educators and students will likely continue to widen and increase the unemployment rate if educators do not apply inclusive pedagogy that recognizes individual learners' differences concerning their abilities in teaching and learning. According to Barrington (2004), "If [educators] are to actively include the diverse students that they now have in their classrooms, they have to use a wide range of teaching strategies" (p. 431). Entrepreneurship education will achieve its learning objectives when educators can utilize the full range of effective teaching strategies related to students' abilities, limitations, and preferred learning styles. Otuya et al. (2013) argued that when educators use effective strategy in delivering entrepreneurship, likely outcomes include: more graduates starting their businesses, an increase in demand for entrepreneurship courses, production of viable business plans, fewer unemployed, and the emergence of micro-enterprise activities on campuses. Accordingly, entrepreneurship education will then achieve its expressed objectives and enhance the employability of Nigeria's citizens.

Statement of the Problem

Popular opinion desires and expects entrepreneurship educators to effectively prepare Nigerian higher institution graduates with knowledge and skills to make them employable. Utilizing the full range of effective teaching strategies related to students' abilities, limitations, and preferred learning methods could enhance learners to achieve their learning outcomes. However, entrepreneurship educators have not succeeded in this expectation. The research and literature regarding entrepreneurship educators' ineffectiveness have revealed a lack of research focusing on educators' self-awareness of their instructional strengths and limitations, which is a first step towards preparing students for employment (William, 2003).

Some studies have indicated that ineffective educators who teach entrepreneurship education courses in Nigeria deprive students of the necessary skills and knowledge to become employable (Moses & Akinbode, 2014; Okoro, 2015; Olaniran & Mncube, 2018; Omoniwa & Adedapo, 2017; Onuma, 2016). Accordingly, graduates do not process the necessary knowledge and skills to identify opportunities and create jobs for themselves.

Few studies have suggested that entrepreneurship educators could use multiple ways to implement an entrepreneurship curriculum to meet diverse students' needs (Arasti et al., 2012). They further noted the need for educators to apply a teaching strategy that matches learners' needs. However, educators may not be aware of the abilities (strengths and weaknesses) that they possess, and consequently, this may hinder matching their abilities with their learners. Moreover, Chan (2003) noted that "educators' limitations do restrict them to their most comfortable and accustomed ways of teaching" (p. 522). He also stated that an educator's self-perception of strengths might affect their confidence and beliefs in teaching.

Using the framework that intelligence shapes human behavior, the Multiple Intelligences Theory (MIT), Gardner (1983; 2008), could be used to understand entrepreneurship educators and determine ways to improve their teaching strategies. According to Bordei and Ghiațău, (2014), MIT is related to the development of personal intelligences and "who you are is more important than what you know"(p. 95). Demirel et al. (2012) revealed that entrepreneurs' Multiple Intelligences significantly impact their entrepreneurial ideas. MIT recognizes that human beings possess eight abilities and suggests that an educator can use these abilities to apply several teaching strategies to respond to a learner's needs (Gardner, 1983; 2008). MIT acknowledges that each person has a unique combination of strengths, weaknesses, and preferences which determine their

decisions, such as the choice of teaching strategies that educators apply during teaching and learning. Adeyemo (2009) claimed that entrepreneurship educators can satisfy learning needs when they discover their instructional strengths and weaknesses. Therefore, this study's primary research problem was to examine entrepreneurship educators' ineffectiveness in preparing graduates for employment.

Purpose and Objectives of the Study

This study aimed to describe the association between entrepreneurship educators' characteristics and their teaching strategies with respect to Multiple Intelligences. The study's results may be used eventually to expand entrepreneurship educators' abilities and improve their teaching strategies and practices relative to diverse students. The study seeks to empower and develop entrepreneurship educators to effectively prepare learners to become job creators, thereby, achieving the objectives for which entrepreneurship education was introduced to the Nigerian tertiary institution curriculum. Accordingly, the objectives of the study included:

1. Identify the Multiple Intelligences characteristics and preferred teaching strategies of entrepreneurship educators.
2. Determine the relationship between entrepreneurship educators' Multiple Intelligences characteristics and their preferred teaching strategies.

Research Questions

The following research questions were posited for the study:

1. What are entrepreneurship educators' Multiple Intelligences characteristics and preferred teaching strategies?
2. Is there a significant relationship between entrepreneurship educators' Multiple Intelligences characteristics and their preferred teaching strategies?

Significance of the Study

In recent years, policymakers, employers, educators, curriculum designers, and students have received the message that entrepreneurship educators' ineffectiveness in preparing Nigerian

graduates might have been the cause of the constant increase in unemployment of Nigerian graduates. Studies have suggested that educators' application of multiple teaching methods could be a potential approach to effectively implementing an entrepreneurship curriculum (Azim & Al-Kahtani, 2014). Unfortunately, educators have their strengths, limitations, and preferences related to the teaching strategies they decide to apply in curriculum and instruction. Therefore, if multiple teaching strategies application is the solution, can educators apply and succeed using numerous methods of instruction?

This study contributes to the body of work in entrepreneurship education and business education. This study could benefit educators by developing their self-awareness about their strengths and limitations to make effective teaching strategy decisions. Self-awareness could improve confidence to create opportunities for expanding educators' abilities to meet the needs of diverse students. The study is expected to empower and develop entrepreneurship educators to achieve job creation and enhance graduates' employability. Additionally, the study's findings may determine how educators could promote the development of entrepreneurial skills and knowledge for students' economic growth. Subsequently, educators involved in teaching entrepreneurship education should discover the outcomes of this study to identify their instructional strengths and limitations and understand how to improve their abilities to work with diverse students.

The study should be enlightening to educators, as they realize several strategies consistent with their strengths for teaching and learning, as revealed by Multiple Intelligences Theory. Furthermore, the study would contribute to the frontiers of knowledge in entrepreneurship in higher institutions, especially as entrepreneurship education is relatively new, with limited research that involves entrepreneurship educators and Multiple Intelligences. In addition, the study can reveal the level of instructional capability of these educators, which can motivate the educators to expand their Multiple Intelligences (MI).

Eventually, the findings should have the potential to contribute to the development and recognition of entrepreneurship as an essential workforce focus for Nigeria's multifaceted employment-related problems. Also, the Nigerian Government, the Ministry of Niger Delta, and the Niger Delta Development Commission (NDDC) could use the study's outcomes as a resource for their training and development programs, to solve interrelated issues such as unemployment, poverty, economic empowerment, and other socio-economic issues in south-south Nigeria.

Delimitations of the Study

This study had its limitations in that the cross-sectional study (Navarro-Abal et al., 2018) engaged the study sample using purposive sampling techniques (Rai & Thapa, 2015). The study's participants are entrepreneurship educators from one selected higher institution in south-south Nigeria who teach entrepreneurship education courses. These educators (lecturers and resource person) are diverse in their educational backgrounds, and they are in different departments and programs within the institution. The resource personnel are businesspeople from various but limited trades and businesses. Further, the study adopted two survey instruments: Intelligence Survey (IS) and Multiple Intelligence-framed Teaching Strategies Index (MIFTSI) items. These instruments measured the Multiple Intelligences profiles and the teaching strategies of entrepreneurship educators in the selected higher institution. The instruments are self-reporting and composed of Likert scales, developed, and validated by Luo and Huang (2019). Another possible delimitation is the IS and MIFTSI subscales' internal consistency reliability ranging from Cronbach's alpha 0.63 to 0.75 and 0.64 to 0.82, respectively. Research generally suggests a Cronbach's alpha between 0.80 and 0.90 as adequate for established instruments (Marian, 2011). Ursachi et al. (2015) consider 0.60 to 0.70 or higher as acceptable reliability levels for a new instrument. However, McGrath, Pogge, et al. (2005) noted 0.60 as the minimum adequate reliability level.

Assumptions of the Study

The study participants are entrepreneurship educators comprised of lecturers, resource personnel, and small business owners. The lecturers are classroom-based; they teach the theoretical aspect of the entrepreneurship curriculum. In contrast, the resource personnel teach trade skills and the practical aspects of the entrepreneurship curriculum. This structure implies that entrepreneurship education can be taught in two ways, theoretical and practical. Accordingly, it was assumed that entrepreneurship educators were unaware that an entrepreneurship educator has eight intelligences/abilities to teach content in multiple ways. Human beings have eight abilities: "linguistic (verbal) intelligence, visual (spatial) intelligence, bodily (kinesthetic) intelligence, mathematical (logical) intelligence, intrapersonal intelligence, musical (rhythmic) intelligence, social (interpersonal) intelligence, and naturalist intelligence" (Demirel et al. 2012, p. 416). The

awareness of educators' eight abilities exposes them to understanding their instructional strengths and weaknesses, which they may develop through training, workshops, or further studies for effective instructional strategies. Also, it is assumed that educators are not aware of how these eight abilities make them different and unique in various ways. These eight abilities in individuals do not have the same degree levels, such that some of the abilities are more developed while some are less developed. However, all eight abilities work together in unison (Butler & McCarthy, 2015). For example, an educator may have a robust linguistic ability (words and language), but difficulty in logical-mathematical (numbers and reasoning). Linguistic and logical-mathematical abilities are associated with a standardized curriculum where every learner is taught and tested in the same way (Gardner, 2008). This study was approached with the presumption that educators who have not been aware of their eight abilities may have been restricted to the types of teaching strategy (lecturing- linguistic and logical mathematical) that they apply to implementing entrepreneurship education curriculum. The final assumption is that each person has eight different abilities that increase their confidence and encourage them to improve and expand their limited abilities. Accordingly, educators can be empowered and developed to enhance entrepreneurship education teaching strategies and prepare Nigerian graduates with skills and ideas that will help them create employment for themselves and others (Onwugbufo & Gibe, 2016).

Definition of Terms

Empowerment: An educator's ability, such as self-confidence, to enact changing, or to influence students thus enabling them to engage in actions successfully (Broom, 2015).

Entrepreneurship Education: A course integrated into the curriculum [that] reveals a student's potential and provides opportunities to acquire the appropriate skills and competencies needed for exploration, sustainability, and expansion of businesses (Oluwafemi et al., 2014, p. 70).

Inclusive Pedagogy: The teaching and learning strategies that are centered on individual differences, informed by Multiple Intelligences Theory, which uses more than two intelligences, and allows students to use their strengths (Barrington, 2004).

Intelligence: The ability to solve problems or to create products that are valued within one or more cultural settings (Gardner, 1999, p. 28). Also, the set of abilities that normal individuals

possess, which, to some extent, differ in the degree of skill and combination (Gardner, 2006).

Multiple Intelligences: The multiple abilities teachers use to personalize their instruction to meet the needs of their students' different goals and values (Gardner, 1992).

Multiple Framed Teaching Strategies: The teaching approaches that are sensitive and relevant to each of the multiple intelligences of teachers (Luo & Huang, 2019, p.4)

Unemployed Graduates: Those graduates from Nigerian higher institutions who are without sufficient knowledge and skills to meet the demands of the workforce (Oluwafemi et al., 2014).

CHAPTER 2: REVIEW OF THE LITERATURE

The review of the literature provides a background and context for this study. The focus is on four areas: (a) The Concept of Entrepreneurship, (b) Historical Development of Entrepreneurship Education in Nigeria, (c) Strategies for Teaching Entrepreneurship Education, and (d) Empowerment and Development of Entrepreneurship in Nigeria.

The Concept of Entrepreneurship

The entrepreneurship education curriculum is implemented using applications of theoretical and practical models. The curriculum's theoretical content is implemented by lecturers in the classroom, while resource staff implement the practical content at the entrepreneurship development center of the institution. The concepts and theories surrounding entrepreneurship education are impossible to understand without first defining what entrepreneurship and being an entrepreneur means. The concept of an entrepreneur has a wide range of meanings. At one extreme, an entrepreneur has a very high aptitude who pioneers change and possesses characteristics found in a small fraction of the population. At the other extreme, an entrepreneur is defined as anyone who wants to work for themselves.

Chimielecki and Sulkowski (2017) posited that an entrepreneur is viewed as an individual who explains an entrepreneur's activities. Therefore, entrepreneurs can perceive and evaluate business opportunities, gather the necessary resources, take advantage of resources, and initiate appropriate action to guarantee an enterprise's success. Business owners identify and exploit new products, processes, and markets to generate value either by creating or expanding economic activity (Ahmad & Seymour, 2008). Expounding on the nature of an entrepreneur, Amesi and Wogboroma (2008) stated that an entrepreneur includes any person who runs a business, such as:

bookshop, restaurant, beauty salon, or beer parlor; manufactures nails, publishes books, prints; either a sole trader or retailer hence an entrepreneur. It is pertinent to note that the type of business that might be of interest to professional managers, engineers, lawyer(s), or accountants may differ from owning a dry-cleaning establishment, show shops, and so on. They are all businesses, and each has a contribution to make to our country's development (Nigeria). Thus, anyone who creates a (new) business, establishes it, and nourishes it to growth and profitability, or takes over an existing business because the founder is dead or has sold it or who

inherited it and continues to build and innovate on it, or a man/woman who runs a franchise qualifies as an entrepreneur in our usage (p. 91).

Other scholars have defined the term entrepreneur and entrepreneurship using different indices such as culture, academic, environment, and social backgrounds. Additional factors, according to Cuervo et al. (2007), include "those under entrepreneurial factors, entrepreneurial functions, entrepreneurial initiative, entrepreneurial behavior, and entrepreneurial spirit" (p. 3). For example, Human Resources Management (2022) described an entrepreneur from an economics perspective "as the ability to find and act upon opportunities to translate inventions or technologies into products and services" (para. 3). From an operational perspective, Oluwafemi et al. (2014) viewed entrepreneurship as the "willingness and ability of a person to acquire educational skills to explore and exploit investment opportunities, establish and manage a successful business enterprise" (p. 71). In contrast to the previous definitions, Chimielecki and Sulkowski (2017) described entrepreneurs from the perspective of individual differences as having different motivations for engaging in businesses that can be understood from teaching and learning theories. An example of a relevant theory is the Multiple Intelligences Theory (Gardner, 2006), which recognizes human differences in decision-making.

Similarly, like the entrepreneur, the subject of entrepreneurship is extensive, both as a phenomenon and as a concept. Nickels et al. (2008) perceive entrepreneurship as a process of creating something new by devoting time and effort, assuming financial, psychic, and social risks, and benefiting from accruing monetary rewards, personal satisfaction, and independence. Thomas and Bara (1994) viewed entrepreneurship from three different perspectives:

- (1) External entrepreneurship setting up and managing a small business or growth-oriented entrepreneurial venture.
- (2) Entrepreneurship as an entrepreneurial way of action within an organization.
- (3) Enterprising behavior is all behaviors, skills, and attitudes of an individual in all spheres of life.

These three aspects show that entrepreneurship is a dynamic process of vision, change, and creation, which involves applying energy and passion for creating and implementing new ideas and creative solutions. Also, entrepreneurship consists of the willingness to take calculated risks such as time equity, the ability to formulate an effective venture team, the corrective skill to match

all needed resources, and fundamental skills of building a solid business plan (Frederick et al., 2019).

Concepts such as willingness, ability, and investment opportunities are integral to understanding entrepreneurship. A successful entrepreneur, such as entrepreneurship educators, must have the [ability] and the willingness to participate in entrepreneurship (Ediagbonya, 2013, p. 39). Chimielecki and Sulkowski (2017) noted that willingness differentiates an entrepreneur from a non-entrepreneur. Therefore, an effective entrepreneurship educator requires the willingness and the ability to participate in entrepreneurship. However, no individual, such as an entrepreneurship educator, has the same abilities and desire to participate in the entrepreneurship curriculum to achieve learners' objectives.

Schumpeter's view of entrepreneurship places emphasis on innovations such as new products, new production (or service) methods, new markets (for goods and services), and new forms of business organization (QuickMBA, 1999-2010). Wealth is created when innovation results in new demand. From this viewpoint, an entrepreneur can be defined as combining various factors to generate value for the customers. It is expected that the value will exceed the cost of the input factors, which generate returns (wealth) within a short or long period.

The Nicomachean ethics of the famous educational philosopher Aristotle (384 – 322 BC) also provided the impetus for entrepreneurship – he divided the intelligence of a human being into chancing and static knowledge (Ojala, 2006). Chancing knowledge refers to the inclusive ethics of chance, evaluation, and a sense of justice. As an illustration, static knowledge could be the laws of physics or scientific knowledge, which can be applied to entrepreneurship from an economic perspective when establishing an enterprise. An example of chancing knowledge is the entrepreneur knowing what changes in terms of goods, prices, and availability in the market. Accordingly, a sense of justice in entrepreneurship could be an ethical view of a useful and aesthetically valuable product for consumers.

Existing literature focuses on motivation theories as both conscious and unconscious factors that include the intensity of desire or need, incentive or reward, value of the goal, and expectation of the individual and their peers. (Ganta, 2014, p. 221). Accordingly, motivation can be considered the beginning of the entrepreneurship process or activities. Motivation can be understood with motivational theories, such as the Hierarchy of Needs by Maslow, Theories X and

Y by McGregor, Theory of Learned Needs by McClelland, Two-Factor Theory by Herzberg, and Expectancy Theory by Vroom (Mansaray, 2019).

The theory of human motivation, such as Abraham Maslow's theory of the hierarchy of needs that are biological, psychological, safety, love, esteem, and self-actualization, can be used to demonstrate how people become entrepreneurs. Educators can identify and satisfy individual entrepreneurs' needs by applying Maslow's theory to entrepreneurship education. For example, first, Maslow's theory suggests that the hierarchy's physiological needs category is where the entrepreneurs can satisfy their livelihood from entrepreneurship. The second is the need for safety, where the entrepreneur continues to build and grow a business venture. The third is belongingness or love, which are evident when the entrepreneur is involved in various activities in the organization and society. The fourth is self-esteem, where the entrepreneur is esteemed by the family, vocation, profession, society, and competitors. The fifth and final need is self-actualization. The entrepreneur wants to have leisure time, hobbies, recognition, and a sense of arrival, especially when appointed or promoted to a place of honor and respect in society.

The entrepreneur is a factor in microeconomics. The study of entrepreneurship owes much to economists such as Joseph Schumpeter in the 1930s and other Austrian economists such as Carl Menger, Ludwig von Mises, and Friedrich von Hayek. During the late 17th and early 18th centuries, Richard Cantillon and Adam's work were forerunners concerning entrepreneurs' microeconomics study. However, Bogoro (2015) claimed that entrepreneurship was "largely ignored theoretically until the late 19th and early 20th centuries, and empirically, not studied until a profound resurgence in business and economics in the last 40 years" (p. 16)

Despite Schumpeter's contributions regarding who or what the entrepreneur denotes, the traditional microeconomic theory did not formally consider the entrepreneur in its theoretical frameworks; instead, it is assumed that resources would generally find one another through the price system. By so doing, the entrepreneur was regarded as the unspecified actor – which is consistent with the concept of the entrepreneur as being the agent of "x-efficiency". Kenton (2020) defines x-efficiency as the degree of efficiency maintained by firms under conditions of imperfect competition, such as monopolizing. It is "x-efficiency" that distinguishes the entrepreneur as the agent when discussing economic development in any nation like Nigeria. This can be acknowledged by countries that could survive through entrepreneurship.

Entrepreneurship behavior can be exclusively understood from different perspectives of individual differences, as having a different array of capabilities for demonstrating and acquiring entrepreneurial behaviors, skills, and attributes. These behaviors can be practiced, developed, and learned. Therefore, it is essential to acquaint all students with entrepreneurship education. Moreover, entrepreneurs can enhance self-employment or self-reliance to empower and develop a nation like Nigeria (Awojobi, 2011; James et al., 2018). National development is at the center of entrepreneurship activities, which are personified in an entrepreneur. The entrepreneur's contribution can be seen from two perspectives, the ability to reduce unemployment and the creation of wealth through the production and provision of goods and services that have utility in economic parlance. These varying perspectives are essential components of the long-standing history of entrepreneurship.

Historical Development of Entrepreneurship Education in Nigeria

Entrepreneurship thought has been around since humans have existed on earth. It has been merging over the last 50 years as a field of study. Consequently, in the mid-1970's, many academic programs focused on entrepreneurship and have grown universal acceptance in curriculum, research, and practice. According to Herbert and Link (2006), Richard Cantillon was the first to refer to entrepreneurship, where the literature on entrepreneurship and its study subsequently transformed into entrepreneurship education. The development of entrepreneurship education in Nigeria should focus on its origins as a field of study beginning during the 18th century (Falcone & Osborne, 2005). The timeline of entrepreneurial thought is illustrated in Table 1.

Table 1*Timeline of Entrepreneurial Thought*

Time	...1750	1800	1850	1900	1950	2000
1. Falcone/Osborne Framework	Classical		Neo Classical	Modern	Modern Situation Lists	Open Systems
2. Terms & Concepts	Risk, Profit Development	Freedom Behaviour Innovation	Thinking Change Administration	Equilibrium Competency	Regulation Organic Personality	
3. Definitions	Nominal		Reliable		Operational	
4. Organization	Agrarian	Mechanistic	Scientific Humanistic	Responsible	Learning Organization	
5. Types of Theorists		Novices	Economic Behavioral	Scientists	Organization Theorists	E-Specialists
6. Hebert and link theoretical	Early		Meandering/Classical	Neo-Classical		Extended Theory
7. Political markets	Random	Legislated	Bureaucratic/Democratic	Representative		Adaptive
8. Kotler's markets	Production		Product Sales	Marketing Concept	Societal-Marketing Concept	
9. Behaviour	Elitist Freeist		Physiocrat/Descriptionist	Structuralist Keynesian	Tritest Leader	Situational Proactive
10. Theory	Describers		Prescribers	Theorists	Interveners	
11. Imperialists	Early (English, French)		Middle (American, German)	Late (Japanese)	Globalists/Americans	

Note. Timeline of Entrepreneurship thought. Adapted from Falcone, T., and Osborne, S. (2005). Entrepreneurship: a diverse concept in a diverse world. *USASBE–United States Association for Small Business and Entrepreneurship*. [http:// doi=10.1.1.529.2851&rep=rep1&type=pdf](http://doi.org/10.1.1.529.2851&rep=rep1&type=pdf)

Lee and Wong (2005) stated that the growing interest in entrepreneurship education became more prevalent in the late 1950's and 1960's when some well-known studies in entrepreneurship were conducted and played prominent roles in developing learners' interest in entrepreneurship education programs (Collins et al., 1964). Ojeifo (2013) explained that, in 1980, political instability and inconsistencies in the successive government's social-economic policies led to the Nigerian economy collapse, increasing the interest in entrepreneurship education.

Entrepreneurship is a catalyst for economic development that translates into job creation and economic development. Policymakers have developed a wide array of measures to support it, as Idam (2014) noted. Accordingly, academic institutions, particularly universities, polytechnics, and other higher institutions, promote entrepreneurship growth through entrepreneurship education. Moreover, entrepreneurship education growth is evident in the many entrepreneurship centers, conferences, and programs worldwide. At these conferences, academicians socialize and

interact with practitioners, sharing current information, developments and innovations in the field. In recent years, emerging professional associations that operate through formal and informal groups are associated with entrepreneurship.

Entrepreneurship is not a new development in Nigeria's business and industrial sectors. Entrepreneurship had existed in Nigeria before the arrival of the colonial masters (Chukwumezie, 2011). During that time, there was no paid employment. Entrepreneurship education emerged in Nigeria due to the widespread educational reforms necessary to achieve the objective of job creation for Nigerian graduates. The educational system left by the British colonialists was designed to assist the colonial masters in closing the communication gap between them and the colonized Nigerians (Nwekeaku, 2013) with little emphasis on practical or skill acquisition of the recipients. After the colonial period, there was a need for vocational and technical education (Ashby Report, 1960). This report set the stage for subsequent reports or reforms in the Nigerian educational system and introduced the National Policy on Education (NPE) in 1977 (Akanbi, 2017). Over the years, (NPE) was revised, leading the traditional delivery system to diminish its instructional implementation gradually at all levels of education.

The policy relies more on the extensive acquisition of vocational and technical skills and competencies, which results in applying equipment and tools in teaching and learning. There is a provision for Entrepreneurship Education in Section 8 of the National Policy on Education (FRN, 2004). Through the "acquisition of both physical and intellectual skills, individuals will become self-reliant and useful members of the society"(p. 36) is stated as one of the higher education goals. The policy unequivocally defines vocational and technical education (VTE) in the education process's general education aspect. However, Md and Rashid (2019) perceive vocation and technical education as that study that focuses on technology, sciences, acquisition of skills, attitudes, understanding, and knowledge to assist one to be employable.

Arogundade (2011) reported that entrepreneurship education's provenance (or history) in Nigeria began emerging in the mid-1980s. During this period, the Structural Adjustment Program (SAP) policy of the military administration of General Ibrahim Badamasi Babangida (Rtd.) accompanied massive layoffs and early retirement of workers in both the public and private sectors of the Nigerian economy (Nwagbara, 2011). Unemployment and poverty were not a national concern at that time. In contrast to the mid - 1980's, Alabi (2019) argued that unemployment among youth and graduates is continuously increasing. Political instability and inconsistencies in

successive governments' socio-economic policies have led to high-level unemployment caused by economic collapse.

Consequently, in January 1997, the Family Economic Advancement Program (FEAP) blueprint recommended introducing entrepreneurship education into primary, secondary, technical, vocational, and tertiary institutions in Nigeria (Aladekomo, 2017). This step ensured that students ultimately inculcated entrepreneurship culture and spirit to be job creators, not just job seekers.

Persistent unemployment prompted the Nigerian government to set up agencies specifically to deal with labor groupings. The increasing rate of unemployment resulted in the founding of agencies such as the National Poverty Eradication Program (NAPEP), which targeted youth employment, and the National Directorate of Employment (NDE) to serve as the main youth employment initiative (Obisanya & Akinbami, 2010). These programs and agencies were inadequate; youth unemployment continued. Despite its sustainable national development role, the national development process did not include youth (Giwa, 2008). However, this made it possible to introduce entrepreneurship education into the educational curricula because of its job creation and development benefits. For example, the University of Ibadan offers an entrepreneurship program at the graduate level (Adedapo, 2020). Nigerian higher institutions have also established centers for entrepreneurship and innovation (CEI) to respond to the need to make entrepreneurship education a complete and integral aspect of Nigeria's educational programs and delivery system.

Entrepreneurship education had not achieved its goals of preparing students with skills and knowledge, the reason for which entrepreneurship was introduced into Nigerian higher institutions (Falola, 2009). Ugoani and Ibeenwo (2015) claimed that Nigerian higher institutions are not practicing entrepreneurship education because of the educational policies designed to prepare students to search for jobs and not create jobs. Meanwhile, Nigeria's polytechnics and colleges of education have embraced entrepreneurship education in their programs (NBTE, 2004). Accordingly, it can be stated that the advent of entrepreneurship education in higher institutions was to gradually change students' mindsets and society, in general, away from white-collar jobs after graduation to being job creators. Unfortunately, Nigerian graduates have lacked the skills and knowledge necessary to create jobs for themselves and sustain them; therefore, unemployment has continued to increase.

Strategies for Teaching Entrepreneurship Education

Teaching strategies can be very effective in entrepreneurship education to achieve the desired learning objectives (Nwachukwu, 2001). Obi (2005) claimed that teaching transcends the mere presentation of information or ideas; instead, it involves guiding students to learn and utilizing discerning, probing, examining, and analyzing activities. Accordingly, teaching strategies define the decisions concerning and including students' organization, materials, and ideas to make learning feasible to achieve learning objectives (Nwachukwu, 2001). Such strategies consist of entrepreneurship as part of instruction, collaboration with the local community, competent educators, and school owners and managers as supporters of entrepreneurship education (Reyes & Manipol, 2015). However, to achieve learning objectives, entrepreneurship educators need to apply teaching strategies comparable to their abilities to implement the curriculum effectively. Therefore, entrepreneurship educators need to identify their instructional abilities to determine their instructional strengths and limitations for effective instructional decisions. Entrepreneurship can be taught and learned by three methods: direct, interactive, and practical operational teaching-learning methods containing 30 elements within these strategies (Esmi et al., 2015). The teaching elements of the three strategies are adapted and illustrated in Table 2, Esmiet al. (2015),

Table 2

Teaching - Learning Methods of Entrepreneurship Curriculum

Teaching-learning methods	Elements
Direct teaching-learning methods	Inviting guest entrepreneurs - Mentoring - official speech-seminars-Video watching and recording - Training in extracurricular activities - Training in specialized lesson - small businesses mentoring - Entrepreneurship tutoring
Interactive teaching-learning methods	Process-oriented learning - Learning from mistakes - Interviewing entrepreneurs - Bilateral learning - Group discussion – Networking – Discussion - Problem-oriented learning - Active learning
Practical operational teaching-learning methods	Role-playing-Training workshops - Site visiting - Class Practice-Research projects - Internship - Business planning - starting business - Studying nature - Investment projects - Practical experience

Note. Teaching - Learning methods of an entrepreneurship curriculum. Adapted from *Journal of Advances in Medical Education and Professionalism*, 3(4), p. 4172-177.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4596383/>

Mwasalwiba (2010) identified 26 teaching strategies for teaching entrepreneurship education and further noted that choosing a suitable teaching strategy to align with course objectives, environments, and students is a challenge to educators. Utoware and Eneogwe (2018) noted that

entrepreneurship educators' lecture teaching strategy in Nigerian institutions is ineffective in achieving entrepreneurship education outcomes. However, Stettiner, et al. (2015, p. 5) stated that whatever teaching strategies that entrepreneurship educators adopt, the expected goals should be:

- (1) Train persons with the skills, knowledge, and attitudes that can enable them to be responsible for their learning, career, and life, including responsible learning, self-awareness, and attitudes such as self-motivation and self-confidence, and individual responsibility.
- (2) Enhance the individual's perception of the external world, economy, opportunities, and changes in general.
- (3) Promote and encourage entrepreneurial, business, and innovative behavior.

Stettiner, et al. (2015) entrepreneurship educators' goals for individual learners can be represented in Figure 1.

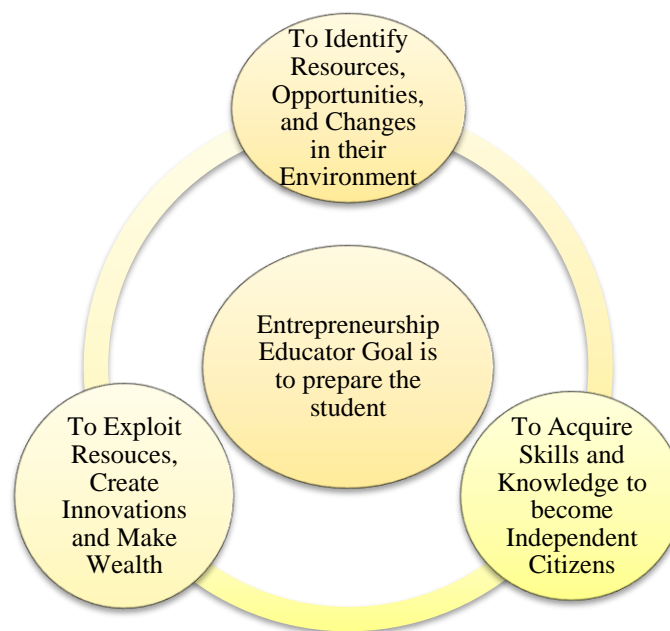


Figure 1. *Entrepreneurship Educators' Goals for Individual Learners*

The need for appropriate teaching strategies in entrepreneurship education cannot be over-emphasized. Obi and Oliver (2011) observed that entrepreneurship education teaching strategies are achieved through education and training because it is the most crucial factor in identifying potential entrepreneurs. Thus, entrepreneurship education requires an experiential teaching strategy (Gibb, 2002). However, Igbo (2006) advocated for teacher and student-oriented methods

of inculcating entrepreneurship education, including studying successful businessmen and women, interviewing employers, forming business clubs, and teaching students to read and forecast trends in the supply and demand of specific goods and services.

Teaching strategies that encourage students' interactions and participation could motivate student interest in entrepreneurship. Park and Choi (2014) stated that such teaching strategies engage students in active learning, where learning is inspirational and motivational for all students. This is contrary to inactive learning that is focused on students with high academic scores. Inactive learning can only motivate a selected group of students and non-active learning cannot meet diverse entrepreneurship needs.

Active learning consists of listening, reading, writing, discussing, or solving problems using higher-order thinking on tasks such as analysis, synthesis, and evaluation (Bonwell & Eison, 1991). They further noted that learners could achieve learning goals if they do something and think about what they do. For example, students in real-world business contexts can perform as entrepreneurs rather than merely assuming or pretending to be one. Consequently, strategies involving students' active participation, such as a participative teaching strategy, are effective for entrepreneurship students. Such strategies strengthen student inspiration and subsequently influence their culture of entrepreneurship.

Another approach to instruction is cooperative learning, which is learner-centered. This strategy allows students to learn in small groups to share knowledge and maximize learning outcomes. Cooperative learning organizes classroom activities into academic and social learning experiences, and this learning requires students to work in groups to complete sets of tasks collectively. In contrast to other group learning, cooperative learning consists of positive interdependence, face-to-face interaction, individual accountability, interpersonal and small group skills, and group processing (Obidoa et al., 2012, p. 936).

Cooperative learning benefits include increased interpersonal relationships, conflict resolution, improved verbal, written, and corporal expression and communication, cooperation between peers, mutual respect, and collective responsibility (Jardim & Carvalho, 2017). Also, cooperative learning contributes to better academic performance of students compared to other teaching strategies. It concentrates on a wide variety of teaching and learning activities with active collaboration among educators and students.

The study of teaching is called didactics, which focuses on planning and actual teaching. It studies the aims of teaching, teaching processes and results, and develops an appropriate theory of good teaching. According to Ojala (2006), the scientific basis for entrepreneurship education is related to sciences, home-economics, economics, social sciences, engineering, psychology, pedagogy, sociology, and natural sciences.

Entrepreneurship education is scientifically based. As an illustration, (1) in social sciences, there is sociology (Crawford, 1971); (2) in education; there is the psychology of learning and teaching (Duchesne & McMaugh, 2018); (3) in home economics; there is consumer education (Gray & Whorley, 1971); (4) in economics, there is marketing (Hosley, & Wee, 1988); (5) in natural sciences, there is environmental education (Kasimov et al., 2005); and (6) in engineering, there are production sciences (Li & Meerkov, 2008). Therefore, it is essential to carefully consider the didactics of entrepreneurship education as part of the national economy within the concept and framework of every distinct municipality's industrial structure, especially as conceived in the interaction between schools and various interest groups that are central to entrepreneurship education.

The interaction between school and its community is necessary as Sulaiman et al. (2011) demonstrated that students learned more effectively outside the classroom. Therefore, it becomes essential to add a real business environment and theoretical teaching with authentic learning experiences in the school. School is not isolated from society but a necessary part of it. The need to provide functional entrepreneurship education to the learner with relevant simulations and entrepreneurship models becomes inevitable. It also offers essential support for the learner's internal entrepreneurship, activity, creativity, and initiative.

Ojala (2006) suggested that in addition to the traditional concept of economics, "additional value" or value-added be included in the didactics of entrepreneurship education. In the field, additional value is the same as the mental or material surplus value, an entrepreneurship education outcome. Another cognitive value could be the interaction between schools and businesses leading to up-to-date teaching materials.

The didactics of entrepreneurship education under discussion require that each educator or group of educators write the school-specific syllabus of entrepreneurship education in cooperation with various interest groups (Ojala, 2006). Further, Ojala (2006) stated that networking is a strategic tool for teaching entrepreneurship education, where much emphasis and expectations

have been placed on the "network economy" in Finland's practice. The network economy is said to be the next step in economic development. It is vital in entrepreneurship education as it is in business, entrepreneur, and school networks. It is possible to collaborate between schools, school interest groups, business service organizations, and small, medium, and large businesses. Networks are dynamic; they contract and expand and have essential functions in creating social structures and providing information.

Blenker et al. (2008) showed that practical entrepreneurship training could be provided by available intellectual capacity within internal and external institutions through collaboration. Collaboration learning enables collaborators to complement one another's limited instructional abilities to achieve set goals. Entrepreneurship educators are successful in their programs as they leverage the skills, knowledge, instructional skills, and resources in internal and external institutions. Outside the school, environmental collaboration can inform resource persons, guest speakers, and others, and occur between the school and businesses within and outside the campus, between educators and students, as well as with a small number of students participating in a project. Entrepreneurship education involves internal and external learning where students and educators enrich their learning and teaching based on insourcing and outsourcing entrepreneurship educators for an effective entrepreneurship education program. Insourcing and outsourcing aim to fill capacity gaps or deficiencies in the ineffectiveness of entrepreneurship educators. Insourcing is internal entrepreneurship such as initiative, responsibility, and group work skills. These could be personal attributes or capacity. Contrary to outsourcing, external entrepreneurship is associated with business knowledge and the world of work, which is best materialized in collaboration between schools and businesses. Blenker et al. (2008) study can be represented as the internal and external entrepreneurship learning in Figure 2.

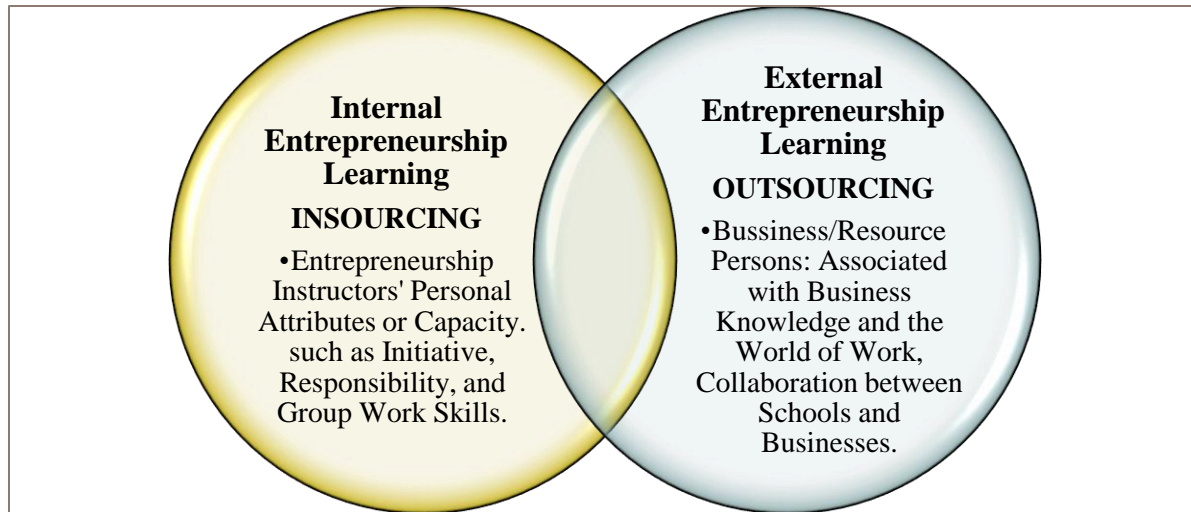


Figure 2. Internal and External Entrepreneurship Learning

An illustration of outsourcing entrepreneurship could be the practice of hiring functional experts to handle business units from outside any firm's core business (Dominguez, 2006). Such expertise could be entrepreneurship educators sharing their experiences to motivate learners. Outsourcing entrepreneurship could also request outside organizations to carry out or provide activities and services performed previously within the institution. Consequently, such persons' involvement from outside institutions could motivate and mentor educators and learners by enhancing educators' and students' teaching and learning outcomes (Modupe & Adelowo, 2015).

Some challenges can hinder entrepreneurship effectiveness; for example, entrepreneurship requires transferable knowledge, skills, and abilities, which could be hampered by a capacity challenge between educators and students, where the ratio of the learners to educators is inappropriate. An inappropriate ratio deprives educators of engaging in individualized instruction (Nwosu & Chukwudi, 2018). Therefore, the multi-disciplinary dimensions of effective entrepreneurship education require that external facilitators be employed to deliver a robust entrepreneurship program. The collaboration could be in-house among educators in the same higher institution or institutions based on resident educators' diverse instructional abilities and expertise. Emerging from the symbiotic relationship between viable entrepreneurship education and sustainable development in Nigeria, appropriate strategies for effective entrepreneurship education become imperative.

Blenker et al. (2008) suggested that entrepreneurship educators' self-reflections as learners in entrepreneurship education courses and programs can strengthen instructional strategies. Educators can reflect on whether teaching went as planned and discover ways to improve their teaching. Blenker et al. (2008) noted that increased teaching activities and learning outcomes could strengthen entrepreneurship education courses and programs to satisfy learner needs. Therefore, instructional strategies, involving collaborations of all types as well as self-reflections, develop educators' teaching experiences and are essential for entrepreneurship education courses and programs (Blenker et al., 2008).

Empowerment and Development of Entrepreneurship in Nigeria

To empower is to give an individual or a group of people more control over their lives or situations (Hornby, 2005). For instance, Afolabi (2015) noted that entrepreneurship education could develop the Nigerian economy and liberate Nigerian graduates from unemployment by establishing and growing micro, small, and medium enterprises. Cattaneo and Chapman (2010) viewed power "as embedded in social interactions, which are not limited to struggles for dominance but include a wide range of ways in which people can exert influence" (p. 647). An example in an educator's case would be one dissatisfied because of restrictions preventing participation in course decision-making concerning the course one teaches (Amoli & Youran, 2014).

According to Vera (2014), "Empowerment in entrepreneurship is a process that starts from people becoming aware of their interests and capabilities" (p. 1). Educators who know and consider how individuals are different could engage an effective teaching strategy to achieve entrepreneurship education learning objectives. Moreover, studies have revealed that educators' abilities influence students' performances (Munawaroh, 2017; Yaumi et al., 2018). Consequently, an entrepreneurship educator needs to develop an awareness of their differences to determine their instructional strengths and limitations; an educator's instructional abilities might be a determinant for choosing teaching and learning strategies. Dee et al. (2003) stated that "empowerment calls on team members to learn about themselves and others so that they can relate, interact, and contribute more effectively" (p. 272). Therefore, empowered educators are aware and have examined their differences concerning instructional abilities. Such educators can focus on students' preferred learning strategies and successfully apply strategies that match students' abilities to achieve

entrepreneurial learning outcomes. Moreover, "Entrepreneurial teaching implemented by entrepreneurial teachers has the potential power to help the world create economic growth" (Altan, 2017, p. 36).

Broom (2015) argued that empowered educators and students could view things from different perspectives, such as negotiating with others, thinking independently, making thoughtful decisions, and acting on knowledge. Feste (1992) stated, "Empowerment requires self-awareness" (p. 924). Therefore, empowering entrepreneurship educators through the awareness and understanding of their instructional strengths and limitations could enable them to apply several teaching strategies that could meet more students' learning needs to be effective. In contrast, unempowered educators may be limited to teacher-centered teaching strategies that they are comfortable with, which render them ineffective instructors (Broom, 2015). Empowered educators understand how individuals are different; empowered educators understand that students use different learning styles. Thus, they can apply several teaching strategies to match students' diverse learning styles to achieve learners' learning objectives. Also, MIT awareness can offer "educators a common-sense framework to make a pedagogic decision that can foster individualized learning" (Goodnough, 2001, p. 188) to achieve the entrepreneurship education objective of job creation. Studies suggest that entrepreneurship educators need to understand human differences because an educator's central role is to develop students with employable skills and knowledge (Ahmadian & Hosseini, 2012; Altan, 2017; Winarno, 2016). Understanding individual differences lead educators to understand that educators and students have eight abilities (Gardner, 2006). The abilities are musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, intrapersonal, and naturalist. These abilities are combinations of strengths and limitations, which reveal educators' instructional strengths and limitations.

Some educators may not be aware that they possess these eight abilities which might have hindered them from effectively preparing students to become employable and sustain job positions. For example, Wuhn (1997) reported: "I wondered about my ability to apply the skills and techniques in a clinical setting" (p. 457). Educators' unawareness of their abilities could hinder them from applying effective teaching strategies to meet student's diverse needs. Consequently, such educators may maintain traditional teacher-centered teaching strategies, where educators are the leading authority or an expert of knowledge. Such teaching strategies render educators ineffective and students unemployed. Educators unaware of their abilities could lead to educators'

disempowerment, such as losing their confidence, getting frustrated, and eventually losing their jobs. Self-awareness can motivate educators by increasing their effectiveness and efficiency in teaching and learning (Richardson & Shupe, 2003).

Educators' awareness of individual differences could develop students' skills and knowledge for job creation. Moreover, Feize and Faver (2019) posited that educators should not underestimate the importance of self-awareness because it enables educators to understand themselves by looking inward. However, unawareness of human abilities may prevent educators from developing employable skills and knowledge in diverse students.

Educators' self-awareness reveals their instructional strengths and motivates them to develop dispositions (Schussler et al., 2010). Educators' awareness about self, students, and others could empower them to achieve successful entrepreneurship courses and program learning outcomes in Nigeria. When [educators] are self-aware, they [can] make responsible choices (Feste, 1992, p. 925). Such choices are effective instructional strategies that educators could apply in teaching and learning. Kabeer (2001) describes empowerment as a notion associated with change and expansion of people's ability to make life decisions in a situation where someone's ability was previously denied. For example, such denial can be the non-awareness of an educator's possession of eight abilities to apply several teaching strategies in teaching and learning.

These abilities consist of a person's strengths, limitations, and the preferences that they make. Kabeer's (2001) definition of empowerment has both theoretical and practical importance and value. Bayissa et al. (2018) described the Entrepreneurship empowerment structure as multidimensional, occurring within economic, familial, legal, social-cultural, political, and psychological dimensions. Empowerment is a social process concerning people at various levels: individually, group, community, or national (Page & Czuba, 1999; Peterson et al., 2005). Empowerment is an outcome that can be enhanced and evaluated (Parpart et al., 2003). Bayissa et al. (2018); Page & Czuba, (1999); Peterson et al., (2005); and Parpart et al. (2003) empowerment process can be represented based on three fundamental structures in Figure 3.

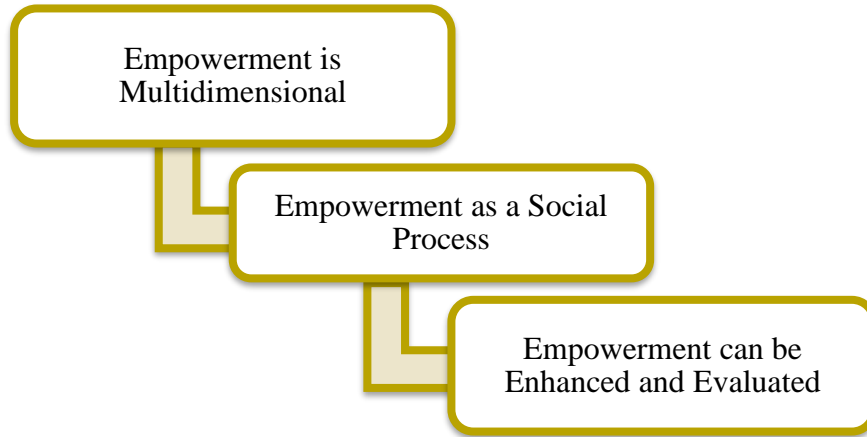


Figure 3. *Fundamentals of Empowerment*

Consequently, when educators are empowered, they can apply several teaching strategies, collaborate with their colleagues, and involve their learners in several activities to satisfy diverse student needs. Also, Amoli and Youran (2014) viewed empowered educators as those who can participate in the school decision-making process. Lee and Nie (2014) concurred regarding the need for educator psychological empowerment, “because it enhances “teachers’ sense of meaning, competence, autonomy, and impact” (p. 76). Empowered educators are satisfied and committed to their job. Also, empowerment leads to increased self-confidence, self-assertiveness, motivation, ambition, and persistence recognition (Dee et al., 2003; Vera, 2014). Furthermore, Boey (2010) noted that such a school environment could promote educators' participation in the decision-making process, empowering them to make decisions that can enhance teaching strategies for successful learning outcomes.

A variety of studies across disciplines examined the concept of empowerment both as a process and an outcome, such as Spreitzer et al. (1997) and Thomas and Velthouse (1990). As a process, empowerment is unpredictable and changeable over time and place; as an outcome, empowerment can be measured as expected accomplishments (Parpart et al., 2003). Some studies focused on the process or pathway of empowerment (Conger & Kanungo, 1988; Darlington & Michele, 2004). Other studies have focused on the outcomes or results of empowerment (Blanchard et al., 2001; Doore, 1988; Friedmann, 1992; Marciniak, 2004; Parpart et al., 2003). The process of empowerment in various disciplines is illustrated in Table 3.

Table 3*Process of Empowerment in Various Disciplines*

Fields	Processes	Authors
Political Science	Learning, joining, and mobilizing	Weissberg (1999)
	Strengthening representational links, fostering positive attitudes, and encouraging political participation	Banducci et al. (2004)
	Strengthening intellectual capabilities, coping with difficulties and problems, and engaging in politics	De-shalit (2004)
Social Welfare	Mobilizing and transforming	Friedmann (1992)
Education and Women's Studies	Conscientizing, inspiring, and liberating	Freire (1973)
	The power within, power with, and power to	Parpart, et al. (2003)
Health Studies	Discovering reality, developing the necessary knowledge, fostering competence, and employing confidence for making their voice heard	Gibson (1995)
	Alienation, awareness, participation, and sense of community	Peterson and Reid (2003)
Management	Sharing information setting up parameters, and developing terms	Blanchard et al. (2001)
	Sharing information, creating autonomy through boundaries, and team-building	Terblanche (2003)
Community Psychology	Interpersonal sense (of empowerment), community connections, and social actions for community building	Banyard and LaPlant (2002)
	Encouraging participation, intergrading diversity, and fostering involvement	Goodkind and Foster-Fishman (2002)
	Social conflict and social support	Ibanez et al. (2003)
	Relationship building and community building	Rossing and Glowacki-Dudka (2001)

Note. Process of empowerment in various disciplines. Adapted from “Empowerment in terms of theoretical perspectives: Exploring a typology of the process and components across disciplines” by *Journal of community psychology*, 34(5) p. 526 (<https://onlinelibrary.wiley.com/doi/epdf/10.1002/jcop.20113>). Copyright 2006 by Wiley Periodicals, Inc.

Hur (2006) identified individual and collective forms of empowerment. These forms of empowerment are consistent in all spheres of human life, politics, economics, education, social welfare, gender, health services, and management. Personal empowerment deals with how people such as entrepreneurship educators and students can think of themselves regarding knowledge, capacities, skills, and mastery (Staples, 1990). On the other hand, collective empowerment refers to the processes through which people collaborate or join together, to break their solitude and silence, help one another, learn together, and develop skills necessary for collective action (Boehm & Staples, 2004; Fetterson, 2002). Additionally, the various processes by which empowerment

occurs include individual and social factors. Individual empowerment (different authors and their components) is illustrated in Table 4.

Table 4

Components of Individual Empowerment

Authors	Components
Diversi and Mecham (2005)	Academic success and bicultural identity
Larson et al. (2005)	Self-confidence
Boehm and Staples (2004)	Mastery and self-determination
Becker et al. (2004); Kovach et al. (2004) & Worley (2004)	Self-determination, self-sufficiency, and decision-making ability
Fetterman (1996), Hayes and Sprague (2000)	Self-determination
Speer (2000)	A personal sense of control and efficacy
Breton (1994)	Competence-promotion
Lee (1994)	Self-efficacy, critical consciousness, development, and cultivation
Spreitzer et al. (1997); Thomas and Velthouse (1990)	Meaning, competence, self-determination, and impact
Moreau (1990)	Advocacy and consciousness-raising

Note. Components of [Personal] empowerment. Adapted from “Empowerment in terms of theoretical perspectives: Exploring a typology of the process and components across disciplines” by *Journal of community psychology*, 34(5) p. 532 (<https://onlinelibrary.wiley.com/doi/epdf/10.1002/jcop.20113>). Copyright 2006 by Wiley Periodicals, Inc.

To Hur (2006), individual empowerment arises when people attempt to develop their capabilities to overcome their psychological and intellectual obstacles and, at the same time, achieve self-determination, self-sufficiency, and decision-making skills (Becker et al., 2004; Broom, 2015). As expected by entrepreneurship educators and students in Nigeria, self-determination is at the center of these components. Collective is a second type of empowerment, and it emerges when people work together to overcome obstacles and attain social change.

However, people can be empowered through collaborative effort, but that action can succeed or fail because of the power structures they encounter (Parpart et al., 2003; Staples, 1990). Moreover, there is the notion that collective belonging, which is concerned with belonging to social networks emphasizing autonomy, is collective empowerment (Boehm & Staples, 2004). Studies regarding significant components of collective empowerment are illustrated in Table 5.

Table 5*Components of Collective Empowerment*

Authors	Collective Empowerment
Peterson et al. (2005)	Social cohesion
Boechm and Staples (2004)	Collective belonging, and involvement in and control over an organization in the community
Ballie et.al. (2004); Zaldin (2004)	Community engagement
Boydell and Volpe (2004)	Coalition building
Fetterson (2002)	Community building and culture building
Itzhaky and York (2000)	Leadership competence, political control, and community belonging
Speer (2000)	Intellectual understandings of power and social change
Bellamy and Mowbray (1999)	Self-awareness, group support, and advocacy
Gutierrez (1992)	Identification with similar others, reducing self-blame for past events, and a sense of personal freedom
Zimmerman and Zahniser (1991)	Leadership competence and political control

Note. Components of collective empowerment. Adapted from “Empowerment in terms of theoretical perspectives: Exploring a typology of the process and components across disciplines” by *Journal of community psychology*, 34(5) p. 534.

<https://onlinelibrary.wiley.com/doi/epdf/10.1002/jcop.20113>. Copyright 2006 by Wiley periodicals, Inc.

Entrepreneurship education in Nigeria should focus on the sustainable development of its economy, especially at this stage of its development, to alleviate poverty, and its high unemployment rate. The neglect of entrepreneurship education denies the country the meaningful contribution of Nigerian graduates to the economy. For this reason, Arogundade (2011) argued that it is socially dangerous to neglect this critical area or marginalize Nigerian graduates and that:

the Nigerian society requires competent auto-mechanics and truck drivers, carpenters, plumbers, electricians, electronics and computer engineers and technicians, database, web and network designers, bookkeepers, clerks, medical technicians, nursing assistants, and other personnel in this category to function well. These are some of the skills in short supply in Nigeria. The half-baked roadside mechanics in society often cause more dangers to vehicles when contracted to service them. And because of poor training, some of the commercial drivers on the road and nurse assistants in the hospitals have sent many people to their early graves. Given these facts, it is a disservice to society to neglect entrepreneurship education (p. 28).

Entrepreneurship education effectiveness is a necessity in Nigeria. It is also a compelling case for the empowerment and development of entrepreneurship educators who teach entrepreneurship courses and programs in Nigerian higher institutions, which would enable them to achieve entrepreneurship education objectives of preparing graduates for employment and self-reliance.

Consensus regarding the importance of entrepreneurship education because of its economic empowerment has been aptly recognized (Delataseed, 2005-2007; Needs, 2005). Other benefits of entrepreneurship education to national development include increased economic competitiveness, poverty alleviation, and economic growth (Odu, 2010). Moreover, Ogundele and Egunjimi (2017) noted that entrepreneurship education helps prepare students who learn through real-life experiences to create and manage a business. Furthermore, entrepreneurship education can develop students with abilities (Ogundele & Egunjimi, 2017, p. 34) that include: (1) recognizing opportunities in one's life, (2) pursuing opportunities by generating new ideas and marshaling out needed resources, (3) create and operate a new venture, and (4) think creatively and critically. It provides all age levels training in all vocational education programs. Igberaharha and Oroka (2010) noted that entrepreneurship education encourages new business growth and develops entrepreneurship spirit within higher education. Oluyemi et al. (2018) also pointed out that entrepreneurship education contributions include business interconnection, competitiveness, sustainability, and innovation. The importance of entrepreneurship education in national development is very significant.

Entrepreneurship education courses and programs are essential in providing practical solutions to workforce development, unemployment, and economic empowerment. These courses and programs offer a resource capable of being competitive in a global society. For example, Oluyemi et al. (2018) noted that business is interdependent and recognizes that everyone can contribute something to the business world. Business co-dependence, as a business relies on others, is essential because no business can stand alone.

The need to develop entrepreneurship education in Nigeria is in the MDGs' target goals. Entrepreneurship education can make a significant contribution to the myriad of problems in the nation. However, Entrepreneurship educators need empowerment and development through training, workshops, seminars, and conferences to develop their self-awareness and understand their different interests and capabilities. Those who are willing to teach entrepreneurship courses are Entrepreneurship educators. When empowered and developed, they could achieve entrepreneurship education objectives by being self-aware of their differences, interests, and capabilities. The summary of reviewed literature on the components of entrepreneurship educators' empowerment and development can be represented in Figure 4.

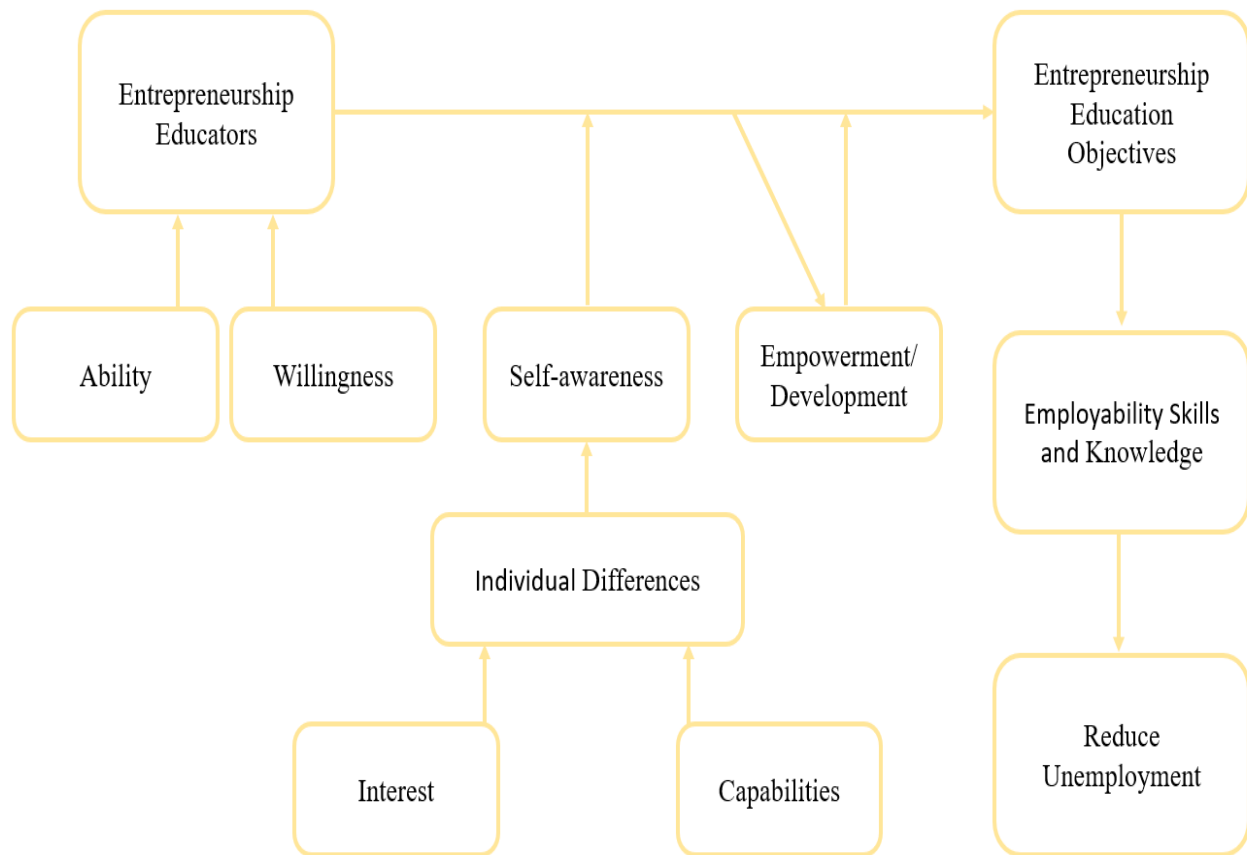


Figure 4. *Components of Entrepreneurship Educators' Empowerment and Development*

Summary

Inadequate teaching strategies of entrepreneurship educators have deprived them of developing students with entrepreneurial skills and knowledge to become employable. This issue continues to be an area of concern and focus in academia. The concept of entrepreneurship has many meanings and differences in attitudes, culture, academics, environment, and social backgrounds. The Nigerian tertiary institution that introduced an entrepreneurship education curriculum and made it compulsory for all students did not present a definition of entrepreneurship education. The program drew educators from within and outside the institutions to teach entrepreneurship education.

Research related to entrepreneurship educators' teaching strategies revealed a dearth of studies. Studies reported that traditional teaching strategies alone could not satisfy the needs of diverse students enrolled in entrepreneurship courses and programs. Instead, educators focused on

learner-centered instructions concerning human differences that could enhance students' positive attitudes toward achieving diverse learner needs. Research indicates that when educators share power with students and reflect on what works, and does not work, instruction is enhanced. Also, studies reported that student-centered learning focuses on individual differences in designing lesson plans, class activities, and curriculum implementation and can develop learners with appropriate skills and knowledge.

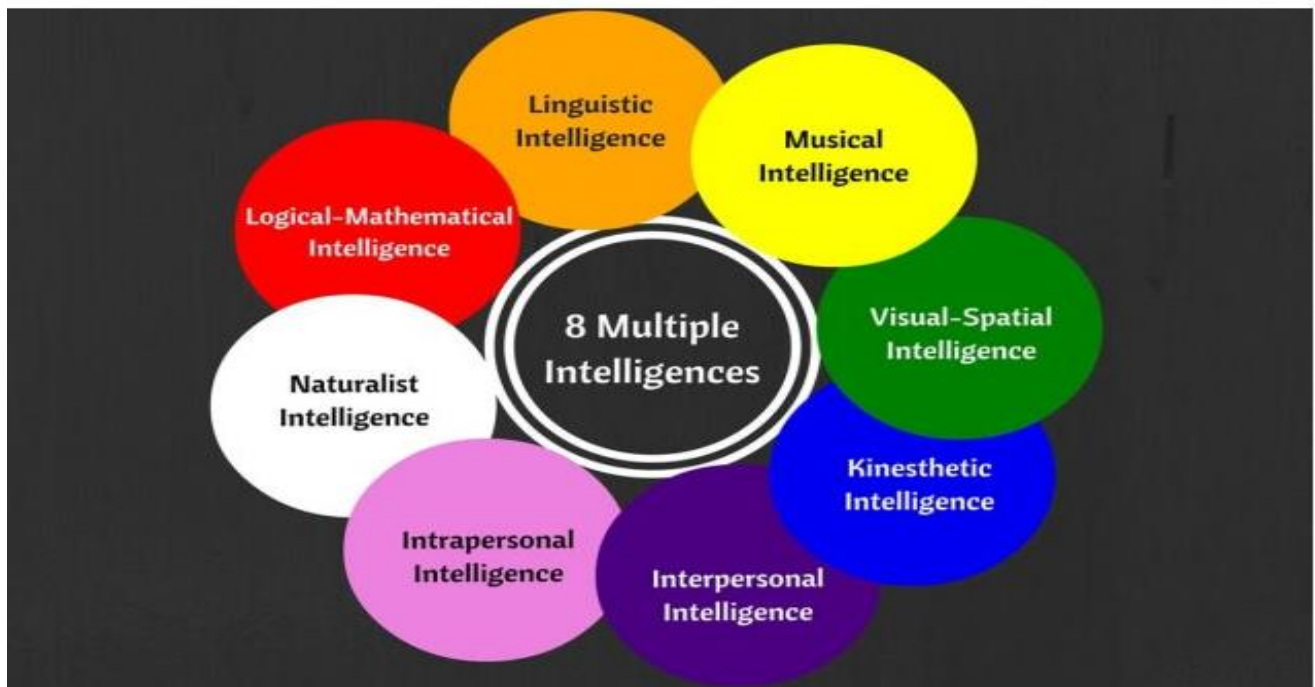
The history of entrepreneurship leading to entrepreneurship education is long, significant, and comprises attitudes, culture, academics, environment, and social backgrounds. Entrepreneurship education is attributed to motivation theories, which are the driving force for launching entrepreneurship. Most studies agree that educators' awareness of self makes them understand themselves in diverse ways, such that they can identify their teaching limitations and develop their skills. Research studies concerning the impact of self-awareness focusing on individual differences have also been prevalent in the literature. However, there is a gap in studies focusing on educators' awareness of their strengths and limitations in applying teaching strategies in entrepreneurship education.

CHAPTER 3: METHODOLOGY

Chapter 3 describes the methodology used in the study regarding the relationship between entrepreneurship educators' Multiple Intelligences (MI) profiles and their MI-framed teaching strategies (MIFTS) at one higher institution in Nigeria. The study is informed by Al Sulim (2012) and Luo and Huang (2019), who conducted studies to determine the association between MI profiles and teaching strategies. The research design includes the population and sample, instrumentation, data collection, and data analysis methods.

Theoretical Framework

This study was based primarily on Gardner's 8 Multiple Intelligences Theory. The eight multiple intelligences are illustrated in Figure 5.



Note. Multiple Intelligences (2016) adapted from little Mountain learning academy Transformative learning. Real-world achievement. <https://www.lmacademics.com/blog/multiple-intelligences/>

Figure 5. *Eight Multiple Intelligences*

The MIT espouses that human beings have eight intelligences with different preferences, making them unique in their capabilities and skills (i.e., abilities). Haley (2004) and Barrington

(2004) revealed that Multiple Intelligences Theory focuses on teaching strategies, personalized learning/teaching, and its input into curriculum development and assessment. Yang (1973) noted that MIT had been widely applied to domestic education, laying a solid foundation for the higher vocational education system, including entrepreneurship education. Yang (1973) suggested the need for integration of the MIT into vocational entrepreneurship education. Yang (1973) also noted that MIT reflects theoretical research and practical results on vocational entrepreneurship education. Therefore, effective entrepreneurship education should focus on MIT because of its theoretical value and practical significance. The MIT recognizes the purpose and the need to cultivate high-quality, high-skilled personnel with a sense of entrepreneurship. It merges professional education, curriculum teaching, and social practice. It also fully embodies the need for talent cultivation, educators' and students' characteristics, and entrepreneurship education activities and processes in a continuum.

Relevant learning theories used to teach and learn entrepreneurship education include Dewey's (1938) experiential learning theory and Kolb's experiential learning theory (1984), which provide a better understanding of achieving entrepreneurship objectives of new venture creation. Dewey's (1938) theory offers two principles that guide the learning process through experiences: continuity and the principle of interaction. Dewey (1938) views the continuity of living an experience and gaining the situational or environmental interaction of experience as part of the education process. Through interactions, the two principles created "Longitudinal and lateral aspects of experience" (p. 43-44). It can be inferred that the "MIT is a continuation of Dewey's progressive vision of classroom teaching and school organization" (Leshkovska, & Spaseva, 2016, Abstract).

Studies show that Multiple Intelligence Theory in teaching and learning has a significant positive relationship between teaching and learning achievement (Malekian, & Maleki, 2012; Mavrelos & Daradoumis, 2020). For example, MIT-based instruction is an effective way to develop skills because it focuses on individual differences (Salem, 2013). It helps educators satisfy their learners with various activities such as games that develop student interest and motivate them (Hajikhani & Abedi, 2019; Mahmoud & Alaraj, 2019; Šafran, 2018; Wongthongtham et al., 2018). MIT can improve a teacher's performance (Yaumi et al. 2018). It can enhance student transfer of learned knowledge to real-life experiences (Carver et al., 2000). MIT's philosophy and curricular framework are significant for students' academic achievement (Campbell & Campbell, 1999). It

can promote student academic activities and improve student comprehension (Martin & Morris, 2013; Zheng, 2015).

Other studies have shown that MIT has limitations based on pedagogy and assessment. For example, Shearer and Jones (1994) noted that MIT lacks a practical, reliable, valid assessment method. Batdi (2017) showed that educators use MIT to evaluate each student with diverse assessment types. Also, Colannino et al. (2004) revealed that MIT did not solve all problems associated with student group work in a science classroom setting. Furthermore, Batdi (2017) noted that educators encounter a challenge with student's intelligence with their dominant intelligence. Gender, grade level, age qualifications, experience, and training can influence teacher awareness and MIT incorporation (Al Omari & Bataineh, 2014). Many MIT studies have focused on students' academic performance and achievement in English language at the college level. However, there are few studies concerning educators' usage of the MIT as a curriculum framework and course activities.

Like Entrepreneurship education, Multiple intelligences create value for individuals and society (Christison & Kennedy, 1999, p. 2; Muzyka et al., 1995, p. 352). Entrepreneurship graduates require MIT to acquire relevant knowledge and skills to succeed (Othman et al., 2012). The entrepreneurship process is dependent on MIT to be effective. For example, an entrepreneur, such as entrepreneurship educators, needs a combination of multiple abilities such as interpersonal, spiritual, linguistic, logical, spatial, and kinesthetic intelligence (arranged in order of importance) to participate in entrepreneurship effectively (Othman et al., 2012, p. 506). MIT's goal is to improve entrepreneurship education teaching strategies, but first, educators must understand how they are different as an individual (Colannino et al., 2004). In this study, MIT seeks to improve educators' teaching strategies to achieve entrepreneurship education objectives. Accordingly, entrepreneurship educators need to identify and examine their intelligences and preferred teaching strategies.

Conceptual Framework

The Entrepreneurship empowerment and development process is based on Gardner's Multiple Intelligences Theory and represents this study's framework. The entrepreneurship educator's self-awareness component is the foundation for entrepreneurship empowerment and development. When entrepreneurship educators examine themselves, they look inward and

understand themselves, their students, and others. Understanding the differences in human beings allows them to "identify their strengths and develop their abilities to create teaching strategies that best suit their intelligence" (Luo & Huang 2019. p. 2). A teacher who is well educated in the MI theory, ... is better equipped to meet the varying needs of their students (Austin, 2016, p. 39). Educators could use the eight intelligences to develop entrepreneurship learners with skills and knowledge to become job creators. The entrepreneurship empowerment and development process based on Gardner's Multiple Intelligences Theory can be represented in Figure 6.

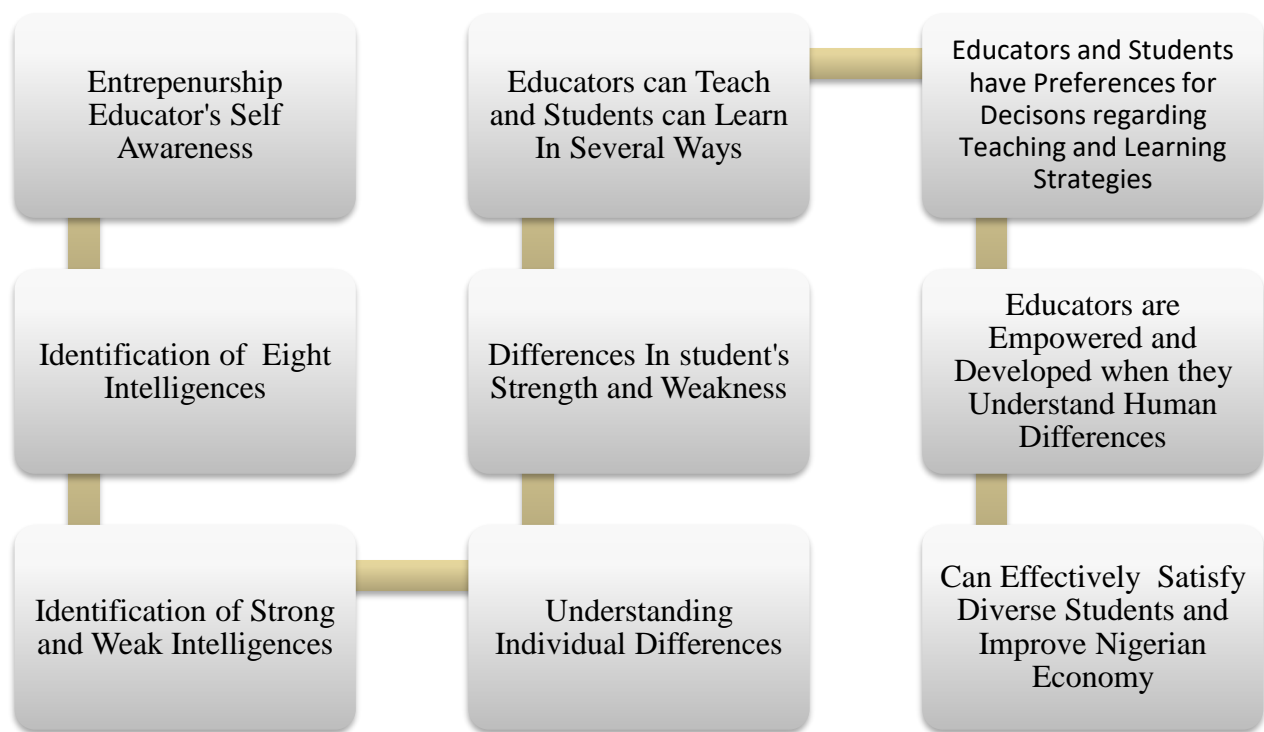


Figure 6. *Entrepreneurship Empowerment and Development Process Based on Gardner's Multiple Intelligences Theory*

Research Design

The study adopted a quantitative cross-sectional survey design to describe the entrepreneurship educators' MI profiles and their MI-framed teaching strategies. The study also used a correlation-based strategy to establish a relationship and magnitude between the two variables. Entrepreneurship educators' MI profiles and their MI-framed teaching strategies comprised the eight intelligences: linguistic, bodily-kinesthetic, spatial, musical, logical-

mathematical, intrapersonal, interpersonal, and naturalistic. MI-framed teaching strategy in this study is defined as the teaching approaches relevant to each of the multiple intelligences of the educators. The quantitative cross-sectional survey design is appropriate for this study because it describes the existing conditions of the variables (Entrepreneurship educator's MI profiles and their MI-framed teaching strategies) and determines the relationship. This design engaged the collection of data to determine whether and to what degree a relationship exists between the entrepreneurship educators' MI profiles and their MI-framed teaching strategies.

Population and Sample

The study's target population is educators who teach entrepreneurship education courses in higher institutions (universities, polytechnics, and colleges of education) in Nigeria's south-south region. The cross-sectional study engaged the study sample using a purposive sampling technique, a specific type of non-probability sampling method that relies on the judgment of the researcher, who perceives that the selected participants are knowledgeable and experienced with the phenomenon of interest (Etikan, & Bala, 2017). Purposive sampling is appropriate for this study because the chosen sample is the most accessible, and the participants are available to participate in the research. An accurate, valid list of all entrepreneurship educators was requested and obtained from the institution's entrepreneurship program director. Additionally, the purposive sampling technique could collect a large amount of data within a short amount of time. However, bias from non-random sample selection could threaten internal validity (Campbell et al., 1963).

The study is likely biased because the population examined does not reflect all (Simundic 2013 p. 13) entrepreneurship educators in the south-south region of Nigeria. Therefore, the study has limited external validity for educators in one of the higher institutions in the south-south region of Nigeria. They teach entrepreneurship education courses that include Introduction to Entrepreneurship, Practice of Entrepreneurship, and Entrepreneurship Development. This institution has approximately 87 entrepreneurship educators. The 87 entrepreneurship educators from the institution voluntarily participated in the study. However, the study's sample was $n=82$ entrepreneurship educators (entrepreneurship lecturers and resource persons). Accordingly, the study adopted a nonprobability purposive sampling technique. Consequently, the study's findings have limited generalizability, focusing on entrepreneurship educators' multiple intelligences and teaching strategies. The population for the study is illustrated in Table 6.

Table 6*Population and Sample for the Study*

Institution	Population of Entrepreneurship Educators	Sample of Entrepreneurship Educators
One higher institution in south-south Nigeria.	87	82
Total	87	82

Instrumentation

The study employed two quantitative instruments and procedures. The instruments are the Intelligence Survey (IS) and the MI-Framed Teaching Strategy Index (MITSI) (Luo & Huang, 2019). This study replicated the Luo and Huang (2019) study that sought to determine the correlation between MI profiles and teaching strategies. Luo and Huang (2019) noted that "IS has been extensively used for assessing adult learners' multiple intelligences in various training programs in some countries" (p. 4), such as the United States. These instruments were developed, validated, revised, and used by Luo and Huang (2019). Permission was requested and given to use the two instruments from the developers. Luo and Huang (2019) used the IS to collect data regarding ESL teachers' self-reported educators' multiple intelligences. They also used the MIFTSI to assess ESL teachers' teaching strategies framed by the relevant eight intelligences based on Gardner's theory (1993; 1999). The IS collected and measured data concerning entrepreneurship educators' multiple intelligences for this study. The internal consistency reliability of the IS subscales used to measure ESL teachers' multiple intelligences ranged between 0.63 and 0.75 (Weber, 1999). In contrast, in this study, the IS subscale ranges from 0.23 to 0.71. Simultaneously, the MIFTSI assessed the frequency of ESL teachers' use of MI-framed teaching strategies. Also, for this study, MIFTSI measured the frequency of Entrepreneurship educators' use of MI-framed teaching strategies. The MITSI internal consistency reliability for ESL teachers' teaching strategies ranges from 0.64 to 0.82, while for the entrepreneurship educators, MITSI ranges from 0.70 to 0.90. Luo and Huang's (2019) study participants accessed and returned the IS and MIFTSI surveys by mail. For this study, the participants accessed and returned the Qualtrics survey through a link using their email addresses. The survey included three sections: Section A: the information sheet (see Appendix A) explains the study's purpose and informs the participants that their participation was voluntary, and their responses remained anonymous. The data were de-identified by sending a reusable anonymous survey link using the mail merge process. The mail

merge enables the researcher to create a batch of documents for each participant separately, generating a personalized version for everyone listed on the distribution list. The email was used to send the anonymous link with the indicated instruction: "Please do not write your name anywhere in the questionnaire". Using an unknown link ensures that the responses do not include identifying information such as participants' personal information like name or email address that can link their responses with their identities. The investigator carefully guards the data collected by not including the participants' names on any data file. Section B: The Intelligence Survey consists of Multiple Intelligences (see Appendix B), eight domains consisting of 29 items. The Naturalistic intelligence, Interpersonal intelligence, Musical intelligence, Bodily-kinesthetic intelligence, and Linguistic intelligence subscales each consisted of four items. The Intrapersonal intelligence, Logical-mathematical intelligence, and Spatial intelligence subscales comprised three items. The IS has eight subscales with Likert scales that range from 1 (least descriptive), 3 (somewhat descriptive) to 5 (most descriptive). It measured the eight intelligence subscales. Section C: consists of the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI) (see Appendix C), which contains 40 survey items with each of the eight subscales including five items. The Likert scale ranges from 1 (rarely or never) through 3 (sometimes) to 5 (usually or always). Also, in this study, the MIFTSI, Bibliographical information (see Appendix D) collected entrepreneurship educator age, gender, teaching class level, the highest level of qualification, and years of experience as entrepreneurship educators.

Data Collection

The study used two instruments: The Intelligence Survey (IS) and Multiple Framed Teaching Strategy Index (MIFTSI) (Luo & Huang, 2019), to collect data from the educators who teach entrepreneurship education courses in one higher institution in the south-south of Nigeria. A letter of agreement (see Appendix E) to participate in the study was requested and obtained from the institution's appropriate official administrator. The study participants were anonymous. The researcher requested and received approval (see Appendix F) from the Purdue Institutional Board (IRB) before the study proceeded, and any data collection began. The data collection used a Qualtrics survey questionnaire consisting of the Intelligence Survey and Multiple Framed Teaching Strategy Index, including five demographic questions. The researcher contacted all entrepreneurship educators from the selected higher institution who volunteered to participate in

the study through their email addresses. The estimated average completion time for the survey was approximately 30 minutes. Qualtrics (survey software tool used for this study) automatically records the survey completion time for each respondent. The average survey completion time was determined from the mean of the total completion time for all respondents. The participants accessed and completed the IS and MIFTSI Qualtrics survey through a single reusable anonymous link using their email addresses. The participants had two weeks to complete the Qualtrics survey. Two weeks should provide the participants sufficient time to complete the survey, given Nigeria's non-regular power supply, internet connectivity, and accessibility issues. In follow-up, the researcher contacted nonrespondents with an email message reminder two weeks after receiving the first memo and survey. A second and final follow-up with an email memo was sent to all nonrespondents four weeks after the first message and survey. A thank you email was sent to all the participants for their time and involvement in the survey.

Data Analysis

The data analysis utilized descriptive and inferential statistics (Tnay et al., 2013). Descriptive statistics were used to analyze the entrepreneurship educators' gender, age bracket, educational attainment, teaching class level, and years of teaching experience in entrepreneurship education. The data were presented in terms of frequency. In contrast, inferential statistics were used to determine the relationship between the intelligence profiles and each teaching strategy. The intelligence profiles and teaching strategy variables were quantitative. The research questions were analyzed using Pearson's correlation coefficient (Christensen et al., 2015). The result of the correlation coefficient indicated the strength of the relationship or the degree of association between the two variables. The analysis sought a clear understanding of the participants' self-reported multiple intelligences, such as their abilities and preferred strategies for teaching entrepreneurship education courses. Research Question 1 was: What are the entrepreneurship educators' multiple intelligences characteristics and preferred teaching strategies? This question assesses central tendency (means and standard deviations) and measures variability for each item, subscales, and total scale for the IS and the MITS. This analysis examined and presented the Entrepreneurship educators' self-perceived multiple intelligences characteristics and Mi-framed teaching strategies. The analysis was also used to understand the distribution and variability of the multiple intelligences characteristics (IS) and preferred teaching strategies (MIFTSI) used by

entrepreneurship educators. Research Question 2 was: Is there a significant relationship between the entrepreneurship educators' multiple intelligences characteristics and preferred teaching strategies? This question used Pearson correlation coefficients, p-values, and regression analysis. This analysis was used to determine whether there was a statistically and practical significant relationship between entrepreneurship educators' self-perceived MI (Independent variable - IS) and their use of MI-framed teaching strategies (Dependent variable - MIFTSI). Multiple regression was used to determine whether there was any statistically significant relationship between the entrepreneurship educators' multiple intelligences and teaching strategies. Regression analysis was conducted for the eight teaching strategies: linguistics, interpersonal, musical, logical-mathematical, spatial, body-kinesthetic, naturalistic, and intrapersonal. Additionally, regression analysis was used to evaluate the strength of the relationship between the independent and dependent variables.

CHAPTER 4: FINDINGS

This study's aim was to describe the association between entrepreneurship educators' characteristics and teaching strategies with respect to Gardner's Multiple Intelligences Theory. The data were collected using the Intelligence Survey (IS) and the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI). Chapter four presents the data analysis organized around the research questions posited for this study.

Research Question 1: *What are the entrepreneurship educators' Multiple Intelligences characteristics and preferred teaching strategies?*

The data source for research question 1 was the Intelligence Survey (IS) and the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI). It revealed entrepreneurship educators' characteristics and preferred teaching strategies concerning Multiple Intelligences Theory. The questionnaire consists of the biographical information from the Intelligence Survey (IS) and the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI). The Intelligence Survey (IS) measured the eight intelligences of the entrepreneurship educators while the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI) assessed the entrepreneurship educators' teaching strategies. This study's analysis included descriptive statistics in determining central tendency and variability, described the size of the sample, center of the data, spread of the data, assessed the shape and spread of the data distribution, and compared the data from different groups.

Response Rate and Biographical Information

A total of 87 questionnaires were emailed to the entrepreneurship educators, and the response rate was 82 (94%) participants completed and returned the survey. The results showed that entrepreneurship educators who participated in the survey were about 72% (59) male and 28% (23) female. 68 (83%) of the participants were within the 31-50 year age bracket, while 6 were 51 years above (7%), and three were 30 years below (about 4%). 47 (57%) of the educators hold M.Sc./M.Ed. Degrees, 13 (about 16%) have B.Sc./B.Ed. degrees, 12 (about 15%) have Ph.D.'s, and 10 (12%) have other degrees. Also, 44 (about 54%) of the educators teach at the Higher National Diploma (HND) level, while 38 (46%) teach at the National Diploma (ND) level.

Additionally, the majority, 33 (40%) of the entrepreneurship educators have 11 to 15 years of teaching experience, 21 (about 26%) have less than 1 to 10 years, 19 (23%) have 16 to 20 years, 6 (7%) have 21 to 25 years, and 3 (about 4%) have between 26 and 30 years teaching experiences. The biographical information of the respondents is illustrated in Table 7.

Table 7

Biographical Information of the Respondents

Biographical Characteristics	Frequency (N=82)
Gender	
Male (1)	59
Female (2)	23
Age Bracket	
30 years below (1)	3
31 to 35 years (2)	16
36 to 40 years (3)	15
41 to 45 years (4)	18
46 to 50 years (5)	19
51 years above (6)	11
Highest Education Degree Level	
B.Sc./B.Ed. (1)	13
M.Sc./M.Ed. (2)	47
Ph.D. (3)	12
Others (4)	10
Level of Teaching Class	
National Diploma (ND) (1)	38
Higher National Diploma (HND) (2)	44
Entrepreneurship Educator Experience	
Less 1 to 10 years (1)	21
11 to 15 years (3)	33
16 to 20 years (4)	19
21 to 25 years (5)	6
26 to 30 years (6)	3

Descriptive Statistics of Multiple Intelligences Variables

The Intelligence Survey (IS) consists of the Multiple Intelligences Theory of eight domains consisting of 29 items. Five of the domains: naturalistic intelligence, interpersonal intelligence, musical intelligence, bodily-kinesthetic intelligence, and linguistic intelligence subscales consist of four items each. The intrapersonal intelligence, logical-mathematical intelligence, and spatial intelligence subscales are each comprised of three items. It can be observed from the data description that both Multiple Intelligence subscale variables and the teaching strategy variables are ordinal. The IS has eight intelligence subscales with Likert scales that range from 1 (least

descriptive) to 3 (somewhat descriptive) to 5 (most descriptive). The subscale items for each of the eight domain variables for Multiple Intelligences are averaged to produce a scale mean score for each Multiple Intelligence variable. The Multiple Intelligences descriptive statistics are illustrated in Table 8.

Table 8

Multiple Intelligences and Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Naturalistic Intelligence	82	1.50	4.50	3.1524	.5942	-.403	.266	.589	.526
Interpersonal Intelligence	82	2.75	5.00	4.0122	.5732	.021	.266	-.680	.526
Musical Intelligence	82	1.00	5.00	3.1220	.8986	-.331	.266	.192	.526
Intrapersonal Intelligence	82	1.33	5.00	3.5203	.9828	-.223	.266	-.537	.526
Logical-mathematical Intelligence	82	1.67	5.00	3.5976	.6884	-.172	.266	.309	.526
Body-kinesthetic Intelligence	82	1.25	5.00	3.3415	.7891	-.027	.266	.297	.526
Linguistic Intelligence	82	1.25	5.00	3.3598	.7808	-.181	.266	-.089	.526
Spatial Intelligence	81	1.00	5.00	2.6337	.8969	.088	.267	-.325	.529
Valid N (listwise)	81								

The minimum, maximum, mean, and standard deviation for each intelligence variable are detailed in Table 8. Skewness measures the degree and direction of asymmetry. It can be observed from the table, that the Multiple Intelligences variables, except for interpersonal and spatial intelligences, have a distribution that is skewed to the left (the mean is less than the median) and have negative skewness. Kurtosis is a measure of tail extremity reflecting either the presence of outliers in a distribution or a distribution's propensity for producing outliers. Furthermore, one-half of the variables (interpersonal, intrapersonal, linguistic, and spatial intelligences) have negative kurtosis values and are said to be platykurtic. This means that they have a flatter peak and thinner tails compared to a normal distribution suggesting that more data values are located near the mean, and fewer data values are located on the tails.

The reliability analysis of the Intelligence Survey items on a 1 to 5 Likert scale was considered. Cronbach's alpha coefficient was used to determine internal consistency (Olsson et al., 2020; Wesolowski, 2015) of the IS scale for the eight domains of Multiple Intelligence variables. The results indicate that the scale has acceptable reliability with a Cronbach's alpha coefficient equal to 0.84 (Fields, 2013). Further, the scale shows that naturalistic intelligence has the lowest Cronbach alpha coefficient of .23. This low value may be due to the items not being designed to focus on the entrepreneurship educator's profile. For example, Ningrum et al.'s (2018) instrument was focused on the relationship of naturalistic intelligence with environmental awareness and had a high reliability of .89. Also, Yesil and Korkmaz (2010) described the Natural intelligence subscale as a combination of the core ability with characteristics of the role that a culture value (p. 12). The low Cronbach alpha of .23 could indicate that entrepreneurship educators in the institution of this study do not value the naturalistic intelligence. The reliability analysis of multiple intelligence profiles is illustrated in Table 9.

Table 9

Reliability Analysis of Multiple Intelligence Profiles

Reliability Statistics			
Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
Overall Multiple Intelligence Profiles	.84	.84	29
Naturalistic Intelligence	.23	.25	4
Interpersonal Intelligence	.51	.51	4
Musical Intelligence	.72	.72	4
Intrapersonal Intelligence	.79	.79	3
Logical-mathematical Intelligence	.52	.52	3
Body-kinesthetic Intelligence	.68	.69	4
Linguistic Intelligence	.62	.61	4
Spatial Intelligence	.71	.71	3

The Cronbach alpha value for the MIFTSI scale is .84 according to Table 9. From Table 10, it can be observed that the removal of any question [except Item 1 (*As I walk in the woods, I often pause quietly to observe habits within wildlife*) from naturalistic intelligence, Item 4 (*Helping others complete a project brings me a lot of satisfaction*) from interpersonal intelligence, and Item 2 (*When dining in a restaurant, I enjoy listening to background music*) from musical intelligence] would lower the MIFTSI scale's Cronbach's alpha. The item-total statistics of multiple intelligences profiles items are illustrated in Table 10.

Table 10*Item-Total Statistics of Multiple Intelligence Profiles Items*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q6_1	94.22	181.650	-.129	.473	.847
Q6_2	94.31	165.791	.448	.587	.827
Q6_3	93.60	166.192	.399	.538	.828
Q6_4	93.46	169.976	.317	.547	.831
Q7_1	92.99	173.462	.197	.430	.834
Q7_2	93.33	167.275	.405	.499	.828
Q7_3	93.12	173.585	.208	.438	.834
Q7_4	92.73	175.400	.129	.426	.836
Q8_1	94.05	170.598	.212	.550	.835
Q8_2	93.88	173.610	.125	.653	.838
Q8_3	94.14	171.269	.202	.717	.835
Q8_4	93.67	164.350	.411	.558	.828
Q9_1	93.36	163.908	.484	.639	.825
Q9_2	93.86	159.419	.532	.723	.823
Q9_3	93.38	162.639	.554	.699	.823
Q10_1	93.47	172.002	.220	.549	.834
Q10_2	93.40	164.717	.555	.661	.824
Q10_3	93.52	166.553	.484	.523	.826
Q11_1	93.35	168.329	.289	.496	.832
Q11_2	93.94	161.609	.643	.606	.821
Q11_3	93.56	166.250	.460	.693	.827
Q11_4	94.04	159.536	.593	.597	.821
Q12_1	93.35	164.529	.505	.581	.825
Q12_2	93.63	158.336	.660	.729	.819
Q12_3	93.68	160.946	.519	.658	.824
Q12_4	94.12	172.085	.192	.401	.835
Q13_1	94.16	168.411	.278	.601	.833
Q13_2	94.49	169.703	.294	.631	.832
Q13_3	94.59	174.144	.129	.653	.837

Descriptive Statistics of Teaching Strategies Variables

The preferred teaching strategy variables are obtained from the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI) that contains 40 survey items, with each of the eight

subscales containing 5 items. The Likert scale ranges from 1 (rarely or never) through 3 (sometimes) to 5 (usually or always). The data description shows that both Multiple Intelligence subscale variables and the teaching strategy variables are ordinal. The teaching strategies have eight intelligence subscales with Likert scales that range from 1 = rarely or never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = usually or always. The subscale items for each of the eight domain variables for these variables are averaged to produce a scale mean score for each Multiple Intelligence variable. There was only one missing value in the data with 82 valid respondents. The teaching strategies descriptive statistics are illustrated in Table 11.

Table 11

Teaching Strategies and Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Linguistic strategy	81	1.60	5.00	3.5185	.7961	.034	.267	-.189	.529
Interpersonal strategy	81	2.00	5.00	4.0346	.6744	-.789	.267	.378	.529
Musical strategy	81	1.20	5.00	3.2963	.8804	-.037	.267	.173	.529
Logical-Mathematical strategy	81	1.20	5.00	3.0519	.8898	.037	.267	-.266	.529
Spatial strategy	81	1.20	5.00	2.8543	1.1832	.240	.267	-1.290	.529
Body-kinesthetic strategy	81	1.00	5.00	3.2056	.9848	.141	.267	-.709	.529
Naturalistic strategy	81	1.00	4.60	3.1160	.7764	-.420	.267	.441	.529
Intrapersonal strategy	81	1.80	5.00	3.6395	.6902	.255	.267	-.384	.529
Valid N (listwise)	81								

The minimum, maximum, mean, and standard deviation for each of the eight teaching strategy variables are measured in Table 11. Skewness measures the degree and direction of asymmetry. From the table, it was observed that only three teaching strategy variables (interpersonal, musical, and naturalistic), have a distribution that is skewed to the left, i.e., the mean is less than the median, and has a negative skewness. Kurtosis is a measure of tail extremity reflecting either the presence of outliers in a distribution or a distribution's propensity for

producing outliers. Furthermore, all the variables except for interpersonal, musical, and naturalistic strategies, have negative kurtosis values and are said to be platykurtic. This means that they have a flatter peak and thinner tails compared to a normal distribution indicating that more data values are located near the mean and fewer data values are located on the tails. Also, it can be observed that there were no missing values in the data with the 82 valid respondents.

Furthermore, the reliability analysis of the Intelligence Survey items on a 1 to 5 Likert scale was considered. Cronbach's alpha coefficient was used to determine the reliability (Olsson et al., 2020) and internal consistency (Wesolowski, 2015) of the IS scale for the eight domains of Multiple Intelligence variables. The results indicated that the scale has very high internal consistency reliability, Cronbach's alpha coefficient equals .95 (Field, 2013). The reliability analysis of Teaching Strategies is illustrated in Table 12.

Table 12

Reliability Analysis of Teaching Strategies

Reliability Statistics			
Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
Overall Teaching Strategies	.95	.94	40
Linguistic Strategy	.70	.70	5
Interpersonal Strategy	.78	.78	5
Musical Strategy	.84	.84	5
Logical-mathematical Strategy	.84	.84	5
Spatial Strategy	.90	.90	5
Body-Kinesthetic Strategy	.89	.89	5
Naturalistic Strategy	.71	.71	5
Intrapersonal Strategy	.75	.76	5

The removal of any Items, except Item 5 (*I use both silent and oral reading to develop comprehension*) from Linguistic Strategy, Item 2 (*I encourage peer sharing about what they've learned*) from Interpersonal Strategy, Items 2 through 4 (*I have students play math or logic games that show what has been learned*), *I have students use their mathematical or logic talents to predict or guess the meanings of what is taught* and *I have students explore the patterns found in words, for example, set, get, and let*) from Logical-mathematical Strategy, and Item 4 (*I have students classify flora, fauna, and natural phenomena*) from Naturalistic Strategy, would result in a lower Cronbach's alpha. The results indicate that the scale has very high internal consistency reliability (Cronbach's alpha coefficients = .95) and are illustrated in Table 13.

Table 13*Item-Total Statistics of Teaching Strategies Items*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q14_1	130.56	627.67	.639	.859	.943
Q14_2	130.75	623.00	.595	.828	.944
Q14_3	130.33	628.63	.635	.847	.943
Q14_4	130.35	641.47	.404	.741	.945
Q14_5	129.81	655.52	.179	.657	.946
Q15_1	130.01	645.05	.462	.633	.945
Q15_2	129.73	650.99	.302	.695	.946
Q15_3	129.68	647.11	.372	.732	.945
Q15_4	129.85	647.42	.362	.868	.945
Q15_5	130.00	640.35	.520	.725	.944
Q16_1	130.44	641.64	.441	.789	.945
Q16_2	130.55	633.06	.566	.814	.944
Q16_3	130.49	633.01	.611	.801	.944
Q16_4	130.61	627.20	.646	.811	.943
Q16_5	130.86	621.69	.667	.786	.943
Q17_1	131.05	641.49	.385	.801	.945
Q17_2	131.06	643.12	.353	.834	.946
Q17_3	131.03	642.68	.353	.819	.946
Q17_4	130.85	649.32	.274	.785	.946
Q17_5	130.15	634.48	.630	.807	.944
Q18_1	130.75	621.10	.657	.833	.943
Q18_2	131.10	620.07	.586	.857	.944
Q18_3	130.80	618.42	.652	.879	.943
Q18_4	131.30	612.97	.757	.903	.942
Q18_5	131.13	619.40	.651	.774	.943
Q20_1	131.16	611.15	.756	.904	.942
Q20_2	130.50	621.85	.761	.824	.942
Q20_3	130.55	628.55	.664	.770	.943
Q20_4	130.48	624.03	.691	.820	.943

(table continues)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q20_5	130.66	626.35	.713	.845	.943
Q21_1	130.68	616.98	.740	.829	.942
Q21_2	131.03	638.78	.439	.680	.945
Q21_3	130.56	630.38	.585	.710	.944
Q21_4	131.28	659.90	.096	.588	.947
Q21_5	130.30	641.15	.464	.616	.945
Q22_1	130.03	640.61	.534	.778	.944
Q22_2	130.08	640.63	.539	.692	.944
Q22_3	130.08	636.10	.593	.764	.944
Q22_4	130.41	646.40	.411	.521	.945
Q22_5	130.61	631.30	.562	.667	.944

Research Question 2: *Is there a statistically significant relationship between the entrepreneurship educators' multiple intelligences characteristics and their preferred teaching strategies?*

The data source for Question 2 was from the Intelligence Survey (IS) and the Multiple Intelligences Framed Teaching Strategy Index (MIFTSI). MIFTSI measured the teaching strategies of the entrepreneurship educators. This question investigated the impact of the intelligence profiles independent variables (naturalistic, interpersonal, musical, intrapersonal, logical-mathematical, body-kinesthetic, linguistic, and spatial intelligence) on strategies' dependent variables (linguistic, interpersonal, intrapersonal, musical, spatial, naturalistic, logical-mathematical, and body-kinesthetic strategies) for entrepreneurial educators. To answer this question, a new variable was created for each section by computing the mean of the question scores within that section. This resulted in a new variable that was semi-continuous even though the individual items were ordinal variables. Therefore, Multiple Linear Regression (MLR) was used. From the table, it can be observed that there is a negative correlation and no strong evidence of association between musical and interpersonal intelligences, spatial and interpersonal intelligences, and spatial and intrapersonal intelligences. Furthermore, the other pairs of multiple intelligences are only slightly positively correlated with no strong evidence of association among them. The MLR analysis is an extension of simple linear regression analysis and is used to assess the association between two or more independent variables and a single continuous dependent variable. Since the dependent and independent variables are continuous variables, it is appropriate to use

multiple linear regression in analyzing the relationship between the profile and strategies. Also, before presenting the multiple regression results, the bivariate relationships (correlations) between pairs of multiple intelligence domains (Inter-item correlation matrix) are presented in Table 14.

Table 14

Inter-Item Correlation Matrix

	Intelligences	1	2	3	4	5	6	7	8	
1.	Naturalistic Intelligence	1.000	(.23)							
2.	Interpersonal Intelligence	.161	1.000	(.51)						
3.	Musical Intelligence	.107	-.128	1.000	(.72)					
4.	Intrapersonal Intelligence	.325	.490	.060	1.000	(.79)				
5.	Logical-Mathematical Intelligence	.283	.497	.013	.426	1.000	(.52)			
6.	Body-kinesthetic Intelligence	.420	.407	.100	.509	.589	1.000	(.69)		
7.	Linguistic Intelligence	.414	.394	.140	.584	.498	.503	1.000	(.61)	
8.	Spatial Intelligence	.145	-.309	.468	-.042	.075	.209	.183	1.000	(.71)

Notes: Significant at 0.05 level. Cronbach's alpha values are shown in the parentheses.

The relationship between entrepreneurship educators' multiple intelligence (MI) profile and the eight MI teaching strategies are determined by the Standardized Beta coefficients, Regression coefficients, Regression Standardized Residual Histograms, normal P-P plots of standardized regression residuals, and residual scatterplots. To verify that the regression model's underlying assumptions from multiple linear regression were met, independent observations, normality, homoscedasticity, and linearity assumptions were examined. The Standardized Beta coefficients compared the relative strengths of the predictors (increase/decrease of the association of the variables, with a 1 unit increase or decrease) in the intelligence profile of the predictors. The regression coefficient predicts each of the multiple intelligence teaching strategies. Adjusted R-square values show the proportion of variance in a particular strategy that is accounted for by the entire regression model. A $p < 0.001$, indicates that the null hypothesis (the

entire regression model has a population multiple correlation coefficient value of zero) for the regression data are rejected. Regression Standardized Residual Histograms assess symmetry and other aspects of the distribution of the residuals. A normal P-P plot of regression standardized residuals revealed if the normality assumption of the linear regression was reasonably satisfied, and the residual scatterplot provided a visual examination of the assumption homoscedasticity between the predicted dependent variable scores and the errors of prediction.

Relationship between Intelligence Profiles and Linguistic Strategy

The relationship between the educator multiple intelligence profile and the linguistic teaching strategy showed that a 1-unit increase in naturalistic intelligence (Items 6_Mean) resulted in an average of 0.131 increase in linguistic strategy. A unit increase in spatial intelligence is associated with a 0.121 decrease (Items 13_Mean) in linguistic strategy. Regression coefficients for predicting linguistic strategy are illustrated in Table 15.

Table 15

Regression Coefficients for Predicting Linguistic Strategy

Variable	B	95% CI	β	t	p
Items 6_Mean (Naturalistic Intelligence)	0.131	[-0.094, 0.355]	0.098	1.159	0.250
Items 7_Mean (Interpersonal Intelligence)	-0.184	[-0.465, 0.097]	-0.132	-1.304	0.197
Items 8_Mean (Musical Intelligence)	-0.199	[-0.347, 0.051]	-0.226	-2.682	0.009
Items 9_Mean (Intrapersonal Intelligence)	0.252	[0.090, 0.415]	0.313	3.092	0.003
Item 10_Mean (Logical-Mathematical Intelligence)	-0.056	[-0.287, 0.176]	-0.048	-0.478	0.634
Items 11_Mean (Body-kinesthetic Intelligence)	0.079	[-0.133, 0.292]	0.078	0.742	0.460
Items 12_Mean (Linguistic Intelligence)	0.527	[0.318, 0.736]	0.520	5.025	<0.001
Items 13_Mean (Spatial Intelligence)	-0.201	[-0.371, 0.031]	-0.227	-2.362	0.021
Note: $R^2_{adj} = 0.564$ (N = 81, P = < 0.001), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significant column (p) in Table 15 shows that only four intelligence profile variables, musical intelligence ($\beta = 0.230$), intrapersonal ($\beta = 0.31$), linguistic ($\beta = 0.52$), and spatial intelligence ($\beta = -0.23$), were significant. The adjusted R-square value (0.56) is high by most standards. Table 15 shows that $p < 0.001$, indicating the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals reveals a good approximation to normality and the residuals are normally distributed. The regression standardized

residual histogram for linguistic strategy is illustrated in Figure 7.

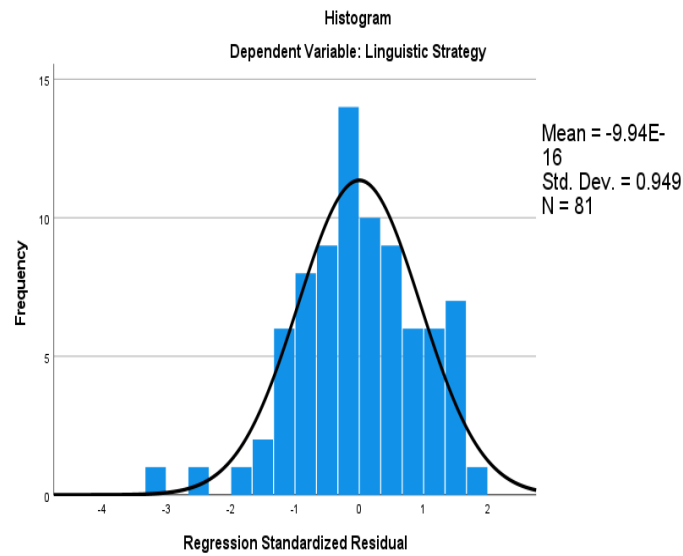


Figure 7. *Regression Standardized Residual Histogram for Linguistic Strategy*

A normal P-P plot of regression standardized residuals in Figure 8 shows most points are along the straight line. The Normal P-P plot for linguistic strategy is illustrated in Figure 8.

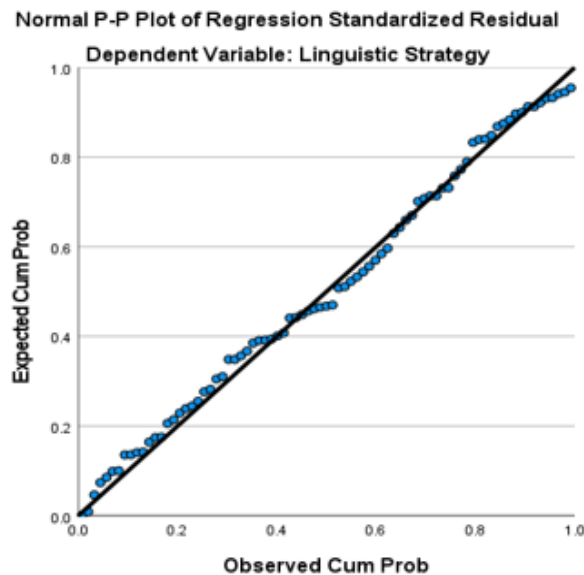


Figure 8. *Normal P-P Plot for Linguistic Strategy*

Homoscedasticity is satisfied since the dots in the scatterplot are well spread vertically. Also, the dots in the scatterplot do not seem to show any kind of curve so linearity is satisfied. The regression standardized scatterplot for linguistic strategy is illustrated in Figure 9.

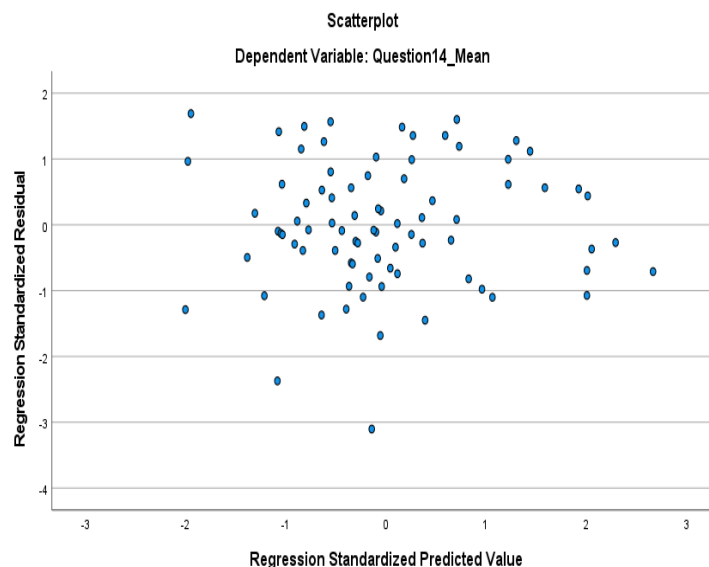


Figure 9. *Regression Standardized Scatterplot for Linguistic Strategy*

Relationship between Intelligence Profiles and Interpersonal Strategy

The relationship between the educator's intelligence profile and their interpersonal strategy indicated that each B-coefficient has an average increase/decrease associated with a 1-unit increase in the intelligence profile predictors. For example, a 1-unit increase in naturalistic intelligence (Item 6_Mean) results in an average 0.09 decrease in interpersonal strategy. Also, a 1-unit increase in spatial intelligence is associated with a 0.26 decrease (Item 13_Mean) in interpersonal strategy. The regression coefficients for predicting interpersonal strategy are illustrated in Table 16.

Table 16

Regression Coefficients for Predicting Interpersonal Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	-0.091	[-0.334, 0.153]	-0.080	-0.743	0.460
Item 7_Mean (Interpersonal Intelligence)	-0.121	[-0.425, 0.183]	-0.103	-0.793	0.431
Item 8_Mean (Musical Intelligence)	-0.015	[-0.175, 0.145]	-0.020	-0.185	0.854
Item 9_Mean (Intrapersonal Intelligence)	0.270	[0.093, 0.446]	0.395	3.051	0.003
Item 10_Mean (Logical-Mathematical Intelligence)	0.239	[-0.012, 0.490]	0.244	1.900	0.061
Item 11_Mean (Body-kinesthetic Intelligence)	-0.032	[-0.262, 0.198]	-0.037	-0.274	0.785
Item 12_Mean (Linguistic Intelligence)	0.071	[-0.156, 0.297]	0.082	0.624	0.535
Item 13_Mean (Spatial Intelligence)	-0.263	[-0.447, -0.079]	-0.350	-2.856	0.006
Note: $R^2_{adj} = 0.288$ (N = 81, $P \leq 0.001$), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significance column (B) in Table 16 shows that only two intelligence profile variables (intrapersonal and spatial) were significant with beta coefficients of 0.270 and -0.263, respectively. The three strongest intelligence profile predictors from the table are intrapersonal ($\beta = 0.40$), spatial ($\beta = -0.35$), and logical-mathematical intelligence ($\beta = -0.24$). The adjusted R-square value (0.29) is fairly high by most standards. Table 16 shows $p < 0.001$, indicating the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals shows negative skewness due to the left tail of the distribution being somewhat extended. There is a reasonable approximation to normality. The regression standardized residual histogram for interpersonal strategy is illustrated in Figure 10.

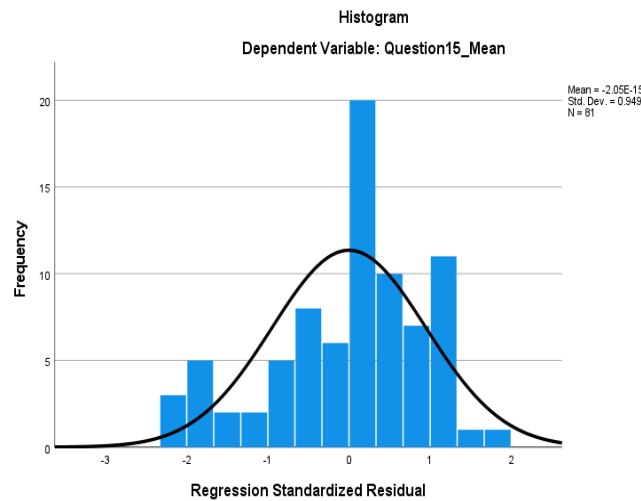


Figure 10. *Regression Standardized Residual Histogram for Interpersonal Strategy*

A normal P-P plot of regression standardized residuals indicated that most points were not along the regression line. This indicates that there is no approximation to normality from the figure above. The Normal P-P plot for the Interpersonal strategy is illustrated in Figure 11.

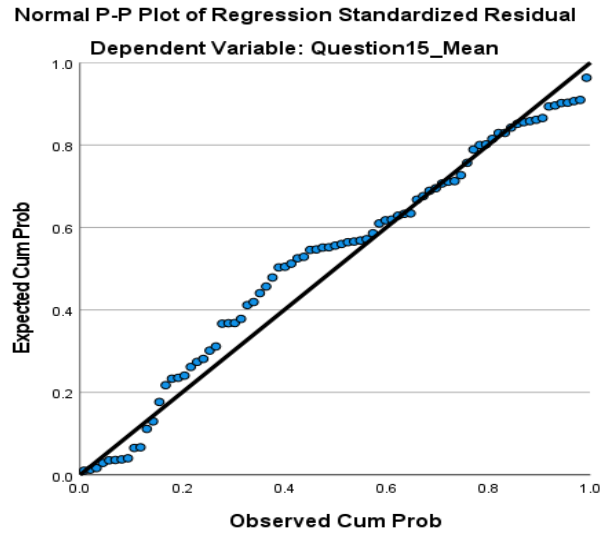


Figure 11. *Normal P-P plot for Interpersonal Strategy*

Homoscedasticity does not seem to be satisfied here since the dots in the scatterplot were not well spread vertically. The dots in the scatterplot seem to show a kind of curve at some sections so linearity is not satisfied. The regression standardized scatterplot for interpersonal strategy is illustrated in Figure 12.

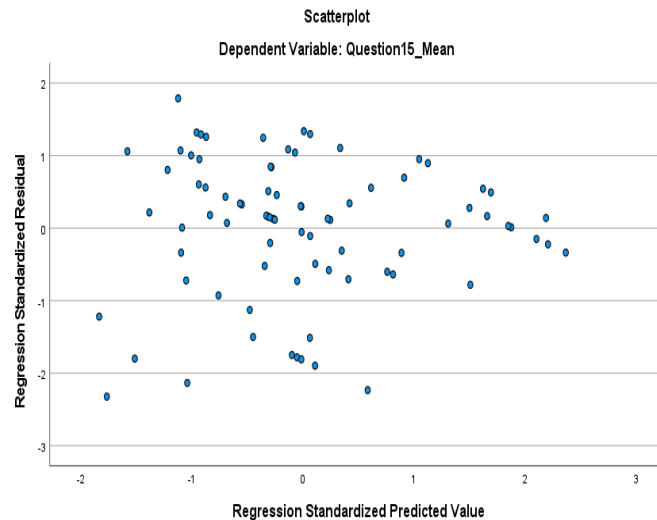


Figure 12. *Regression Standardized Scatterplot for Interpersonal Strategy*

Relationship between Intelligence Profiles and Musical Strategy

The relationship between the educator intelligence profiles and musical strategy shows that a 1-unit increase in naturalistic intelligence (item 6_Mean) resulted in an average of 0.18 decreases in musical strategy. A unit increase in spatial intelligence was associated with a 0.15 decrease (item 13_Mean) in musical strategy. The regression coefficients for predicting musical strategy are illustrated in Table 17.

Table 17

Regression Coefficients for Predicting Musical Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	-0.179	[-0.490, 0.132]	-0.122	-1.150	0.254
Item 7_Mean (Interpersonal Intelligence)	-0.024	[-0.412, 0.364]	-0.016	-0.124	0.901
Item 8_Mean (Musical Intelligence)	-0.249	[-0.454, -0.045]	-0.256	-2.429	0.018
Item 9_Mean (Intrapersonal Intelligence)	0.213	[-0.012, 0.438]	0.239	1.887	0.063
Item 10_Mean (Logical-Mathematical Intelligence)	0.072	[-0.249, 0.392]	0.056	0.446	0.657
Item 11_Mean (Body-kinesthetic Intelligence)	0.203	[-0.091, 0.496]	0.181	1.375	0.173
Item 12_Mean (Linguistic Intelligence)	0.308	[0.019, 0.597]	0.275	2.126	0.037
Item 13_Mean (Spatial Intelligence)	-0.149	[-0.383, 0.086]	-0.152	-1.264	0.210
Note: $R^2_{adj} = 0.319$ (N = 81, P < 0.001), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The B-coefficient is statistically significant for only two intelligence profile variables. Musical and linguistic were significant with beta coefficients of -0.249 and 0.308, respectively. The three strongest intelligence profile predictors from the table are linguistic ($\beta = 0.28$), musical ($\beta = 0.26$), and intrapersonal intelligence ($\beta = 0.24$). The adjusted R-square value (0.32) is moderately high by most standards. Table 17 shows that $p < 0.001$, indicating the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals shows negative skewness due to the left tail of the distribution being somewhat extended. The regression standardized residual histogram for musical strategy is illustrated in Figure 13.

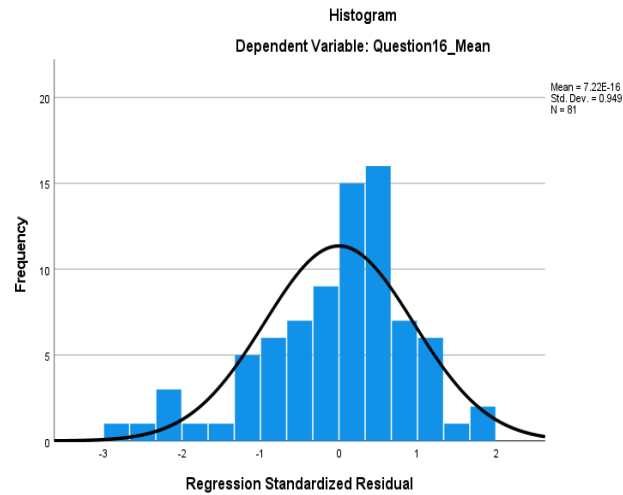


Figure 13. *Regression Standardized Residual Histogram for Musical Strategy*

However, it is a reasonable approximation of normality, and it can be said that the residuals are normally distributed. A normal P-P plot of regression standardized residuals showed most points are not on the regression line. The Normal P-P plot for musical strategy is illustrated in Figure 14.

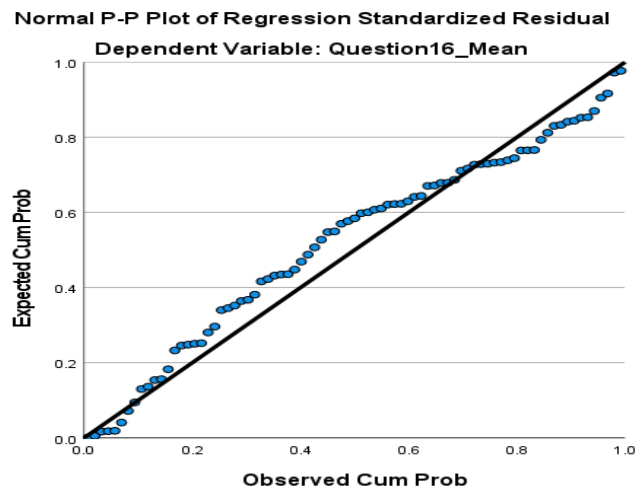


Figure 14. *Normal P-P Plot for Musical Strategy*

Homoscedasticity is not well-satisfied since some dots in the scatterplot are clustered towards the left side. The dots in the scatterplot do not seem to show any kind of curve so linearity is satisfied. The regression standardized scatterplot for musical strategy is illustrated in Figure 15.



Figure 15. *Regression Standardized Scatterplot for Musical Strategy*

Relationship between Intelligence Profiles and Logical-Mathematical Strategy

The relationship between the educator intelligence profiles and their logical-mathematical strategy shows that a 1-unit increase in naturalistic intelligence (item 6_Mean) results in an average 0.22 increase in logical-mathematical strategy. A unit increase in spatial intelligence is associated with a 0.06 increase (item 13_Mean) in logical-mathematical strategy. The regression coefficients for predicting logical-mathematical strategy are illustrated in Table 18.

Table 18

Regression Coefficients for Predicting Logical-Mathematical Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	0.218	[-0.154, 0.589]	0.146	1.168	0.247
Item 7_Mean (Interpersonal Intelligence)	-0.309	[-0.773, 0.155]	-0.199	-1.326	0.189
Item 8_Mean (Musical Intelligence)	0.065	[-0.179, 0.130]	0.066	0.530	0.598
Item 9_Mean (Intrapersonal Intelligence)	0.324	[0.055, 0.593]	0.360	2.404	0.019
Item 10_Mean (Logical-Mathematical Intelligence)	-0.044	[-0.427, 0.339]	-0.034	-0.229	0.820
Item 11_Mean (Body-kinesthetic Intelligence)	-0.195	[-0.546, 0.157]	-0.172	-1.104	0.273
Item 12_Mean (Linguistic Intelligence)	0.007	[-0.338, 0.353]	0.007	0.043	0.966
Item 13_Mean (Spatial Intelligence)	0.056	[-0.224, 0.337]	0.057	0.400	0.691
Note: $R^2_{adj} = 0.046$ (N = 81, P = 0.177), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significance column (p) in Table 18 shows that only the intrapersonal intelligence profile variable was significant with a beta coefficient of 0.324. The three strongest intelligence profile predictors from the table are intrapersonal ($\beta = 0.36$), interpersonal ($\beta = -0.20$), and body-kinesthetic intelligence ($\beta = -0.17$). The adjusted R-square value (0.05) is very low by most standards. Table 18 showed that $p > 0.05$ (0.18), indicating the null hypothesis for the regression data should be accepted. A visual inspection of the histogram for the regression residuals showed an acceptable approximation to normality and it can be said that the residuals are normally distributed. The regression standardized residual histogram for logical-mathematical strategy is illustrated in Figure 16.

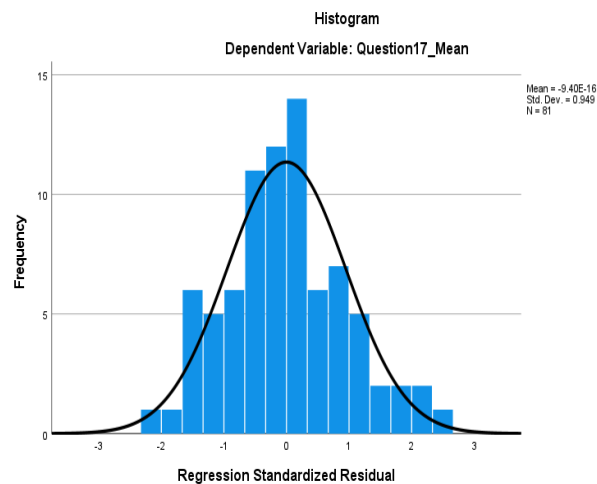


Figure 16. *Regression Standardized Residual Histogram for Logical-Mathematical Strategy*

A normal P-P plot of regression standardized residuals showed most points were along the regression line. The Normal P-P plot for logical-mathematical strategy is illustrated in Figure 17.



Figure 17. *Normal P-P Plot for Logical-Mathematical Strategy*

Homoscedasticity is satisfied since the dots in the scatterplot are well spread vertically. The dots in the scatterplot do not seem to show any kind of curve, so linearity is satisfied. The regression standardized scatterplot for logical-mathematical strategy is illustrated in Figure 18.

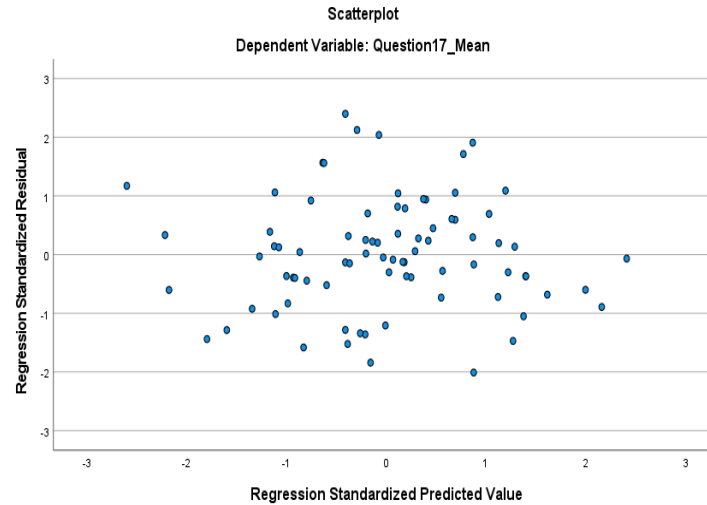


Figure 18. *Regression Standardized Scatterplot for Logical-Mathematical Strategy*

Relationship between Intelligence Profiles and Spatial Strategy

The relationship between the educator intelligence profiles and their spatial strategy indicated that a 1-unit increase in naturalistic intelligence (Item 6_Mean) resulted in an average 0.16 increase in spatial strategy. Also, a 1-unit increase in spatial intelligence was associated with a 0.05 increase (Item 13_Mean) in spatial strategy. The regression coefficients for predicting spatial strategy are illustrated in Table 19.

Table 19

Regression Coefficients for Predicting Spatial Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	0.163	[-0.260, 0.586]	0.082	0.768	0.445
Item 7_Mean (Interpersonal Intelligence)	-0.067	[-0.596, 0.462]	-0.032	-0.251	0.802
Item 8_Mean (Musical Intelligence)	-0.311	[-0.589, -0.032]	-0.237	-2.223	0.029
Item 9_Mean (Intrapersonal Intelligence)	0.562	[0.255, 0.868]	0.469	3.656	<0.001
Item 10_Mean (Logical-Mathematical Intelligence)	-0.337	[-0.773, 0.100]	-0.196	-1.539	0.128
Item 11_Mean (Body-kinesthetic Intelligence)	-0.047	[-0.477, 0.353]	-0.031	-0.234	0.816
Item 12_Mean (Linguistic Intelligence)	0.399	[0.005, 0.793]	0.264	2.019	0.047
Item 13_Mean (Spatial Intelligence)	0.048	[-0.271, 0.368]	0.037	0.303	0.763
Note: $R^2_{adj} = 0.300$ (N = 81, P = < 0.001), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significant column (p) in Table 19 shows, only three intelligence profile variables (musical, intrapersonal, and linguistic) were significant with beta coefficients of -0.311, 0.562 and 0.399, respectively. The three strongest intelligence profile predictors from the table were intrapersonal ($\beta = 0.47$), linguistic ($\beta = 0.26$), and musical intelligence ($\beta = -0.24$). The adjusted R-square value (0.30) is slightly high by most standards. Also, the p-value found in the ANOVA table applies to R and R-square. It suggests that the entire regression model has a population R of zero. Table 19 shows $P < 0.001$, indicating that the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals revealed reasonable approximation to normality since most of the histogram bars fit within the bell-curve although it was slightly skewed to the left. The regression standardized residual histogram for spatial strategy is illustrated in Figure 19.

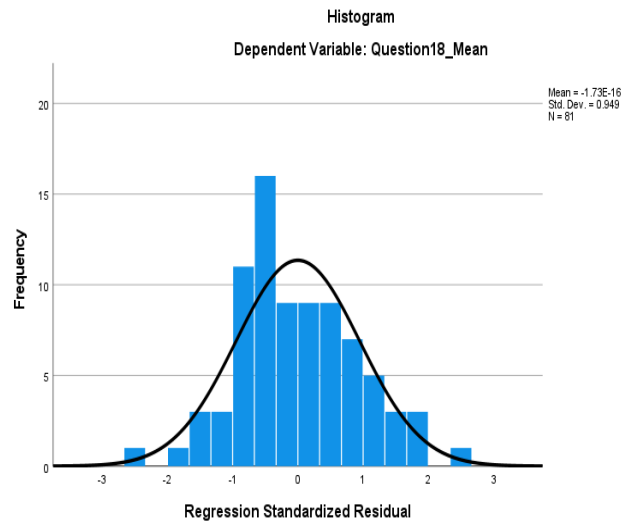


Figure 19. *Regression Standardized Residual Histogram for Spatial Strategy*

A normal P-P plot of regression standardized residuals showed most points were along the regression line. It can be said that the residuals are normally distributed. The Normal P-P plot for spatial strategy is illustrated in Figure 20.

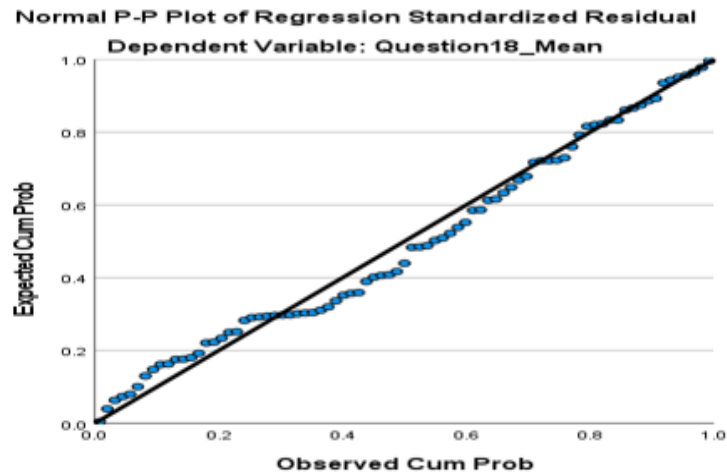


Figure 20. *Normal P-P Plot for Spatial Strategy*

Homoscedasticity is satisfied since the dots in the scatterplot were well spread vertically. The dots in the scatterplot do not seem to show any kind of curve so linearity is satisfied. The regression standardized scatterplot for spatial strategy is illustrated in Figure 21.

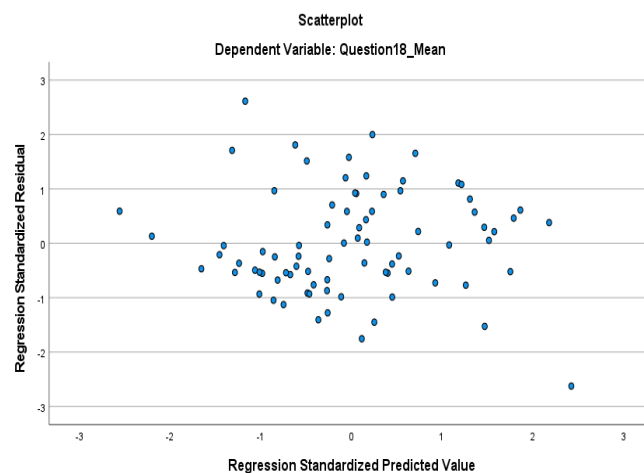


Figure 21. *Regression Standardized Scatterplot for Spatial Strategy*

Relationship between Intelligence Profiles and Body-Kinesthetic Strategy

The relationship between the educator's intelligence profiles and their body-kinesthetic strategy indicated that a 1-unit increase in naturalistic intelligence (Item 6_Mean) results in an average 0.03 decrease in body-kinesthetic strategy. A unit increase in spatial intelligence was

associated with a 0.16 decrease (Item 13_Mean) in body-kinesthetic strategy. The regression coefficients for predicting body-kinesthetic strategy are illustrated in Table 20.

Table 20

Regression Coefficients for Predicting Body-Kinesthetic Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	-0.030	[-0.342, 0.282]	-0.018	-0.190	0.850
Item 7_Mean (Interpersonal Intelligence)	-0.024	[-0.413, 0.366]	-0.014	-0.121	0.904
Item 8_Mean (Musical Intelligence)	-0.307	[-0.512, -0.101]	-0.281	-2.979	0.004
Item 9_Mean (Intrapersonal Intelligence)	0.475	[0.249, 0.701]	0.478	4.196	<0.001
Item 10_Mean (Logical-Mathematical Intelligence)	-0.097	[-0.418, 0.225]	-0.068	-0.599	0.551
Item 11_Mean (Body-kinesthetic Intelligence)	-0.011	[-0.305, 0.284]	-0.008	-0.071	0.943
Item 12_Mean (Linguistic Intelligence)	0.372	[0.082, 0.663]	0.297	2.559	0.013
Item 13_Mean (Spatial Intelligence)	-0.160	[-0.396, 0.075]	-0.146	-1.359	0.178
Note: $R^2_{adj} = 0.451$ (N = 81, P = < 0.001), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significant column (p) in Table 20 contains the (2 tailed) p-value for each B-coefficient. The B-coefficient is statistically significant for only musical, intrapersonal, and linguistic intelligence profile variables with beta coefficients of -0.307, 0.475, and 0.372, respectively. The three strongest intelligence profile predictors from the table were intrapersonal ($\beta = 0.48$), linguistic ($\beta = 0.30$), and musical intelligence ($\beta = -0.28$). The adjusted R-square value (0.45) is relatively high by most standards. Table 20 showed that $p < 0.001$, indicating that the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals showed a fair approximation to normality since most of the histogram bars fit within the bell-curve line. Therefore, it can be said that the residuals are normally distributed. The regression standardized residual histogram for body-kinesthetic strategy is illustrated in Figure 22.

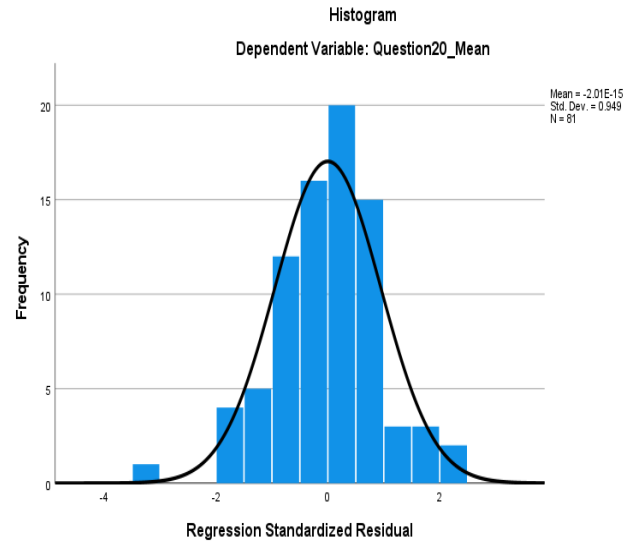


Figure 22. *Regression Standardized Residual Histogram for Body-Kinesthetic Strategy*

A normal P-P plot of regression standardized residuals indicated that most points were along the straight line. The Normal P-P plot for body-kinesthetic strategy is illustrated in Figure 23.



Figure 23. *Normal P-P Plot for Body-Kinesthetic Strategy*

Homoscedasticity was not satisfied since some dots in the scatterplot clustered on the left side. The dots in the scatterplot do not seem to show any kind of curve so linearity is satisfied. The regression standardized scatterplot for body-kinesthetic strategy is illustrated in Figure 24.

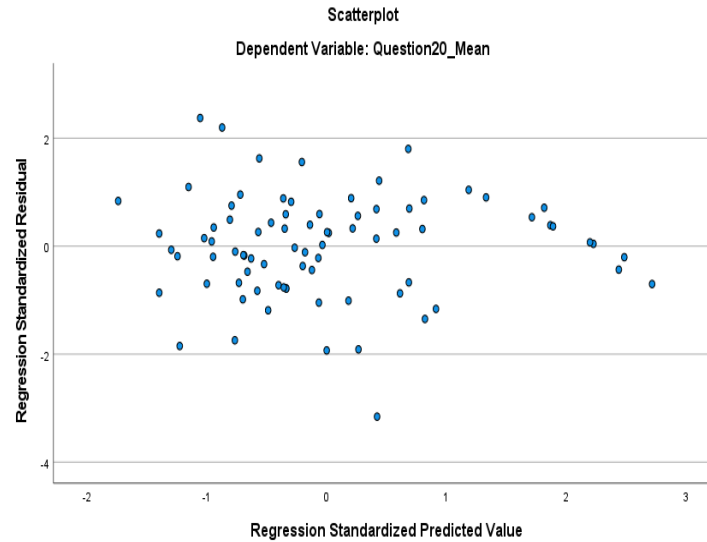


Figure 24. *Regression Standardized Scatterplot for Body-Kinesthetic Strategy*

Relationship between Intelligence Profiles and Naturalistic Strategy

The relationship between the educator intelligence profiles and their naturalistic strategy indicated that a 1-unit increase in naturalistic intelligence (Item 6_Mean) results in an average 0.32 increase in naturalistic strategy. Also, a 1-unit increase in spatial intelligence is associated with a 0.14 decrease (Item 13_Mean) in naturalistic strategy. The regression coefficients for predicting naturalistic strategy are illustrated in Table 21.

Table 21

Regression Coefficients for Predicting Naturalistic Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	0.318	[-0.039, 0.596]	0.245	2.274	0.026
Item 7_Mean (Interpersonal Intelligence)	-0.072	[-0.420, 0.276]	-0.053	-0.414	0.680
Item 8_Mean (Musical Intelligence)	-0.259	[-0.442, -0.076]	-0.301	-2.818	0.006
Item 9_Mean (Intrapersonal Intelligence)	0.329	[0.127, 0.530]	0.418	3.251	0.002
Item 10_Mean (Logical-Mathematical Intelligence)	-0.160	[-0.447, 0.127]	-0.142	-1.110	0.271
Item 11_Mean (Body-kinesthetic Intelligence)	0.057	[-0.206, 0.321]	0.058	0.433	0.666
Item 12_Mean (Linguistic Intelligence)	-0.017	[-0.276, 0.242]	-0.017	-0.131	0.896
Item 13_Mean (Spatial Intelligence)	-0.135	[-0.345, 0.075]	-0.156	-1.278	0.205
Note: $R^2_{adj} = 0.296$ (N = 81, P = < 0.001), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significant column (p) in Table 21 contains the (2 tailed) p-value for each B-coefficient. The B-coefficient is statistically significant for only three intelligence profile variables (musical, intrapersonal, and naturalist) with beta coefficients of -0.259, 0.329, and 0.318, respectively. Standardized beta coefficients are useful for comparing the relative strengths of the predictors. The three strongest intelligence profile predictors from the table were intrapersonal ($\beta = 0.42$), musical ($\beta = -0.30$), and naturalistic intelligence ($\beta = 0.25$). The adjusted R-square value (0.30) is relatively high by most standards. Table 21 showed that $p < 0.001$, indicating that the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals revealed a reasonable approximation to normality since most of the histogram bars fit within the normal bell-curve line. Therefore, it can be said that the residuals are normally distributed. The regression standardized residual histogram for the naturalistic strategy is illustrated in Figure 25.

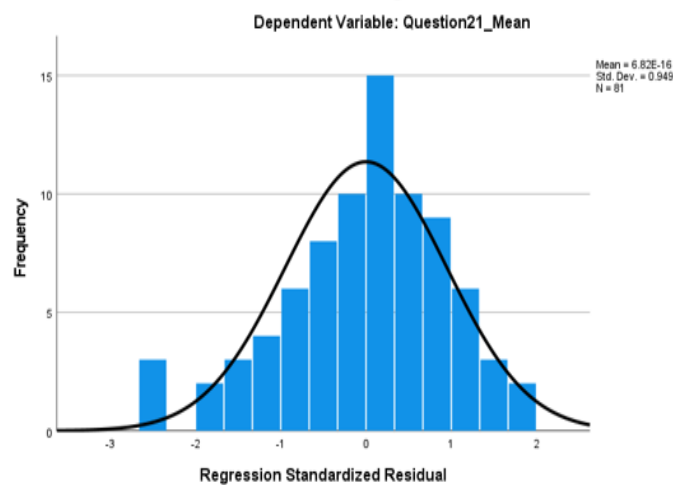


Figure 25. *Regression Standardized Residual Histogram for Naturalistic Strategy*

A normal P-P plot of regression standardized residuals shows most points along the straight line. The Normal P-P plot for the Naturalistic strategy is illustrated in Figure 26.

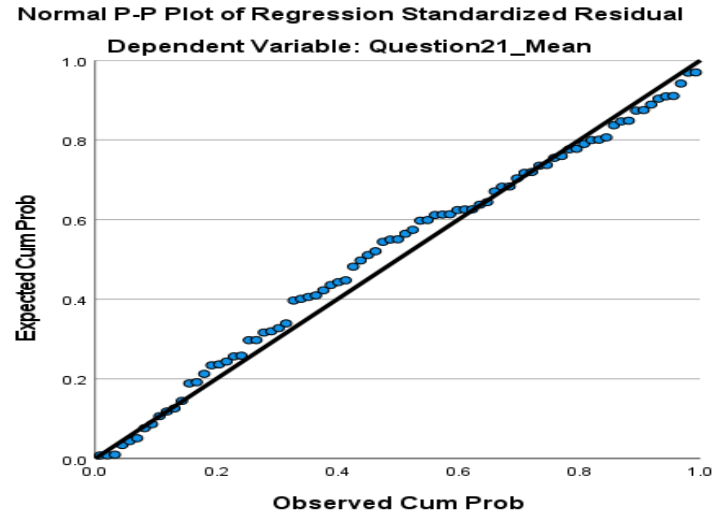


Figure 26. *Normal P-P Plot for Naturalistic Strategy*

Homoscedasticity is satisfied since the dots in the scatterplot are well spread vertically. The dots in the scatterplot did not appear to reveal any kind of curve so linearity was satisfied. The regression standardized scatterplot for the naturalistic strategy is illustrated in figure 27.

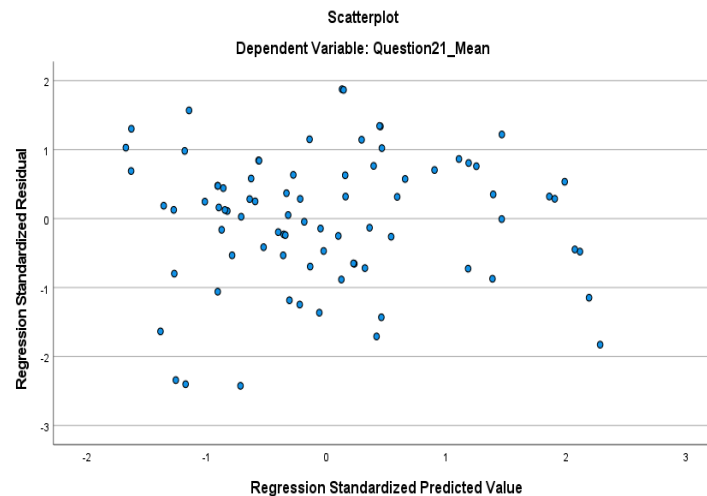


Figure 27. *Regression Standardized Scatterplot for Naturalistic Strategy*

Relationship between Intelligence Profiles and Intrapersonal Strategy

The relationship between the educator intelligence profiles and their Intrapersonal strategy indicated that a 1-unit increase in naturalistic intelligence (Item 6_Mean) results in an average 0.067 decrease in intrapersonal strategy. Also, a 1-unit increase in spatial intelligence is associated

with a 0.171 decrease (Item 13_Mean) in intrapersonal strategy. The regression coefficients for predicting intrapersonal strategy are illustrated in Table 22.

Table 22

Regression Coefficients for Predicting Intrapersonal Strategy

Variable	B	95% CI	β	t	p
Item 6_Mean (Naturalistic Intelligence)	-0.067	[-0.319, 0.185]	-.058	-.532	.596
Item 7_Mean (Interpersonal Intelligence)	0.053	[-0.262, 0.367]	.044	.333	.740
Item 8_Mean (Musical Intelligence)	-0.123	[-0.289, 0.043]	-.161	-1.481	.143
Item 9_Mean (Intrapersonal Intelligence)	-0.201	[0.019, 0.383]	.288	2.201	.031
Item 10_Mean (Logical-Mathematical Intelligence)	0.063	[-0.196, 0.323]	.063	.485	.629
Item 11_Mean (Body-kinesthetic Intelligence)	-0.017	[-0.255, 0.221]	-.020	-.143	.886
Item 12_Mean (Linguistic Intelligence)	0.218	[-0.016, 0.452]	-.248	1.856	.067
Item 13_Mean (Spatial Intelligence)	-0.171	[-0.361, 0.019]	-.222	-1.796	.077
Note: $R^2_{adj} = 0.296$ (N = 81, P =< 0.001), CI = Confidence Interval for B, t = t-statistic, β = Standardized Beta coefficient					

The significant column (p) in Table 22 contains the (2 tailed) p-value for each B-coefficient. The B-coefficient is statistically significant for only the intrapersonal intelligence profile variable with a beta coefficient of 0.201. The three strongest intelligence profiles predictors from the table are intrapersonal ($\beta = 0.29$), linguistic ($\beta = 0.25$), and spatial intelligence ($\beta = -0.22$). The adjusted R-square value (0.27) is moderately high by most standards. Table 22 showed that $p < 0.001$, indicating that the null hypothesis for the regression data is rejected. A visual inspection of the histogram for the regression residuals indicated a moderate approximation to normality exists, it can be said that the residuals are somewhat normally distributed. The regression standardized residual histogram for intrapersonal strategy is illustrated in Figure 28.

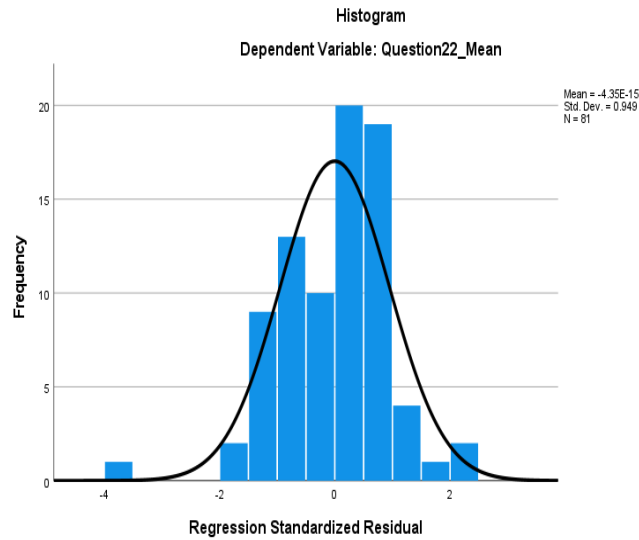


Figure 28. *Regression Standardized Residual Histogram for Intrapersonal Strateg*

A normal P-P plot of regression standardized residuals in Figure 24 reveals that most points are along the regression line. The Normal P-P plot for the Intrapersonal strategy is illustrated in Figure 29.

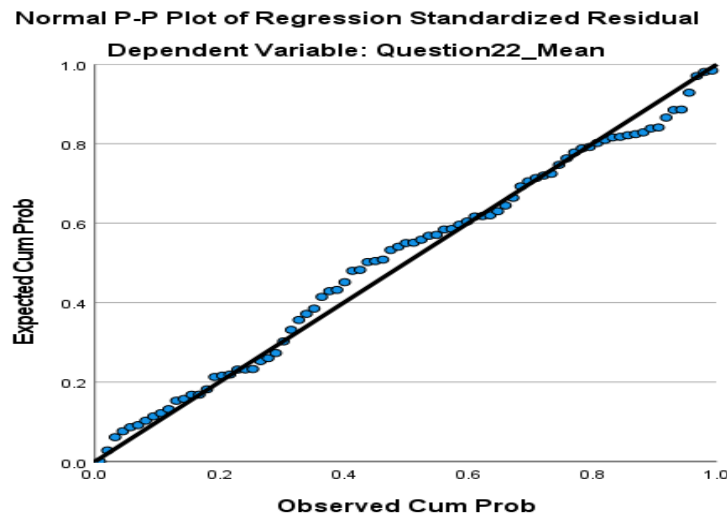


Figure 29. *Normal P-P Plot for Intrapersonal Strategy*

Homoscedasticity was not satisfied since most dots in the scatterplot cluster on the left side. The dots in the scatterplot do not seem to show any kind of curve so linearity is satisfied. The regression standardized scatterplot for the intrapersonal strategy is illustrated in Figure 30.



Figure 30. *Regression Standardized Scatterplot for Intrapersonal Strategy*

In summary, the relationships between the multiple intelligences and each teaching strategy have been detailed and discussed. As explained earlier, standardized beta coefficients are used for comparing the relative strengths of the predictors. It is worthy to note that intrapersonal intelligence is a top three predictor in terms of prediction strength across all teaching strategies. The three strongest predictors (multiple intelligences) for each teaching strategy are illustrated in Table 23.

Table 23

Largest Standardized Regression Coefficients Across All Eight Models

Teaching strategy (relationship with all multiple intelligences)	Largest three multiple intelligences (in terms of their standardized beta coefficients) for each regression model		
Linguistic Strategy	Linguistic (0.52)	Intrapersonal (0.31)	Spatial (-0.23)
Interpersonal Strategy	Intrapersonal (0.40)	Spatial (-0.35)	Logical-Mathematical (-0.24)
Musical Strategy	Linguistic (0.28)	Musical (-0.26)	Intrapersonal (-0.24)
Logical-Mathematical Strategy	Intrapersonal (0.36)	Interpersonal (-0.20)	Body-kinesthetic (-0.17)
Spatial Strategy	Intrapersonal (0.47)	Linguistic (0.26)	Musical (-0.24)
Body-Kinesthetic Strategy	Intrapersonal (0.48)	Linguistic (0.30)	Musical (-0.28)
Naturalistic Strategy	Intrapersonal (0.42)	Musical (-0.30)	Naturalistic (0.25)
Intrapersonal Strategy	Intrapersonal (0.29)	Linguistic (0.25)	Spatial (-0.22)

CHAPTER 5: CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This study describes the association between entrepreneurship educators' characteristics and their teaching strategies with respect to Multiple Intelligences. The study's objectives include (1) identifying the Multiple Intelligences characteristics and preferred teaching strategies of entrepreneurship educators and (2) determining the relationship between the entrepreneurship educators' Multiple Intelligences characteristics and their preferred teaching strategies. The research questions posited to achieve the objectives of the study include (1) What are the entrepreneurship educators' Multiple Intelligences characteristics and preferred teaching strategies? and (2) Is there a significant relationship between the entrepreneurship educators' Multiple Intelligences characteristics and their preferred teaching strategies?

Conclusions

In recent years, there has been a heightened awareness that educators can apply multiple teaching strategies focusing on individual differences to achieve the educational needs of diverse students. Individuals have eight intelligences of varying levels, and educators can use more than one intelligence to implement curricular and deliver instruction. Educators can adapt the eight Multiple Intelligences that every person possesses (Christison & Kennedy, 1999) to implement their lessons effectively and satisfy learner needs. Moreover, educators can successfully engage Multiple Intelligences if the teaching strategies are comparable with their instructional strengths. Unfortunately, educators may not be aware of these intelligences (strengths and limitations), and consequently, this may hinder matching their abilities with multiple teaching strategies. Chan (2003) notes that "educators' limitations do restrict them to their most comfortable and accustomed ways of teaching" (p. 522). Therefore, educators need to be aware of their instructional abilities to understand students' differences and assess tasks comparable with their strengths. Another concern is that no studies have focused on entrepreneurship educators' awareness of their strengths and limitations in applying teaching strategies. This study seeks to address this gap by creating and developing entrepreneurship educators' self-awareness regarding their strengths, limitations, and

preferences to make effective teaching decisions by engaging in tasks and activities commensurate with their instructional strengths.

The study participants' demographic information was compared to those of the participants in Aregbeyen's (2010) who taught different subjects. Both studies were conducted in Nigeria on higher education faculty, but in different regions and subjects. The participants in Aregbeyen study were from the southwest of Nigeria, while this study's participants were from the southern region. The participants in Aregbeyen's (2010) study were faculty in education, while this study's participants are entrepreneurship educators from different departments. The demographic comparison shows that there were more female participants in Aregbeyen's (2010) study, 49 (51%) and 47 (about 49%) male as educators in the faculty of education compared to this study, where there are more male, 59 (about 72%) compared to 23 (28%) female entrepreneurship educators. Aregbeyen (2010) also revealed that 25 (26%) and 24 (25%) educators teach at 200 and 400 levels, respectively, compared to 38 (46%) and 44 (about 54%) entrepreneurship educators who teach at the national and higher national diploma levels respectively. Furthermore, according to Aregbeyen (2010), 91 (about 95%) of faculty of education are in the age group 18-29 (below 30), and 5 (5%) are older than 30. These findings revealed 68 (about 83%) of the entrepreneurship educators are between 31 and 50, while 6 (7%) are 51 years above or older, and 3 (about 4%) are below 30 years of age.

Multiple Intelligences and teaching strategies can empower and develop entrepreneurship educators in Nigeria. They also help educators develop their self-awareness regarding their strengths, weaknesses, and preferences. Research question one is answered in two parts: The first part of research question one, "What are the entrepreneurship educators' Multiple Intelligences characteristics"? that all the respondents possess multiple intelligences, comprised of their strengths and weaknesses can be observed from the descriptive analysis. For example, the entrepreneurship educators' Multiple Intelligence profile strengths are Interpersonal, Logical-mathematical, and Intrapersonal, while their weaknesses are musical and spatial intelligences. In Luo and Huang's study (2019) of English as a second language (ESL) teachers' Multiple Intelligences profiles, strengths are Naturalistic, Interpersonal, Musical, and Intrapersonal intelligence. In contrast, they were weak in Bodily-Kinesthetic and Spatial Intelligences. The findings agree with Gardner's (1983) Multiple Intelligences Theory, which asserts that every

person has more than one ability at a different magnitude. However, this study shows that all the eight intelligences work in unison.

The other part of research question one, "What are the entrepreneurship educators' multiple preferred teaching strategies"? the findings show that the entrepreneurship educators apply different teaching strategies at different frequency levels observed in the study. The study revealed interpersonal, intrapersonal, and linguistic as the most frequently used teaching strategies and the spatial teaching strategy as the least used. Compared to Luo and Huang (2019), the ESL preferred teaching strategies were Linguistic, Interpersonal, Intrapersonal, and Musical. In contrast, Bodily-kinesthetic and naturalistic were less preferred teaching strategies. The differences between the Entrepreneurship Educators and English as a second language teachers' findings could be because of the nature of the educators' courses, how they were taught, and the type of professional development they received to improve themselves.

The findings showed that the spatial profile was the least Intelligence profile of the entrepreneurship educators. This is understandable as using mind maps stories, diagrams/charts to convey concepts, and artistic illustrations for concept building may not be a common teaching strategy of entrepreneurship educators. The South-South region of Nigeria has limited resources such as electricity, internet connectivity, and regular professional development for educators. These limited resources contribute to spatial intelligence as the weakest among the entrepreneurship educators' profiles and the least frequent teaching intelligence used to teach by entrepreneurship educators. Gardner (1983) describes spatial intelligence as the ability to create and manipulate mental images and the body's orientation in space. Also, Gardner (1983) describes careers that suit spatial intelligence as artists, architects, engineers, and surgeons. Spatial intelligence is the least used intelligence among the entrepreneurship educators. However, Kelly (2021) noted that although spatial intelligence can enhance students' success in all academic endeavors, it is the most neglected.

The tendency to not use spatial teaching strategies by entrepreneurship educators could be responsible for the rise of unemployment among the South-South graduates of Nigeria. It is important to be able to use spatial intelligence in today's world. For example, Kelly (2021) noted that spatial intelligence could enhance students' academic success. Also, Nolen (2003) describes

spatial intelligence as "the ability to manipulate and create mental images to solve a problem" (p.116). Therefore, entrepreneurship educators lack high spatial intelligence may be responsible for the inability to prepare the students for employment. Maybe the use of high spatial intelligence can improve the effective educator's teaching and improve the students' knowledge and skills required to prepare students to be employable and self-reliant. The low spatial multiple intelligence of the educators and the lack of applying spatial intelligence teaching strategies could be a reason for not solving unemployment among university graduates in the South-South region of Nigeria.

As a reflection on multiple intelligences, I am not criticizing Gardner's (1983) Multiple Intelligences Theory. I argue that there is some magnitude of spatial intelligence in each of the other intelligences: linguistics, naturalistic, bodily-kinesthetic, logical-mathematical, musical, interpersonal, and intrapersonal. Every intelligence has some magnitude of spatial intelligence within it that could contribute to spatial intelligence being the least utilized among the other intelligences. Accordingly, spatial intelligence may not necessarily stand as one of the intelligences. For example, a bodily-kinesthetic educator would have an image or visualize what they want to teach and how to teach it in their mind before demonstrating their instruction in class. Also, Kelly (2021) referred to spatial intelligence as a foundation intelligence with which other intelligences rely on and interact. Furthermore, Kelley (2021) noted that Gardner, who proposed multiple intelligences, found it difficult to give examples of someone with high spatial intelligence except one, Nadia, an autistic-savant child. Additionally, Gardner noted that spatial is not a common intelligence (Kelly, 2021).

I would like to contribute to Gardner's Multiple Intelligence Theory that several factors, including motivation and contextual instructional setting, can influence someone's intelligence. This study occurred in the South-South region of Nigeria where poverty continues to rise. For example, between 2010 and 2012, nine percent of the people in the South-South region moved from non-poor status to poor (Odozi, 2018). It would be hard for a hungry educator to have a stable mindset to think correctly and spend time visualizing because a hungry man is an angry man (Pereira, 2008). Therefore, the institution's location, alone, could contribute to spatial intelligence being the weakest or least intelligence.

It may have been helpful to delete specific items for use in this study. The Intelligence Survey (IS) and the MI-Framed Teaching Strategy Index (MITSI) revealed, for example, that the removal of Item 1 from Naturalistic Intelligence, Item 4 from Interpersonal Intelligence, and Item 2 from Musical Intelligence would result in a higher Cronbach's alpha value. It only improved the instrument's internal consistency reliability for the population. The same can be said for Item 5 from Linguistic Strategy, Item 2 from Interpersonal Strategy, Items 2 to 4 from Logical-Mathematical Strategy, and Item 4 from Naturalistic Strategy. The deletion of these items improved Cronbach's alpha values.

The reason may be due to the inapplicability of the items to the sample population and their environment. For example, "walking in the woods" (Item 1 from Naturalistic Intelligence) and "background music in a restaurant" (Item 2 from Musical Intelligence) may not be typical common situations in the South-South of Nigeria. Also, for the strategy items in the MIFTSI survey, mathematics and logic are rarely used in pedagogical activities (logic games, pattern exploration) with students. Therefore, it may be desirable to remove these items as their removal could lead to improved internal consistency, reliability, and suitability of the instrument for this population.

In answering the second research question, the multiple linear regression results analyze the relationship between the multiple intelligence profiles and multiple frame teaching strategies. Based on the strongest predictors, some conclusions were drawn by examining the frequently used teaching strategies. The strongest intelligence profile predictors of linguistic strategy are linguistic, intrapersonal, and spatial intelligences. Additionally, the strongest intelligence profile predictors of the interpersonal strategy are intrapersonal, spatial, and logical-mathematical intelligences. Further, the strongest intelligence profile predictors of intrapersonal strategy are intrapersonal, linguistic, and spatial intelligence profiles. It can be observed that intrapersonal and spatial intelligences are the strongest and recurring intelligences. This explains why they are the most frequently adopted intelligences by entrepreneurship educators for developing teaching strategies for their students.

Implications

The study has several implications for policy, practice, and future research. The study contributes to the frontiers of knowledge in teaching and learning, for there is limited research on

educators' intelligences and their MI-framed teaching practices (Luo & Huang, 2019). Specifically, entrepreneurship education is relatively new, and little research involving entrepreneurship educators and Multiple Intelligence Theory has been conducted.

This study could guide policymakers such as the Nigerian higher institutions regulatory boards, including the National University Commission (NUC) and the National Board for Technical Education (NBTE), whose function is to regulate the delivery of quality education in Nigeria. This study could be a resource for improving the standards and objectives of the boards regarding educator awareness of their instructional abilities and preferred teaching strategies for effective entrepreneurship education. The University-Industry Linkage Division of the National Universities Commission's function includes promoting the acquisition of requisite skills for graduate employability, and entrepreneurship as well as enhancing teaching, learning, research, and development.

The study's findings confirm Gardner's Multiple Intelligence Theory (1993, 1999) claims that all persons have eight intelligences of different magnitudes. The study's findings identify interpersonal, intrapersonal, and linguistic as the most frequently used and spatial as the least used teaching strategies in entrepreneurship education. Spatial intelligence deals with spatial judgment and the ability to visualize with the mind's eyes. Spatial intelligence is the weakest characteristic among the intelligences of the entrepreneurship educators' profiles. This finding is not surprising because Howard Gardner had difficulty giving examples of people with high spatial intelligence (Kelley, 2021).

This study also agrees with Gardner's claims of using a pluralistic approach to instructional content where educators teach a learner using multiple techniques (Leshkovska et al., 2016). Using multiple teaching techniques could better equip entrepreneurship educators and program leaders in the design of curricula, plan instruction, select course activities, and assessment strategies focusing on individual differences to maximize educational success, intellectual growth, and enthusiasm. Educators and curriculum designers could create a profile of themselves and their students ultimately helping students to accomplish tasks comparable to their instructional abilities.

The results of this study are an essential reference for employers of educators and curriculum developers by allowing them to focus on the quality of abilities that they require from

educators to meet the needs of diverse students. For example, the results show that the strongest intelligence profile predictors of linguistic strategy are linguistic, intrapersonal, and spatial intelligences. In contrast, the strongest intelligence profile predictors for interpersonal strategy are intrapersonal, spatial, and logical-mathematical intelligence. These findings concurred with Gardner's Multiple Intelligence Theory that no person has the same abilities, and different tasks or activities may require specific abilities. Therefore, employers could conduct multiple intelligences surveys to identify educators' instructional strengths to determine the intelligence necessary for a particular specialization or the area of professional development to expand their ability.

Furthermore, this study could help educators become more confident by making them aware of their strengths and differences. It would enable them to appreciate themselves and other educators and students. The self-awareness of their abilities would allow educators to understand their students' differences to make effective instructional decisions and learning outcomes. Educators' self-awareness of their strengths could increase the instructional efficiency of the entrepreneurship education program in Nigeria, achieving the objectives of job creation and self-employment. Additionally, the study has potential for future application in organized workshops, seminars, and training based on Gardner's Multiple Intelligence Theory for faculty to become self-aware of their abilities and further expand their instructional abilities. Accordingly, the study could promote the development of entrepreneurship skills and knowledge for students to become economically empowered and grow the economy of Nigeria.

Recommendations

Like most studies, this study had several limitations. First, the study population was limited to only those educators who teach entrepreneurship education in the South-South. The study did not include educators who teach other courses. Secondly, while several higher institutions and educators teach entrepreneurship education, these participants were from one tertiary institution. Thirdly, the Intelligence Survey (IS) and the MI-Framed Teaching Strategy Index (MITSI) were adopted and used in the study, limiting consideration of other instruments related to the construct. The final limitation concerns the relatively low sample sizes that may have affected, at least somewhat, the study's findings and conclusions. Small sample size reduces the generalizability of the results and may impact the replication of future studies. These limitations were not

perceived to interfere with the study's conclusions and implications. In light of the study's findings, conclusions, implications, and practical limitations, several recommendations are offered with respect to policy, practice, and future research.

1. Institutions should include self-awareness in the selection process for faculty and program leaders based on Gardner's Multiple Intelligences Theory. Educator self-awareness is a first step towards empowering and developing educators to meet the increasingly diverse students' needs for employment.
2. Faculty and program leaders should regularly organize professional development programs focused on Gardner's Multiple Intelligence Theory (MIT) to enable educators to understand their strengths and limitations. Faculty self-awareness of their strengths and limitations could empower them because they can discover, develop, and expand their instructional strengths to achieve diverse student learning objectives.
3. Program leaders should allow educators to assess their instructional abilities for every course: before, during, and after. Such assessments will enable faculty to assume tasks and activities comparable to their strengths to achieve student learning outcomes and to ensure that faculty have the ability they need for the courses they intend to teach.
4. Regular self-awareness of faculty instructional strengths and limitations encourages smooth relationships (collaboration) between and among faculty and students, improving their instructional abilities and achieving learning objectives and outcomes.
5. Regular self-awareness helps faculty know and identify their areas of professional development and growth. For example, this study's findings revealed interpersonal, intrapersonal, and linguistic teaching strategies as the most frequently used strategies, and spatial strategy was the least used strategy. Professional development could focus on developing faculty spatial abilities because some students could benefit. However, these results could vary depending on the courses and environment within which the learning occurs.
6. Faculty and program leaders need motivation and resources to design workshops and training to empower and develop their self-awareness to make effective instructional strategy decisions.

7. Future research could be conducted using mixed methods designs such as quantitative and qualitative analysis to understand better the instructional strategies, strengths, and limitations used by entrepreneurship educators.
8. Future research could include randomized sampling to minimize selection bias (Pannucci & Wilkins, 2010).
9. Future studies should include larger populations and sample sizes by considering the inclusion of educators in other disciplines as well as at other institutions. This study included 87 entrepreneurship educators (entrepreneurship lecturers and resource persons). Greater generalizability and replication may be achieved by increasing the population, sample size, and variety of programs in future studies.
10. Future studies could include planning and designing workshops, seminars, and training based on Gardner's Multiple Intelligence Theory for faculty to become self-aware of their abilities and further expand their instructional abilities.

In summary, the Multiple Intelligence Theory can improve and develop the instructional skills of entrepreneurship educators. Faculty and program leaders should build their self-awareness regarding how they are different to understand students and other people's differences. Therefore, there is a need for professional development programs and training to nurture the relationships between faculty and students to understand their differences, improve their instructional strengths, and prepare students for employment and the workforce.

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APPENDIX A. RESEARCH PARTICIPANT INFORMATION SHEET

SECTION A:

Multiple intelligences and teaching strategies for entrepreneurship empowerment and development in Nigeria

Anita O. Amiaya, Co-Investigator and Dr. James P. Greenan, Principal Investigator

Curriculum and Instruction

Purdue University

Dear Respondents

Key Information

Please take time to review this information carefully. This is a research study. Your participation in this study is voluntary which means that you may choose not to participate at any time without penalty or loss of benefits to which you are otherwise entitled. You may ask questions to the researchers about the study whenever you would like. The length of the data collection period is a maximum of six weeks, which includes follow-ups for all non-respondents.

What is the purpose of this study?

The purpose of the study is to describe the association between entrepreneurship educators' profile and their teaching strategies with respect to multiple intelligences.

Why the individual is being asked to participate

You are being invited to participate in this study because of your experiences as an educator of entrepreneurship education courses. We plan to enroll 87 entrepreneurship educators as participants in this study.

What will I do if I choose to be in this study?

The participants of this study will complete a Qualtrics survey. If you participate in this study, you will access and complete a Qualtrics survey questionnaire consisting of Intelligences Survey (IS)

and Multiple Intelligences Framed Teaching Strategies Index (MIFTSI) items with demographic questions. This will be done using a single reusable anonymous link through your email address.

How long will I be in the study?

The time commitment for completing the survey questionnaire is appropriately 45 minutes.

What are the possible risks or discomforts?

Risks in this study are minimal, no greater than you would encounter in daily life. Breach of confidentiality is always a risk with data, but we will take precautions to minimize this risk as described in the confidentiality section. Participation in this study is completely voluntary, and you are free to withdraw at any time. There will not be any consequences for withdrawing from the study. This will also not have any effect on your work relationships, progress, or salary. The identifiable information (names and emails) will be kept until immediately after the survey completion. The names and the emails will be de-identified using the statistical package for the social sciences (SPSS) software for data analysis.

Are there any potential benefits?

The study has a general knowledge benefit, and directly the entrepreneurship educators will develop their self-awareness about their strengths, limitations, and teaching strategies' decisions. It is expected that the study will empower and develop entrepreneurship educators to achieve job creation and enhance graduates' employability. Subsequently, the study's findings may determine the extent to which educators could promote the development of entrepreneurial skills and knowledge for students' economic growth. Furthermore, educators involved in teaching entrepreneurship education would utilize the outcomes of this study to identify their instructional strengths and limitations and understand how to develop their abilities to work with diverse students. Eventually, the findings would have the potential to contribute to the development and recognition of entrepreneurship as an essential workforce focus for Nigeria's multifaceted employment-related problems.

Will I receive payment or other incentive?

After completing this survey, an email message will be sent to each of the participants thanking them for their time and effort in completing the survey.

Are there costs to me for participation?

There is no cost for participating in this study.

Will information about me and my participation be kept confidential?

The principal investigator and the lead researcher will make efforts to maintain confidentiality. However, breach of confidentiality is always a risk with data. Still, we will take precautions to minimize this risk by storing data on Purdue University password-protected storage hard drives and not discussing individual information with your school authorities.

What are my rights if I take part in this study?

You do not have to participate in this research project. If you agree to participate, you may withdraw your participation at any time without penalty. To withdraw from the study at any time, send an email to either the principal investigator, Dr. James Greenan, jgreenan@purdue.edu, or lead researcher, Anita Amiaya at aamiaya@purdue.edu. You may also contact the Human Research Protection Program at +176549445942, email (irb@purdue.edu) with any questions, concerns, or withdraw from the study.

Who can I contact if I have questions about the study?

You can contact the principle investigator, Dr. James Greenan, at jgreenan@purdue.edu, or lead researcher Anita Amiaya at aamiaya@purdue.edu. You may also contact the Human Research Protection Program at (765) 494-5942, email (irb@purdue.edu) or write to: Human Research Protection Program - Purdue University Ernest C. Young Hall, Room 1032, 155 S. Grant St. West Lafayette, IN 47907-2114.

APPENDIX B. INTELLIGENCES SURVEY (IS)

Section B: Intelligences Survey (IS)

Directions: Please circle the response that best fits your response to the questions. Use the following response choice scale: 1 = least descriptive, 2 = not very descriptive, 3= somewhat descriptive, 4 = descriptive and 5 = most descriptive

Domains and items

Q1 Naturalistic Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
As I walk in the woods, I often pause quietly to observe habits within wildlife. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am drawn to water outside, such as lakes, creeks, rivers, or oceans. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like various kinds of animals and plants. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learn from and enjoy observing nature change in all four seasons. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2 Interpersonal Intelligence

	Least Descriptive Point (1)	Not very Descriptive Point (2)	Some what Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
I am sensitive to others' feelings. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy walking alone at times rather than having someone join me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My best thinking surfaces when I brainstorm with other people. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helping others complete a project brings me a lot of satisfaction. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Musical Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
Sometimes I find myself tapping rhythms on the table while waiting. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When dining in a	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

restaurant, I enjoy listening to background music. (2)					
After I've been to a concert, I hear melodies in my mind for days. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often spontaneously sing, hum, or whistl. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Intrapersonal Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
One favorite activity is keeping a personal journal. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I read a novel, I often compare personal choices I would make. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I write I tend to base stories on personal experience. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Logical-Mathematical Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
Multiple choice tests are usually easy for me. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I easily identify patterns and derive meanings from data. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding solutions for numerical problems is fun. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 Bodily-Kinesthetic Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
It's often hard for me to sit still. I'd rather be up and active. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy throwing and catching games. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love the challenge of participating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

on sports teams. (3)					
Every chance I get, I find I enjoy golf or tennis or softball. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Linguistic Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
Preparing to debate an issue is a challenge I enjoy. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Telling stories to others is great fun. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would enjoy writing an essay for a contest. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choosing the best metaphor in a poem is a joy for me. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Spatial Intelligence

	Least Descriptive Point (1)	Not Very Descriptive Point (2)	Somewhat Descriptive Point (3)	Descriptive Point (4)	Most Descriptive Point (5)
I enjoy taking great	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

photographs.
(1)

I enjoy
drawing and
painting. (2)

For me,
sketching a
building
seems easier
than baking a
cake. (3)



APPENDIX C. MULTIPLE INTELLIGENCES FRAMED TEACHING STRATEGY INDEX (MIFTSI)

Directions: The MIFTSI response choice scale is 1 = rarely or never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = usually or always. Please circle the response that best fits your response to the questions.

Domains and items

Q14 Linguistic strategy

	Rarely or Never Point (1)	Seldom Point (2)	Sometimes Point (3)	Often Point (4)	Usually or Always Point (5)
I have students talk or write about vocabulary words from their reading. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students retell the text they have just read to improve reading comprehension. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I emphasize a balance of students' listening, speaking, reading, and writing in my classroom activities. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students speak spontaneously	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

about different topics. (4)

I use both silent and oral reading to develop comprehension. (5)

☐
☐
☐
☐
☐

Q15 Interpersonal strategy

	Rarely or Never Point (1)	Seldom Point (2)	Sometimes Point (3)	Often Point (4)	Usually or Always Point (5)
I have students work in groups to complete projects. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage peer sharing about what they've learned. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I provide opportunities for students to help each other in learning. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage students to celebrate classmate successes through creating cheers, giving praise, and clapping. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have students work together on various projects. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Q16 Intrapersonal strategy

	Rarely or Never Point (1)	Seldom Point (2)	Sometimes Point (3)	Often Point (4)	Usually or Always Point (5)
I offer students reflective time to express their own feelings. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage students to connect what is taught with aspects of their own lives. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage independent work based upon students' interests. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider my students' feelings, dreams, or ideas in developing classroom activities. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I ask students to share how they think the characters are feeling in the story. (5)

☐ ☐ ☐ ☐ ☐

Q17 Musical strategy

	Rarely or Never Point (1)	Seldom Point (2)	Sometimes Point (3)	Often Point (4)	Usually or Always Point (5)
I use rhythmic patterns to help students remember certain words. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use songs to help students learn new concepts. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take time out to share the sounds of particularly interesting words when reading aloud to my students. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage students to read sentences out loud with rhythmic patterns. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students listen to recorded music or songs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

related to what
is being taught.
(5)

Q18 Logical-mathematical strategy

	Rarely or Never Point (1)	Seldom Pont (2)	Sometimes Point (3)	Often Point (4)	Usually or Always Point (5)
I have students do logic puzzles such as crosswords to enhance their vocabulary. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students play math or logic games that show what has been learned. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students use their mathematical or logic talents to predict or guess the meanings of what is taught. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students explore the patterns found in words, for example, set,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

get, and let.
(4)

I provide
opportunities
for students
to compare or
classify what
they have
learned. (5)

☐
☐
☐
☐
☐

Q19 Spatial strategy

Rarely or
Never
Point (1)

Seldom
Point (2)

Sometimes
Point (3)

Often
Point (4)

Usually or
Always
Point (5)

I have
students draw
or paint
pictures to
show their
understanding
of what I
teach. (1)

☐
☐
☐
☐
☐

I use cards of
artwork such
as paintings,
drawings, and
cartoons to
present what I
teach to
students. (2)

☐
☐
☐
☐
☐

I have
students
create charts,
diagrams, or
graphs to
depict the
concepts
being learned.
(3)

☐
☐
☐
☐
☐

I have
students draw

☐
☐
☐
☐
☐

before they write. (4)

I have students imagine or mind-map stories. (5)

☐
☐
☐
☐
☐

Q20 Bodily-kinesthetic strategy

	Rarely or Never Point (1)	Seldom point (2)	Sometimes Point (3)	Often Point (4)	Usually or Always Point (5)
I have students use body language to act out letters or words. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students engage in role-playing to show their understanding of the topic(s). (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I integrate students' physical movements into classroom activities. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students physically move to demonstrate some meanings of what they learn. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have students act out about the various language-learning topics. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Q21 Naturalistic strategy

	Rarely or Never point (1)	Seldom Point (2)	Sometimes Point (3)	Often Point (4)	Usually or always Point (5)
I design lessons that bring nature in the classroom via videos, objects, animals, plants, etc. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have students collect their favorite animal or plant drawings, photographs, or objects. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage students to perform learning activities by using objects from the natural world. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have
students
classify flora,
fauna, and
natural
phenomena.
(4)



I integrate
natural
phenomena
into my
teaching. (5)



APPENDIX D. BIOGRAPHICAL INFORMATION

Section C: Biographical Information

Q9 Gender

- ☐ Male (1)
- ☐ Female (2)

Q10 Age

- ☐ 30 years below (1)
- ☐ 31-35 years (2)
- ☐ 36-40 years (3)
- ☐ 41 -45 years (4)
- ☐ 46-50 years (5)
- ☐ 51 years above (6)

Q11 What is your highest education degree levels?

- ☐ B.Sc./B.Ed. (1)
- ☐ M.Sc./M.Ed. (2)
- ☐ Ph.D. (3)
- ☐ Others (4)

Q12 What level is your teaching class?

- ☐ National Diploma (ND) (1)

☐ Higher National Diploma (HND) (2)

Q13 How long have being an entrepreneurship educator?

☐ Less 1-5 years (1)

☐ 6-10 years (2)

☐ 11-15 years (3)

☐ 21-25 years (5)

☐ 26-30 years (6)

APPENDIX E. LETTER OF COLLABORATION



Office of the Rector
**DELTA STATE
POLYTECHNIC, OZORO.**
Learning, Research and Service

P.M.B. 5 Ozoro, Delta State.

Rector
Prof. Akpodiete Orienru Job
Ph.D, M.Sc, B.Tech, DipTh.; RAS,
MASAN, MNSAP, MWPSA
Professor of Agricultural Biochemistry & Animal Nutrition

DSPZ/RC/RS/VOL.1/21.01

3rd February, 2021

Mrs. Anita Ogheneovo Amiaya
Purdue University,
Department of Curriculum and Instruction,
West Lafayette, IN,
United States.

Dear Mrs. Amiaya,

RE: PERMISSION TO CONDUCT A RESEARCH STUDY

Your letter dated 2nd February, 2021 with the above caption refers.

Your request for permission to conduct your field work for your Ph.D research titled: "Multiple Intelligence and Teaching Strategies for Entrepreneurship Empowerment and Development in Nigeria" has been considered and hereby approved. You are however requested to furnish my institution with your time schedule and duration of the study.

Thank you for choosing our institution for this study and wish to assure your University that we will give you every cooperation to ensure that you carry out quality research.

Thank you.

Yours sincerely,

Rector/CEO

APPENDIX F. INSTITUTIONAL REVIEW BOARD APPROVAL

IRB #: IRB-2021-213

Title: Multiple Intelligences and Teaching Strategies for Entrepreneurship Empowerment and Development In Nigeria

Creation Date: 2-5-2021

End Date:

Status: **Approved**

Principal Investigator: JAMES GREENAN

Review Board: Exempt Reviewer FY2021

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