Entrepreneurship Education and the Moderating Role of Inclusion in the Entrepreneurial Action of Physically Disabled Students

Abstract

Educators and policymakers have sought to open entrepreneurship to a broader range of students. The paper investigates the role of entrepreneurship education in the development of People with Physical Disabilities (PWPDs) and the moderating role of inclusion in their entrepreneurial action. This research employed a cross-sectional survey of 253 students with physical disabilities across tertiary institutions in Nigeria. The findings underscore the significant role of entrepreneurship education in enhancing the entrepreneurial action of physically disabled students. The finding of the study established the moderating role of inclusion in the relationship between entrepreneurship education and the entrepreneurial action of physically disabled students. This implies that the commitment of the educators to accept and support physically disabled students in the class will create an environment in which physically disabled students can learn to monitor and respond to entrepreneurial changes in the environment. This will in turn prepare them to engage in a business start-up. This research highlights that entrepreneurship education and inclusion make significant contributions to physically disabled students' entrepreneurial action. Therefore, these factors are key to consider in preparing physically disabled students to become entrepreneurial graduates. The study contributes to the extant literature by underscoring the value of creating an environment of inclusion in entrepreneurship education.

Keywords

Physically disabled students; Entrepreneurship education; Entrepreneurial action; Inclusion; Nigeria

Introduction

Based on Nigerian statistics, out of the over 200 million total population of Nigeria, over 27.3 million (13.7%) people are disabled (Dakung et al., 2019). The data distribution of these people with disabilities (PWDs) consists of about 20% living in the urban area, while 80% live in rural areas. Most PWDs in Nigeria (as seen globally) face different challenges especially in operating their own small businesses. According to Dakung et al. (2017) and Namatovu et al. (2012), the marginalization of PWDs with regards to self-employment and entrepreneurship is extensive and the theoretical development in understanding their involvement in entrepreneurial activities is still lacking. This links well with the submission of scholars that despite the substantive contribution of such entrepreneurs and the importance of ability and disability as a contextualizing influence, they face barriers in gaining access to self-employment (Uribe-Toril et al., 2019; Clegg and Bigby, 2017; Hagner and Davies, 2002). These barriers and neglect have excluded them from engaging in entrepreneurial activities (Dhar and Farzana, 2017).

According to Dakung et al. (2019), there are various underlying reasons for this happening. Firstly, society misconceives them as being senseless, incapable of reason, and living lives unworthy of living. Secondly, in the last decade, entrepreneurship research has evolved with the contribution of different scholars, but there is a lack of studies available focused on entrepreneurship with disabilities (Saxena and Pandya, 2018). Also, Boellstorff (2019) provides a succinct argument to demonstrate that disability is typically assumed to be incompatible with work, an assumption often reinforced by policies that withdraw benefits for PWDs. In this regard, most of them do not engage in entrepreneurial ventures due to loss of interest. This paper, therefore, offers a disability-aware perspective of the inclusionary perspective on entrepreneurial action providing a springboard for future research on this topic. This aligns with the assertion of Barba-Sánchez, et al. (2019) on entrepreneurship as a form of validation for inclusivity, visibility, and normalization for people with disability. Whilst there are several entrepreneurial studies across different contexts (Rolle et al., 2020; Eze and Nwali, 2012) that highlight public-private partnerships, government policies and programs and even impact investment as it relates to enhancing and increasing inclusivity in entrepreneurship and entrepreneurship education; documented empirical studies that evaluate the impact of these policies and entrepreneurship education provision on persons with disabilities is largely limited, especially within the chosen context of this study.

Within Africa, it is perceived that encouraging effective entrepreneurial behaviour is a mechanism to alleviate the systemic problems (Jones et al., 2018) and it is generally accepted that entrepreneurship is crucial in bringing PWDs into the economic mainstream (Dakung et al., 2017; Renko et al., 2016). The growth in recognition that self-employment and entrepreneurship is an important way to bring disabled people into the workforce is reinforced by Maritz and Laferriere (2016). Thus, this research proposes an alternative model-based approach to measuring the entrepreneurship education - entrepreneurial action relationship among People with Physical Disabilities (PWPDs) by introducing inclusion as a moderating variable. This is anchored on the premise that individuals with disabilities adjust over time through assimilation. This research answers calls by Renko et al. (2016) for novel approaches to assimilate PWDs in entrepreneurial activities by unravelling the role of inclusion thereto. It answers a further call by Saxena and Pandya (2018) to identify influences on the entrepreneurial behaviour of PWDs. This research seeks to address the dearth of research into the influence of inclusion and opportunity in entrepreneurship education and how those with physical disabilities can most effectively be supported, by considering entrepreneurship education through this lens. There is a considerable amount of research around entrepreneurship education, entrepreneurial intentions and navigating disability within the provision, which has attained mixed findings. Integrating the consideration of disabled people into the current entrepreneurship education, entrepreneurial intention and action research makes it possible to fill an important research gap (Muñoz et al., 2020). This paper also helps to address calls for "rethinking disability" (Valle and Connor, 2019) and a more interdisciplinary perspective into entrepreneurship education (Ratten and Jones, 2020).

Liguori et al. (2019) highlighted the need to broaden access to quality entrepreneurship and enterprise education. However, there has been a tendency to generalize entrepreneurship education and research, despite a need to tailor it for specific students, cohorts, and contexts (Bell, 2020; Ratten and Usmanij, 2020). Entrepreneurial engagement by PWDs requires more than just capital and ideas, it requires institutionally based inclusive programs in terms of support and acceptance. Education can be an effective model for entrepreneurial action, with policymakers and professionals focusing interventions on education and training that open up possibilities to PWDs (Dakung et al., 2019; Wiklund et al., 2018; Maritz and Laferriere, 2016; Harris et al., 2013). This study aims to firstly investigate the impact of entrepreneurship education on the cultivation of

entrepreneurial action of physically disabled students in higher institutions of learning in Nigeria. Secondly, the study seeks to explore the moderating role of inclusion in the relationship between entrepreneurship education and entrepreneurial action.

This paper is structured as follows. Firstly, theoretical grounding is provided followed by hypotheses and the research framework. Secondly, the methodology is described including samples and measures. T9hirdly, the results are presented followed by a discussion section including theoretical and practical implications. Finally, the conclusion provides key findings, contributions, limitations, and suggestions for future research.

Theoretical Grounding and Hypotheses

Entrepreneurship Education and Entrepreneurial Action

A higher level of entrepreneurship might be achieved through education. Entrepreneurship education programs have accordingly experienced rapid and global development within higher education over recent decades. Numerous researchers have emphasized the increasing interest of students in entrepreneurship as a choice of career (Cui et al., 2021; Fayolle and Gailly, 2015; Neck and Greene 2011). Entrepreneurship education has increased and advanced significantly in most industrialized countries. However, Nabi et al. (2017) reported a shortage of research exploring entrepreneurship education in developing countries and Yatu et al. (2018) called for more rigorous entrepreneurship education research in Nigeria. Entrepreneurship education is important as it is a process that provides entrepreneurial competencies and confidence to learners to venture into business (Dakung et al., 2017; Oosterbeek, et al., 2008).

Assumptions underpinning the expansion of entrepreneurship education programs include the belief that entrepreneurship is teachable, and entrepreneurs can be developed (Cui et al., 2021; Erikson, 2003) and that entrepreneurship education might positively affect students' learning outcomes (Rideout and Gray 2013). Research into the impact of entrepreneurship education has examined entrepreneurial knowledge, skills and behaviours, and entrepreneurial intent (EI). Nabi et al. (2017) called for novel impact indicators of entrepreneurship education beyond EI after a review of 159 articles on entrepreneurship education impact found that 51 percent focused on EI. This research explores a new entrepreneurship education impact indicator by highlighting entrepreneurial action.

Extant studies exploring how entrepreneurship education influences the decision to become an entrepreneur are steadily increasing. For instance, studies by Dakung, et al., (2019), Lin and Xu (2017) and Béchard and Grégoire (2005) revealed a positive impact of entrepreneurship education courses/programs at tertiary institutions of higher learning on the perceived attractiveness and new venture start-up decision. This implies that entrepreneurship education creates self-sufficient, motivated, and enterprising individuals who leave the education system with skills to start their own business. In some cases, the choices to become an entrepreneur and subsequent entrepreneurial careers have been positively correlated to entrepreneurship education (Fayolle et al., 2006; Dickson et al, 2008; Matlay, 2008). From the review of literature, in addition to the basic skills of starting and managing a business, entrepreneurship education creates a capacity for imagination, flexibility, creativity, willingness to think conceptually, and the art to see change as an opportunity (Timmons and Spinelli, 2008; Bygrave and Zacharakis, 2011). Also, entrepreneurship education is recognised as one of the vital determinants that could influence students' career decisions (Peterman and Kennedy, 2003; Kolvereid and Moen, 1997).

Further, common pedagogies such as using success stories, engaging students in business planning, and visitation tours to companies are seen to be effective in propelling students to start a business (Dakung et al., 2017; McKeown et al, 2006). In the same vein, scholars have further argued that the most effective teaching methods for entrepreneurial learning should be learner-centred, using active-application and active experimentation approaches rather than solely relying on teacher-centred transmission of passive knowledge, so that students can acquire real-life experiences and develop techniques of reflective observation and abstract conceptualization during the enterprising learning process (Hytti and O'Gorman, 2004; Hegarty, 2006; Birdthistle et al., 2007). Such active learning approaches focus on thinking, using, applying, and acting to encourage creation (Neck et al. 2014) and include problem-based learning, inquiry learning, and experiential learning, the last of which is particularly efficacious (Fuchs et al., 2008). Some active learning approaches may require educators to provide support (or scaffolding) to students who need it, as and when required, to enable learning. These approaches not only emphasize the acquisition of knowledge but also inspiring students' thinking about entrepreneurial activities (Sarasvathy and Venkataraman, 2011; Bechard and Gregoire, 2005). Previous research has identified that positive emotions support learning, so it is important to inspire students (Loon and Bell, 2018). From the foregone, action

learning is effective in enhancing entrepreneurial skills, knowledge and attitude of learners. The outcomes of the portfolio of the various teaching methods employed in learning entrepreneurship enhance students' entrepreneurial action (Dakung et al., 2017; Clarke et al., 2006).

The purpose of developing entrepreneurial course content is to stimulate entrepreneurship awareness among students that increase their interest in entrepreneurship. Therefore, entrepreneurial course content and the interaction with the educators are key factors in developing and fostering entrepreneurialism (Bell and Liu, 2019; Hannon 2005). Entrepreneurial course contents are developed differently across institutions of learning either as an optional module within business courses to influence students' capacity to deal with real entrepreneurial activity or raise awareness by providing opportunities for students to learn from real-life practical experiences that make them think of entrepreneurship as a career (Hynes et al., 2011; Kirby, 2004). In a similar vein, Dakung et al., (2017) and Delmar and Davidson (2000) established that specialized courses in entrepreneurship motivate students as well as give them the confidence to start new businesses. Lanero et al. (2011) identified some essential building blocks of a functional and effective entrepreneurship education. These included case studies, business plans, projects, and financial management.

Whilst there are studies from other contexts like Muñoz, et al., (2019) whose findings show no significant differences between disabled and non-disabled students in terms of their motivation for entrepreneurial venturing or starting up a business; furtherance and enhancing the entrepreneurial action of the disabled students will require a customized curriculum designed with course content that is tailored to fit the specific needs or peculiarities of the disabled students (Johnmark et al., 2016; Dakung et al., 2019).

Similarly, the work of (Barba-Sánchez et al. 2019) on entrepreneurship and disability confirms a low propensity among disabled people to start a business, however, entrepreneurship offers some degree of validation which is a form of inclusion, visibility, and normalization of people with different abilities. Entrepreneurial venturing by individuals with disabilities is often and largely a consequence of disability discrimination either in the workforce or inaccessibility of certain advantages in society. These provide both benefits and disadvantages such as independence and freedom from access-related obstacles (benefits) and the loss of benefits and inability to access venture capital (disadvantages), for example. Therefore, at the core of entrepreneurship education

provision and the structure of teaching entrepreneurship, courses especially with disabled students in mind should draw on critical and reflective thinking, reliance on lived-experience, business-general knowledge, thinking about entrepreneurship as a career, opportunity-specific knowledge, and using guest speakers who are experienced entrepreneurs (Brown, 1999). This leads to the following hypotheses:

H1: There is a significant positive relationship between entrepreneurship education and entrepreneurial action of physically disabled students.

H1(a): Active pedagogy is positively related to the entrepreneurial action of the physically disabled students

H1(b): Functional entrepreneurship course content is positively related to the entrepreneurial action of the physically disabled students

Inclusion, Entrepreneurship Education and Entrepreneurial Action

The concept of inclusion was conceived in 1948 with the declaration adopted by the United Nations (UN) General Assembly on the "International Bill of Rights" which recognizes that all human beings are born free and equal in dignity and rights. This declaration fundamentally seeks to deal with the issue of discrimination at all levels in every facet of society including entrepreneurial activities. This suggests that paying attention to the needs of disabled students will motivate them to start businesses. This is consistent with Bettcher and Mihaylova (2015) who pointed out that inclusion is vital for stimulating entrepreneurial activity (Rolle et al., 2020). Buntat et al., (2016) presents a critical view of entrepreneurship education as being inherently challenging for people with disability; whilst they stand to gain significantly more from the benefit of entrepreneurship education and entrepreneurial venturing, which eventually promotes self-employment and economic self-sufficiency, it is perhaps the same group of people that are facing the most challenges in entrepreneurship education and ultimately entrepreneurial venturing. Deakins (2000) documented that the role of entrepreneurial behaviour will be determined by the support and acceptance received by an individual. Also, the findings of Omede et al. (2016) established that

inclusive education will help strengthen disabled students' chances of economic independent living to do business. The finding links well with Ianchovichina and Lundstrom (2009) who viewed inclusion as increasing access to opportunity for students, workers, entrepreneurs, and consumers in ways that generate additional economic growth (Barba-Sánchez et al., 2019). In summary, this provides evidence that individuals who receive support and are accepted within a particular setting gain important benefits of achieving the success of their goals.

The most prevalent tenet in inclusion-based entrepreneurship studies is that persons involved in pro-entrepreneurship networks are more likely to engage in entrepreneurship (Aldrich and Zimmer, 1986). This then suggests that disabled entrepreneurs need to be included in the mainstream of economic and social affairs to venture into entrepreneurial activities. Arising from this, it is obvious that inclusion unlocks the potential of individuals and communities to attain their business goals. It also empowers them to improve their economic situation and status. Linking to that, social support and acceptance offer its members a sense of belonging and mutual trust for the conduct of economic and social affairs such as venture creation (Nahapiet and Ghoshal 1998; Burt 1992; Bourdieu 1986). It is therefore imperative that entrepreneurship practice is connected closely to the support being received. This also reflects positive development for disabled students on account of their social connection with the environment, implying that they can engage in business activities when they receive support from the institution environment (Schoger, 2006; Shane and Cable, 2002; Sideridis and Chandler, 1997). Consequently, the experience obtained will trigger their confidence level to start a business. Adding to that, if disabled students build their confidence through the support they receive in school, they will develop ways of successfully registering and starting a business. Hence, stemming from the empirical studies, we set down our hypotheses as thus:

H2: Inclusion is positively related to the entrepreneurial action of physically disabled students.

H3: Inclusion moderates the relationship between entrepreneurship education and the entrepreneurial action of physically disabled students.

Methodology

Research design

This study adopted a cross-sectional quantitative method to examine the moderating role of inclusion on the relationship between entrepreneurship education and entrepreneurial action of disabled students in the Nigerian tertiary institutions. As opposed to a longitudinal approach that looks at data over an extended period of time, the cross-sectional quantitative method involves looking at data from a population at one specific point in time. The selection of participants in this type of study is based on variables of interest and equally important is that the approach allows for characteristics or variables to be observed at once. Specifically, given the conceptualization of this study, the quantitative method was employed to analyse and test the hypotheses. To test the research hypotheses generated in the literature review section, a comprehensive survey covering a random sample of disabled students from three tertiary institutions (Universities, Polytechnics, and Colleges of Education) was conducted. This was done at the end of the sessions after taking an entrepreneurship course in North-Central Nigeria. The institutions in this state were chosen because of the concentration of PWPDs pursuing their studies.

Population, sample size, and sampling procedure

The study population consisted of 850 physically disabled students drawn from three categories of tertiary institutions, i.e. Universities (542), Polytechnics (192), and Colleges of Education (116). Using Krejcie and Morgan's (1970) table of sample size determination, a sample size of 265 students was established. In selecting the participants for the main survey, the tertiary institutions formed the strata, and a simple random sampling was employed. The selection of the sample was conducted in the following stages: *Stage one – States in North-Central Nigeria.* The various states including Abuja and the Federal Capital Territory (Plateau, Nasarawa, Benue, Kogi, Niger, Kwara States, and Abuja) were taken into consideration to ensure proper representation of the tertiary institutions in North-Central Nigeria. *Stage two – stratification by institution category:* The tertiary institutions were stratified into three main categories (Universities, Polytechnics, and Colleges) across the states, to ensure proper representation. *Stage three – selection of the physically disabled students:* Systematic random sampling technique was employed to select the participants (physically disabled students) from each stratum. This approach was preferred given that the

population of the respective institution category is logically homogenous. Under this method, respondents were drawn from a sampling frame utilizing an interval *k* which is equal to *N/n*, where *N* is the number of units in the target population and *n* is the number of units of the sample. The first physically disabled student was selected using a simple random technique, and the rest were selected using the respective intervals. This technique was employed to ensure that appropriate elements were drawn from all institutions of the population to reduce sampling error and simultaneously maximize representativeness (Field, 2009; Amin, 2005).

Out of the targeted sample size of 265 issued with the questionnaire, 253 co-operated and responded to the face-to-face administered questionnaire. The sample included students with a range of physical disabilities including, visual impairment, hearing impairment and mobility issues. The high response rate (95%) is attributed to the fact that a personal approach was employed in collecting data. This approach was chosen to enable a face-to-face interaction between the researcher and the respondents and to improve the quality and response rate. More so, useful contacts were maintained with the lecturers and class representatives, who were instrumental in identifying the relevant sampled respondents and maintaining good relationships with them, which yielded excellent response rates. The results from the field show that males were more predominant (182) than females (71), with the majority belonging to the 21 – 26 age range (M=69.4%; F=30.6%). With regards to the disability category, most of the respondents were crippled (42.8%) and 56.9% of them acquired their disabilities later in life. Finally, most of the respondents (85.3%) were single.

Operationalization and measurement of variables

The independent variable for this study is entrepreneurial education; the moderating variable is inclusion, while the dependent variable is entrepreneurial action. These variables were all measured using items developed by previous scholars drawn from existing literature. Some modifications were made where necessary to suit the context of the study (Nigeria). For instance, *Entrepreneurship education* was conceptualized as the provision of knowledge, skills, and motivation to students to encourage entrepreneurial success in them and measured in terms of pedagogy and course content.

Pedagogy was measured by examining the method and practice of teaching, especially as an academic subject or theoretical concept relating to entrepreneurship. The variable was measured using items from the work of Keat et al. (2011) and Lanero et al. (2011). The items were modified and anchored on a 6-point Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). The pedagogy measurement measures and identifies the relative activeness of the pedagogy included in the entrepreneurship program.

Course Content was measured by looking at the choice of topics, description, the organization and sequencing of the course curriculum. Measures were utilised and adapted based on those previously employed by Lanero et al. (2011) to suit the setting in Nigeria. Items were anchored on a 6-point Likert scale ranging from 1(Strongly Disagree) to 6 (Strongly Agree). These items measured functional elements of course content which Lanero et al. (2011) considered important for effective entrepreneurship education. This represented course content which have been put forward as important building blocks for supporting entrepreneurship through entrepreneurship education, such as understanding the attitudes of entrepreneurs, enhancing ability to identify business opportunities, and developing business plans.

Inclusion was conceptualized to describe the idea that all disabled should be freely accommodated without restrictions (Jansen et al., 2014). To achieve this, two dimensions (support and acceptance) are measured as follows:

Support by the respondent's perception and actuality of being cared for, and the assistance available from the entrepreneurship education environment. Question items were generated and modified from previous instruments developed and used by Sideridis and Chandler (1997) and Soukakou et al. (2014). Acceptance was measured by looking at the respondent's perception of the ability to admit or tolerate differences and diversity in other people or groups of people to be included into a social network (Soukakou et al., 2014; Sideridis and Chandler, 1997), indicated on a 6-point scale ranging from 1 = Totally Disagree to 6 = Totally Agree.

Entrepreneurial action was conceptualized as discrete activities involved by an individual to start-up a business. In this regard, it was measured using both the pre-start-up and actual activities related to business (Gielnik et. al., 2015; Liñán and Chen, 2009). Entrepreneurial action was measured by utilising a 6-point scale, ranging from 1 = No effort to 6 = Very much effort and

modified from Gielnik et al., (2015) to suit the Nigerian context. The questionnaire adopted within the research is included in Appendix 1.

Data Analysis

Quantitative data from the field was captured in SPSS v22, cleaned, and averaged to yield composite scores of each scale and were used for statistical analysis. AMOS v22 was also used for structural equation modelling (SEM) to test the study variables.

Structural Equation Modelling **(**SEM) provides a combined test of the model fit and individual parameter estimate tests. This is also applicable to the statistical assumptions of significance to multivariate analysis. In addition, an adequate sample size (>200) is very critical for SEM. In this regard, a sample size of 265 was considered appropriate for running SEM. A two-stage SEM recommended by Anderson and Gerbin (1988) was employed. The first stage involved estimating a measurement model using confirmatory factor analysis (CFA) and the second stage involved estimating the structural model. Through the process of estimation, fit statistics were evaluated to establish whether the model proposed fit the data or not, and whether any modification was required to increase the fit (Kline, 2005; Hox et al., 2010). Some fit indices depend on the sample size, while others are not. According to Hu and Bentler (1995), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Standardized Root Mean Residual (SRMR) are fit indices not affected by sample size. Among those that are sample size-sensitive are the Chi-square index and the Root Mean Square Error of Approximation (RMSEA). Taking sample sensitivity and model complexity effect into account, Table 1 summarizes the fit indices selected and the cut off points for evaluating model fit in the study. Also, the various analyses performed included reliability, validity, and hypotheses tests.

Reliability

The Composite Reliability (CR) indicates the reliability and internal consistency of a latent construct. A value of CR > 0.6 is required to achieve composite reliability for a construct. Composite reliability is often advocated as an alternative option due to the usual violation of the tau-equivalency assumption by Cronbach's Alpha. The reliability test was conducted in this study. All the constructs have an acceptable and high composite reliability of 0.70 and above which

revealed the internal consistency of items and therefore, adequate for use in further analysis (DeVellis, 2003; Hinkin, 1998; Nunnally, 1978).

Validity

Construct validity using confirmatory factor analysis (CFA); specifically, convergent and discriminant validity were employed as discussed below.

Convergent validity

In line with the guidelines of Hair et al., (2010), three facets were examined to test convergent validity. First, the final items should be statistically significant, with a factor loading of .50 or greater and highly loaded on one factor. Secondly, the average variance extracted (AVE) of a latent construct should be at a value of .50 or above suggesting adequate convergence. Thirdly, construct reliability should be .70 or above, although reliability between .60 and .70 is acceptable if other indicators in a model's construct validity are good. Modifications were made for cases where the guideline requirements were not met. This involved checking the factor loadings as well as the normalized residual (standardized residual) and modification indices. Care was taken against making changes solely based on data-driven grounds in an attempt to get a model that fits the data better, as recommended. The convergent validity test and results are presented as follows.

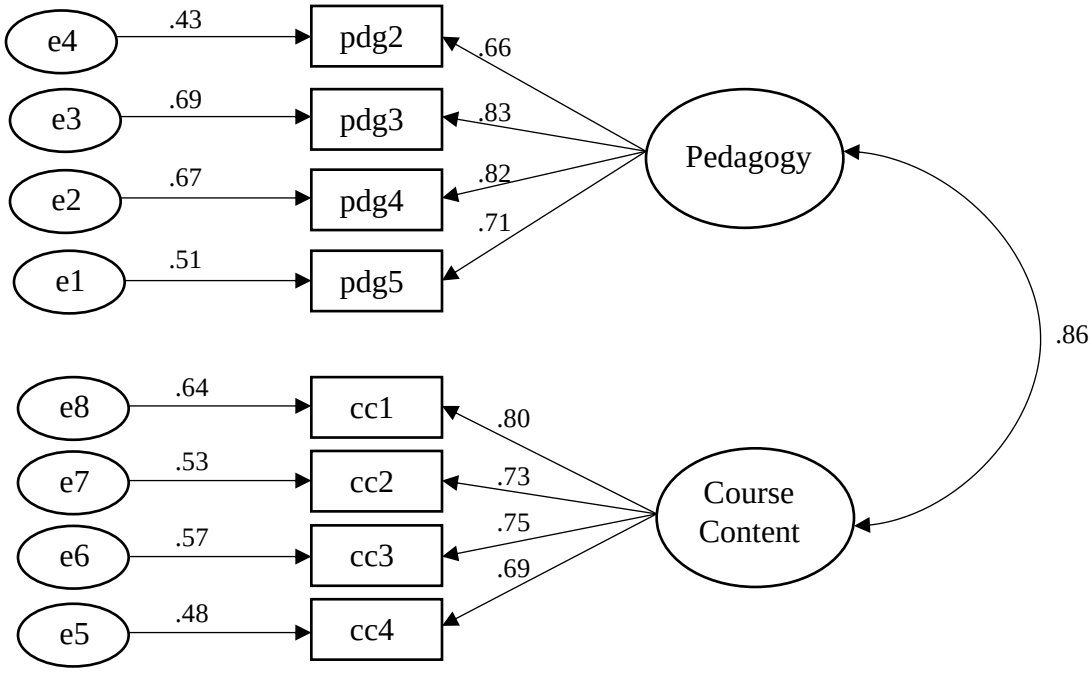
CFA for Entrepreneurship Education

The measurement scale for entrepreneurship education after the exploratory factor analysis (EFA) involves 8 items. The initial CFA results indicated that although the standardized parameter estimates were all significant ($p<.001$), the fit-indices were below the acceptable level signifying a poor measurement model fit. This informed a re-specification by iteratively deleting items that did not meet the acceptable criteria. The modification indices (MIs) revealed misspecifications associated with 'cc5'. Four out of twelve items in total were deleted in the final model before further analysis. The retained items were significant and had standardised factor loadings higher than the recommended level of .50 thus, preserving the meanings of the factors. The results of the initial estimation of the proposed model were acceptable for a well-fitting model. The measurement model is shown in Table 1 and Figure 1.

Table 1: Goodness-of-fit results for Entrepreneurship Education

Model	$\chi 2$	Df	$\chi 2$/df	P	GFI	CFI	TLI	RMSEA
Pedagogy	13.7	8	1.712	.000	.947	.978	.973	.056
Course Content	31.8	17	1.871	.034	.925	.953	.964	.045

Figure 1: Measurement Model for Entrepreneurship Education



e = error variance

CFA for Inclusion

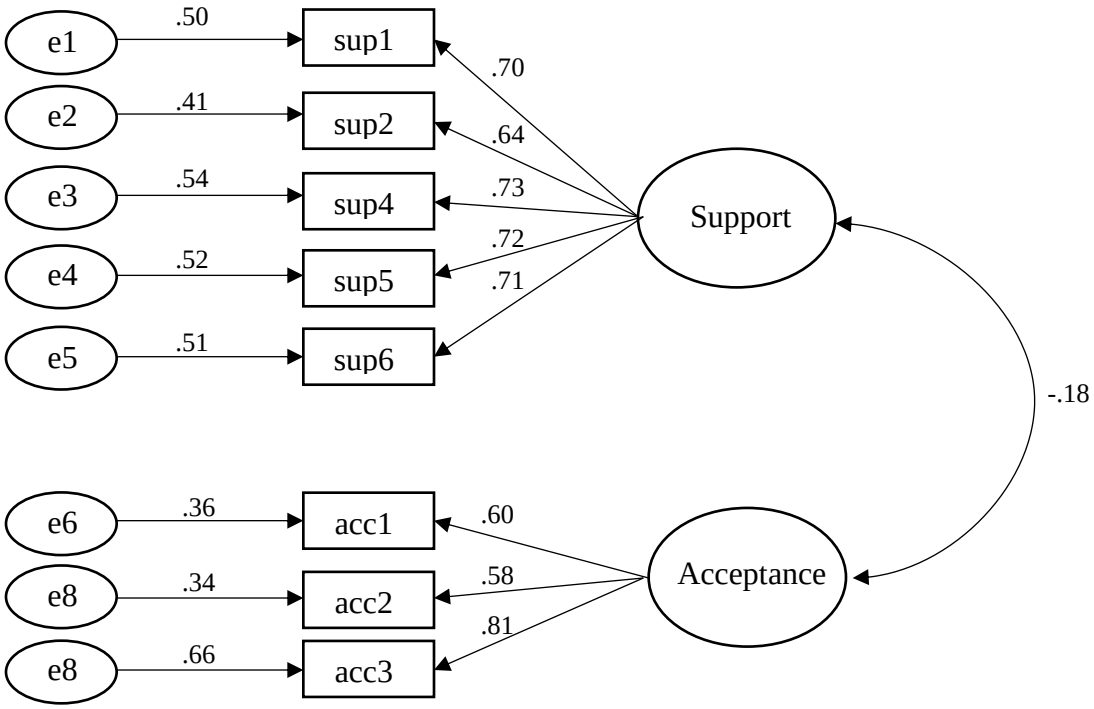
The measurement scale for inclusion after the EFA involves 8 items. The initial CFA results indicated misspecifications associated with several items, which were below the acceptable level signifying a poor measurement model fit. These were deleted from the model. Concerning the fit of the model, the indicators are adequate. The goodness-of-fit index (GFI), Tucker–Lewis index (TLI), and the comparative fit index (CFI) are all higher than 0.9 (Table 2 and Figure 2).

Additionally, the root mean square error of approximation (RMSEA) satisfies the norms of Hu and Bentler (1999).

Table 2: Goodness-of-fit results for Inclusion

Model	$\chi 2$	Df	$\chi 2$/df	P	GFI	CFI	TLI	RMSEA
Support	17.2	11	1.563	.002	.967	.953	.963	.016
Acceptance	38.5	23	1.674	.054	.951	.958	.974	.025

Figure 2: Measurement Model for Inclusion



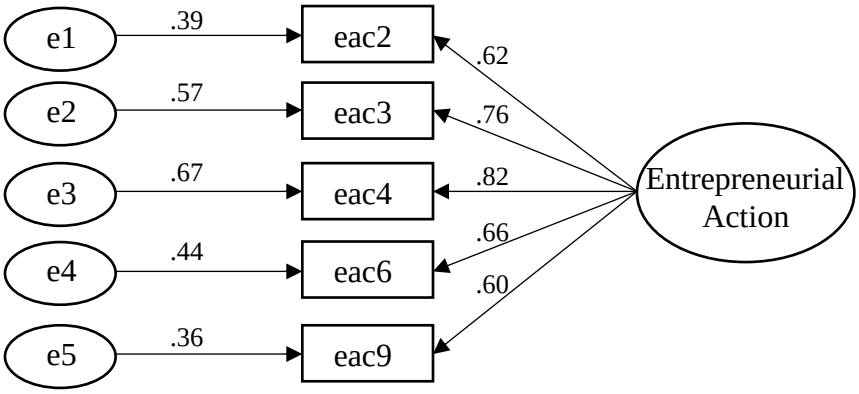
CFA for Entrepreneurial Action

The measurement scale for entrepreneurial action after the EFA involves 5 items. Items demonstrating a score below the acceptable level were removed. Concerning the fit of the model, the indicators are adequate. The GFI, TLI and the CFI are all higher than 0.9 (Table 3 and Figure 3). Additionally, the RMSEA satisfies the norms of Hu and Bentler (1999).

Table 3: Goodness-of-fit results for Entrepreneurial Action

Model	$\chi 2$	Df	$\chi 2/df$	P	GFI	CFI	TLI	RMSEA
Entrepreneurial Actions	11.503	5	2.301	.042	.978	.970	.909	.072

Figure 3: Measurement Model for Entrepreneurial Action



Discriminant validity

In examining discriminant validity, squared correlations among constructs were compared with the respective average variance extracted (AVE). The study utilised Fornell and Larcker (1981)'s criteria which suggests that if the squared correlation values among the latent variables are less than the AVE, it is an indication of discriminant validity. The results in Table 4 show that all squared correlations were less than the AVE hence the concepts studied are different.

Table 4: Discriminant validity

	Mean	Std. Dev.	EE	INC	EA
Entrepreneurship Education	4.65	.58	(.598)		
Inclusion	4.95	.56	.325*	(.547)	
Entrepreneurial Action	5.44	.43	.214**	.065**	(.603)

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

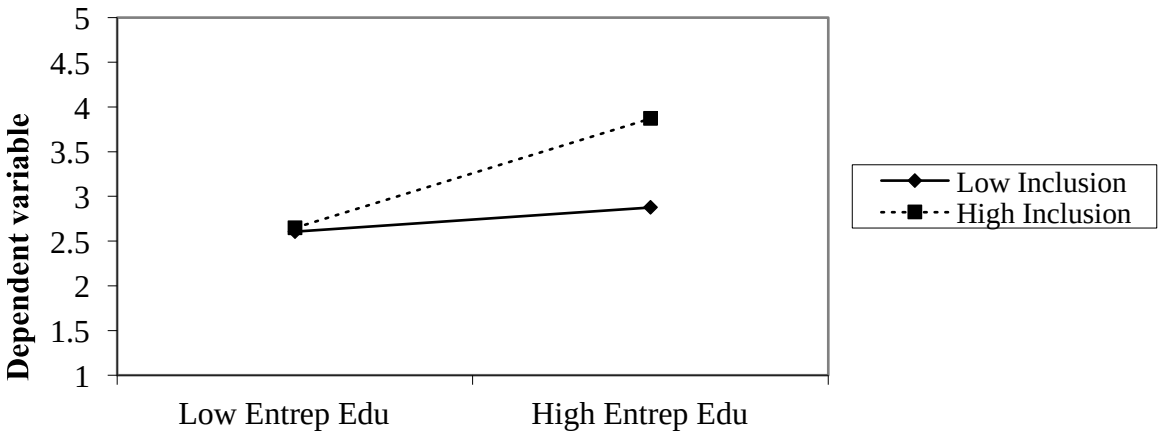
Hypotheses testing

Structural equation modelling (SEM) was employed to assess the relationship between entrepreneurship education and entrepreneurial action; to examine the association between inclusion and entrepreneurial action of the disabled students, and to see whether inclusion moderates the relationship between entrepreneurship education and entrepreneurial action.

Procedure for moderation test

Moderated regression analysis was utilized in this study as the primary statistical procedure. Analysis of moment structures (AMOS) model was run, the interaction was graphed using a procedure developed by Cohen and Cohen (1987), and then the slope of the graph was tested using a procedure developed by Aiken and West (1991). The significance of the graphed interaction slope was tested (see Figure 4). This test provides an avenue to expand on both the importance and the significance of the interaction.

Figure 4: Interaction Graph



Results

Correlation Results

The correlation results in Table 5 show a positive and significant relationship between entrepreneurship education and entrepreneurial action of disabled students *(r=.413, p< .01)*. This can be interpreted as a positive change in entrepreneurship education is associated with a positive change in entrepreneurial action. Inclusion is positively and significantly associated with entrepreneurial action *(r=.167, p<.01).* This can be interpreted as a positive change in inclusion is associated with a positive change in entrepreneurial action

Table 5: Correlation analysis

	1	2	3	4	5	6	7
Entrepreneurship Education	1.000						
Pedagogy	.269*	1.000					
Course Content	.211	417**	1.000				
Inclusion	.152**	.349**	.111**	1.000			
Support	.350**	.234**	.415**	.311*	1.000		
Acceptance	.350**	.296**	.136**	.231*	.433**	1.000	
Entrepreneurial Action	.413**	.353**	.236*	.167**	.471**	.398	1.000

*. *Correlation is significant at the 0.05 level (2-tailed).*

**. *Correlation is significant at the 0.01 level (2-tailed)*

Evaluation of the hypothesized model

The five (5) Hypotheses were tested to examine the relationship between entrepreneurship education and entrepreneurial action, pedagogy and entrepreneurial action, course content and entrepreneurial action, inclusion and entrepreneurial action, and the moderating effect of inclusion on the relationship between entrepreneurship education and entrepreneurial action.

The work of Bartov et al. (2000) suggests that failure to control for confounding variables can lead to falsely rejecting the hypothesis when in fact it should be accepted. In this study, gender was controlled for because previous studies have provided empirical evidence indicating that gender is consequential in determining the decision of persons to venture into business (e.g., Dakung et al., 2017). The effects of the variables are indicated in Table 6.

Table 6: Results on Direction of Relationship Paths

				B	S.E.	β	t Value	P	Decision
	Entrepreneurial Action	<---	Gender	.015	.032	.124	1.242	.173	-
H_1	Entrepreneurial Action	<---	Entrepreneurship Education	.373	.071	.376	5.130	***	Supported
$H_{1(a)}$	Entrepreneurial Action	<---	Pedagogy	.207	.046	.251	4.508	***	Supported
$H_{1(b)}$	Entrepreneurial Action	<---	Course Content	.038	.036	.047	1.042	.297	Not Supported
H_2	Entrepreneurial Action	<---	Inclusion	.259	.059	.262	4.378	**	Supported
H_3	Entrepreneurial Action	<---	Entrepreneurship Education * Inclusion	.238	.036	.274	1.042	.002	Supported

Hypothesis **H_1** investigated the relationship between entrepreneurship education and entrepreneurial action. The results show that the relationship is positive and statistically significant (β=.376, t-value=5.130, p<.05), and thus the hypothesis was supported. This implies that positive changes in entrepreneurship education are associated with positive changes in entrepreneurial action. Hypothesis **$H_{1(a)}$** tested the relationship between the type of pedagogy and entrepreneurial action. The results show that active pedagogy and entrepreneurial action are positively related, and the association is statistically significant (β=.251, t-value= 4.508, p<.05), thus the hypothesis was supported. This indicates that changes towards active pedagogy are associated with positive changes in entrepreneurial action. Hypothesis **$H_{1(b)}$** tested the relationship between course content and entrepreneurial action. Contrary to what was hypothesized, the results revealed a statistically insignificant association between functional course content and entrepreneurial action (β=.047, t-

value= 1.042, p>.05). Therefore, hypothesis **$H_{1(b)}$** was rejected. This implies that what might be considered as functional course content, and the building blocks of entrepreneurship education courses for most students, without additional support is insufficient in causing variations in the entrepreneurial action of physically disabled students. Hypothesis **H_2** tested the relationship between inclusion and entrepreneurial action. The results showed that inclusion and entrepreneurial action are positively related, and the association is statistically significant (β=.251, t-value= 4.516, p<.05), thus the hypothesis was supported. This indicates that positive changes in inclusion are associated with positive changes in entrepreneurial action.

Hypothesis 3: To investigate the moderation effect of inclusion between entrepreneurship education and entrepreneurial action, AMOS model was run (Table 6, Figure 5) considering the moderating effect with mean-centred scale items. Goodness-of-fit measures of the model was found to be satisfactory (χ2 = .513; df=2; p=.774; χ2/df = .257, GFI = .999, AGFI=.995; NFI=.999; TLI = 1.007; CFI = 1.000, RMSEA = .000). The analysis of the results reveals that entrepreneurship education has a significant influence on entrepreneurial action (β=.376, t-value=5.240, p<.05), whilst the moderating effect of inclusion on the relationship between entrepreneurship education and entrepreneurial action was found to be supported (β=.274, t-value= 1.042, p<.05). To better illustrate the moderating effect of inclusion on entrepreneurial action, the interaction effect was graphed following procedures set forth by Cohen and Cohen (1987). The method described by Aiken and West (1991) was then employed to test the simple slope of the graphed interaction to identify if they were significantly different from zero. The scholars argue it is not enough to simply assume that the interaction graph demonstrates that the change in entrepreneurial action is significantly different than zero without testing for the significance of the slope. This is as illustrated in Figure 5.

Figure 5: Structural Model and Moderating Effect of Inclusion

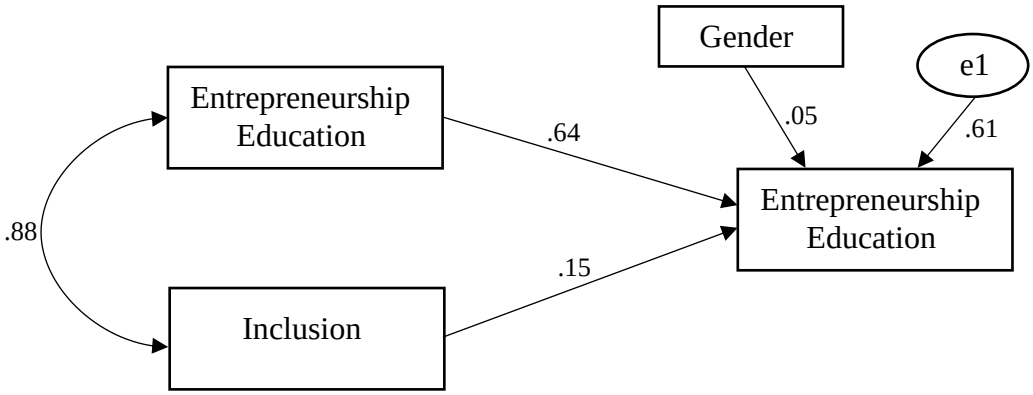


Figure 5 reveals that significance of the interaction graph was found. The interaction between entrepreneurship education and inclusion was found to be significant when included in the regression model (β=.274, t-value= 1.042, p<.05). Specifically, the slope of significance test demonstrated that the influence of entrepreneurship education on entrepreneurial action depends on inclusion.

Discussion

The study focused on investigating how inclusion moderates the relationship between entrepreneurship education and entrepreneurial action. This study offers insights into the potential moderating influence of inclusion, a yet neglected area since only a few studies (e.g., Ekpe and Mat, 2012; Enkhbold et al., 2011) have tested for such moderating effects. The research moved the field forward by exploring how inclusion moderates the relationship between entrepreneurship education and entrepreneurial action in PWPDs, an under-researched sample and meets calls to identify influences on entrepreneurial behaviour of PWDs (Saxena and Pandya, 2018)

Firstly, the study indicated that entrepreneurship education was positively linked to entrepreneurial action. In recent years, researchers have highlighted the importance of entrepreneurship education in this regard, touting its various implications for improved entrepreneurial activities (Cui and Bell, 2022; Kuratko, 2005). Consistent with this notion, this study suggests that when physically disabled students are exposed to appropriate active teaching methods and course content, it boosts their capacity to start their businesses. The finding that the inclusion of course content which has

been previously found to be effective for able bodied students did not appear to lead to increased entrepreneurial action in the disabled students by itself, highlights the importance of including active pedagogy along with the appropriate support, as required, within entrepreneurship education for physically disabled students. This might stem from a need to support physically disabled students to actively engage with entrepreneurship in a practical manner which active pedagogy can support. Therefore, tertiary institutions that place more emphasis on the entrepreneurship syllabus and delivery mechanisms tailored towards physically disabled students will equip them with the knowledge and skills that can support and result in them launching a business. Building on the prior studies conducted by Dakung et al. (2019), Gielnik et al. (2015) and Rauch and Hulsink (2015), who found that students who are exposed to certain teaching methods for active and entrepreneurial learning more easily develop the decision to start a venture, this study reasoned that entrepreneurship education would enhance entrepreneurial activities and could potentially allow persons with disabilities to be entrepreneurially successful.

However, the relationship between entrepreneurship education and entrepreneurial action was stronger before the inclusion of the interaction terms (see Table 6). Thus, in considering the full model, which included the interaction terms, some of the variances accounted for in the direct relationship were partially absorbed by the moderating effect of inclusion as reflected in the strength of the relationship. Thus, the relationship between entrepreneurship education and entrepreneurial action is indeed stronger in settings where inclusion (support and acceptance) is present.

Further, the result of hypothesis 3 revealing that inclusion is positively related to entrepreneurial action is consistent with our expectations. More importantly, was the finding that the interaction of both variables (entrepreneurship education and inclusion) was positively associated with entrepreneurial action, supporting the theoretical predictions. It is not surprising given the fact that the provision of various support factors such as sign language interpretation and information in accessible formats when teaching entrepreneurship boosts entrepreneurial action among physically disabled students. Specifically, when they receive support, these students begin to think of generating business ideas, identify premises and mobilize funds to create a business. Also, treating them fairly and appreciating their condition/needs encourages them to make inquiries, analyze markets, source funds, and identify employees to start the business. This is supported by the

findings of Barba-Sánchez, et al., (2019) and Bettcher and Mihaylova (2015) which established that inclusion is vital in stimulating entrepreneurial activity in ways that generate additional economic growth.

The results indicate that PWPDs benefit from inclusion in terms of support and acceptance. To achieve inclusion, support tailored to disability and networks that provide support and ensure students feel welcome and accepted as part of the entrepreneurial community is important. This can be achieved through the development and tailoring of specific entrepreneurial ecosystems within tertiary educational institutions. Tertiary educational institutions with well-developed entrepreneurial ecosystems can encourage the development of students with entrepreneurial mindsets and visions (Isenberg, 2010). Previous researchers have called for conducive entrepreneurial ecosystems to enhance and support entrepreneurship education (Olutuase et al., 2018) and these should be tailored to meet the specific needs of entrepreneurial students (Bell, 2019). Strong ecosystems involve alumni, industry and commerce partners, joint research projects and incubators, which can all offer opportunities to encourage the practice of ideas and tailored support (Miller and Acs, 2017). Incubators have been found to support both the creation of new ventures and entrepreneurship education (Al-edenat and Al-hawamdeh, 2020), and they can help to provide business social support, which can positively influence entrepreneurship (Farooq et al., 2018). The networks within the ecosystems should be accessible, relatable, and supportive for PWDs. Similarly, promoting inclusivity in entrepreneurship education with the goal of informing entrepreneurial action will require and demand critical researchers and entrepreneurship educators to think more creatively about setting the conditions for experimenting with active experiential and socially just pedagogies (Goodley, 2007; Dakung et al., 2016; Bell, 2022).

Conclusion and Implications

In this paper, physically disabled students' entrepreneurial action is examined by considering the moderating role of inclusion in the relationship between entrepreneurship education and entrepreneurial action. The results of the analyses indicated that entrepreneurship education, pedagogy, and inclusion variables were statistically significant. Also, the moderating effect of inclusion was well established. However, the course content variable was not statistically significant with entrepreneurial action. These results are anticipated to have certain implications

for tertiary institutions, students, and policymakers alike. It provides empirical evidence showing the strong predictors of entrepreneurial action through entrepreneurship education (pedagogy) and inclusion perspectives. The study also contributes to the extant literature by underscoring the value of creating an environment of inclusion in entrepreneurship education. By helping (practically engaging) physically disabled students in the entrepreneurship classroom, they can achieve entrepreneurial action. Thus, a commitment by both the lecturers and students to interact will create a setting where ideas about how to monitor and respond to entrepreneurial changes in the environment can flourish. This, in turn, enables physically disabled entrepreneurs to react to their environment. Also, policymakers should design and implement entrepreneurship education programs with the perspective of promoting the entrepreneurial action of physically disabled students. For instance, in designing an entrepreneurship education curriculum, the need assessment of students with disabilities should be given keen priority. This study found that it is not all about the course content but rather the approach to delivery. To improve entrepreneurial course content, there is a need for the lecturers to employ teaching approaches that require involving disabled students in the business processes so that they interface with reality and successful people. Also, as seen in the gender activities that are captured everywhere across the world (politics, business, education, and sports), governments should consider developing policy on entrepreneurship education that includes the disabled. Also, entrepreneurial pedagogy within entrepreneurial education and supportive ecosystems within tertiary institutions should be developed to support PWPDs and these should be supportive, relatable, and accessible to PWDs.

Limitations and Future Research Directions

The present study is cross-sectional, and views held by individuals may change over the years. This suggests that future studies could employ a longitudinal approach to test the robustness of the model. Future research may wish to replicate it in different Nigerian contexts, especially among disabled entrepreneurs. Future studies could consider other attributes such as disability category, program pursued, and self-efficacy. This research looked at students who were physically disabled and future research could extend our understanding of the role of entrepreneurship education by considering the impact and implications on learning of intellectual and mental disabilities. Based on the findings of this study future research could research and explore the pedagogical support

and scaffolding required in entrepreneurship education for PWDs and how this can be effectively developed and implemented. Also, the tailoring of entrepreneurial ecosystems to effectively support PWDs could be further researched to support and enhance entrepreneurial action. Research into the pedagogic delivery of entrepreneurship education and supporting ecosystems for PWDs can improve their educational experience and entrepreneurial achievement. Secondly, although the study provides new empirical evidence about the value and relevance of entrepreneurship education to PWD in the context of Africa, further research where a comparative study between the disabled and non-disabled students would be relevant, especially to triangulate the results, as it would further advance knowledge in this area. Previous research has found that gender and family in different contexts can influence barriers to entrepreneurship (Abd El Basset et al., 2022). Additional factors such as age and the type of disability, have also been found to influence entrepreneurial potential, therefore the intersectionality between numerous factors will influence the individual case of nascent entrepreneurs. Future research could consider a range of factors and how they come together to explore in-depth and potentially longitudinally how disabled or marginalised individuals can be best supported to enable them to take advantage of entrepreneurial opportunities.

References

Abd El Basset, F., Bell, R. and Al Kharusi, B. (2022), "Reducing barriers to female entrepreneurship in Oman: Does family matter?", *Journal of Enterprising Communities: People and Places in the Global Economy*. doi: 10.1108/JEC-01-2022-0009

Aiken, L.S. and West, S.G. (1991), Multiple Regression: Testing and interpreting interactions, Sage, Thousand Oaks, CA.

Aldrich, H. and Zimmer, C. (1986), "Entrepreneurship through social networks", in Sexton, D.L. and Smiler, R.W. (Ed.), The Art and Science of Entrepreneurship, Ballinger, Cambridge, MA, pp. 3-23.

Al-edenat, M. and Al hawamdeh, N. (2020), "Revisiting the entrepreneurial ventures through the adoption of business incubators by higher education institutions", T*he International Journal of Management Education*, p. 100419.

Amin, M.E. (2005), Social Science Research: Conception, methodology and analysis. Makerere University Printery, Kampala.

Anderson, J. C. and Gerbing, D. W. (1988), Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin,* Vol. 103 No.3, pp. 411-423.

Barba-Sánchez, V., Ortíz-García, P. & Olaz-Capitán, Á. (2019), "Entrepreneurship and Disability: Methodological Aspects and Measurement Instrument 1", *Journal of Entrepreneurship Education*, vol. 22, pp. 1-6

Bartov, E., Gul, F.A. and Tsui, J.S.L. (2000), "Discretionary-accruals models and audit qualifications", *Journal of Accounting and Economics*, Vol. 30 No. 3, pp. 421-452.

Béchard, J. and Grégoire, D.A. (2005), "Entrepreneurship education research revisited: The case of higher education", *Academy of Management Learning and Education*, Vol. 4 No. 1, pp. 22-43.

Bell, R. (2019), "Predicting entrepreneurial intention across the university", *Education and Training*, Vol. 61 No. 7/8, pp. 815-831.

Bell, R. (2020), "Adapting to constructivist approaches to entrepreneurship education in the Chinese classroom", *Studies in Higher Education*, Vol. 45 No. 8, pp. 1694–1710.

Bell, R. (2022), "Supporting Students and Society: Underpinning Entrepreneurship Education with a Humanistic Philosophy", in Larios-Hernandez, G.J., Walmsley, A. and Lopez-Castro, I. (Eds.),

Theorising Undergraduate Entrepreneurship Education: Reflections on the Development of the Entrepreneurial Mindset, Springer International Publishing, Cham, pp. 157–172.

Bell, R. and Liu, P. (2019), "Educator challenges in the development and delivery of constructivist active and experiential entrepreneurship classrooms in Chinese vocational higher education", *Journal of Small Business and Enterprise Development*, Vol. 26 No. 2, pp. 209-227.

Bettcher, K.E. and Mihaylova, T. (2015), Economic Inclusion: Leveraging markets and entrepreneurship to extend opportunity, Center for International Private Enterprise, Washington, DC.

Birdthistle, N., Hynes, B. and Fleming, P. (2007), "Enterprise education programmes in secondary schools in Ireland: A multi-stakeholder perspective", *Education and Training*, Vo. 49 No. 4, pp. 265-276.

Boellstorff, T. (2019), "The opportunity to contribute: Disability and the digital entrepreneur", Information, *Communication & Society*, Vol. 22 No. 4, pp. 474-490.

Bourdieu, P. (1986), "The forms of capital", in Richardson, J.G. (Ed.), Handbook of Theory and Research for the Sociology of Education, Greenwood, Westport, CT, pp. 241-58.

Brown, C. (1999), "Teaching new dogs new tricks: The rise of entrepreneurship education in graduate schools of business", CELCEE Digest, Vol. 99 No. 2, pp. 1-4.

Buntat, Y., Wan Roslan, W.N., Ibrahim, N. and Salleh, L.M., (2016), "Challenges of entrepreneurship education for disabled people", *Advanced Science Letters*, 22(12), pp.4355-4358.

Burt, R.S. (1982), Toward a Structural Theory of Action, Academic Press, New York, NY.

Bygrave, W.D. and Zacharakis, A. (2011), The Portable MBA in Entrepreneurship: The entrepreneurial process, John Wiley & Sons Inc., Hoboken, NJ.

Clarke, J., Thorpe, R., Anderson, L. and Gold, J. (2006), "It's all action, it's all learning: Action learning in SMEs", *Journal of European Industrial Training*, Vol. 30 No. 6, pp. 441-455.

Clegg, J. and Bigby, C. (2017), "Debates about dedifferentiation: Twenty-first century thinking about people with intellectual disabilities as distinct members of the disability group", *Research and Practice in Intellectual and Developmental Disabilities*, Vol. 4 No. 1, pp. 80–97.

Cohen, J. and Cohen, P. (1987), Applied Multiple Regression/Correlation Analyses for The Behavioral Sciences, Lawrence Erlbaum, Hillsdale, NJ.

Cui, J. and Bell, R. (2022), "Behavioural entrepreneurial mindset: How entrepreneurial education activity impacts entrepreneurial intention and behaviour", *International Journal of Management Education*, Vol. 20 No. 2, 100639.

Cui, J., Sun, J. and Bell, R. (2021), "The impact of entrepreneurship education on the entrepreneurial mindset of college students in China: The mediating role of inspiration and the role of educational attributes", *International Journal of Management Education*, Vol. 19 No. 1, 100296.

Dakung, R.J., Munene, J.C., Balunywa, W., Ntayi, J. and Ngoma, M. (2019), "Developing disabled entrepreneurial graduates: A mission for the Nigerian universities?", *Journal of Research in Innovative Teaching & Learning*, Vol. 12 No. 3, pp. 2397-7604.

Dakung, R.J., Orobia, L., Munene, J.C. and Balunywa, W. (2017), "The role of entrepreneurship education in shaping entrepreneurial action of disabled students in Nigeria", *Journal of Small Business & Entrepreneurship*, Vol. 29 No. 4, pp. 293-311.

Dakung, R.J., Wummen S.T., Orobia, L., Munene, J.C. and Balunywa, W. (2016), "Disabled students' entrepreneurial action: The role of religious beliefs", *Cogent Business & Management*, Vol. 3 No. 1, 1252549.

Deakins, D. (2000), "Policy and support for entrepreneurial behavior", *International Journal of Entrepreneurial Behavior & Research*, Vol. 6 No. 3, pp. 1-4.

An analysis of entrepreneurial thought approach", Journal of Schools of Economics and Business Research, Vol. 23 No. 2, pp. 151-174.

Delmar, F. and Davidson, P. (2000), "Where do they come from? Prevalence and Characteristics of Nascent Entrepreneurs", *Entrepreneurship and Regional Development*, Vol. 12 No. 1, 1-23.

DeVellis, R.F. (2003), Scale Development: Theory and applications, Sage, Thousand Oaks, CA.

Dhar, S. and Farzana, T. (2017), "Entrepreneurship for persons with disabilities in Bangladesh:

Dickson, P.H, Solomon, G.T. and Weaver K.M. (2008), "Entrepreneurial selection and success: Does education matter?" *Journal of Small Business and Enterprise Development*, Vol. 15 No. 2, pp. 239-258.

Ekpe, I. and Mat, N. (2012), "The moderating effect of social environment on the relationship between entrepreneurial orientation and entrepreneurial intentions of female students at Nigerian universities", *International Journal of Management Sciences and Business*, Vol. 1 No. 4, pp. 1-16.

Enkhbold Chuluunbaatar, O.D. and Kung, S. (2011), "The entrepreneurial start-up process: The role of social capital and the social economic condition", *Asian Academy of Management Journal*, Vol. 16 No. 1, pp. 43-71.

Erikson, T. (2003), "Towards a taxonomy of entrepreneurial learning experiences among potential entrepreneurs", *Journal of Small Business and Enterprise Development*, Vol. 10 No. 1, pp. 106112.

Eze, J.F. & Nwali, A.C. (2012), "Capacity Building For Entrepreneurship Education: The Challenge For The Developing Nations", *American Journal of Business Education*, vol. 5, no. 4, pp. 401-408

Farooq, M.S., Salam, M., Rehman, S., Fayolle, A., Jaafar, N. and Ayupp, K. (2018), "Impact of support from social network on entrepreneurial intention of fresh business graduates: A structural equation modelling approach", *Education and Training*, Vol. 60 No. 4, pp. 335–353.

Fayolle, A. and Gailly, B. (2015), "The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence", *Journal of Small Business Management*, Vol. 53 No. 1, pp. 75-93.

Fayolle, A., Gailly, B. and Lassas-Clerc, N. (2006), "Assessing the impact of entrepreneurship education programs: A new methodology", *Journal of European Industrial Training*, Vol. 30 No. 9, pp. 701-720.

Field, A. (2009), Discovering Statistics using SPSS, Sage, London.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

Fuchs, K., Werner, A. and Wallau, F. (2008), "Entrepreneurship education in Germany and Sweden: what role do different school systems play?", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 2, pp. 365–381.

Gielnik, M.M., Frese, M., Kahara-Kawuki, A., Wasswa Katono, I., Kyejjusa, S., Ngoma, M., Munene, J., et al. (2015), "Action and Action-Regulation in Entrepreneurship: Evaluating a Student Training for Promoting Entrepreneurship", A*cademy of Management Learning & Education*, Vol. 14 No. 1, pp. 69–94.

Goodley, D. (2007), "Towards socially just pedagogies: Deleuzoguattarian critical disability studies", *International journal of inclusive education*, Vol. 11 No. 3, pp. 317-334.

Hagner, D. and Davies, T. (2002), "Doing my own thing: Supported self-employment for individuals with cognitive disabilities", *Journal of Vocational Rehabilitation*, Vol. 17 No. 2, pp. 65-74.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), Multivariate Data Analysis, Pearson, London.

Hannon, P.D. (2005), The Journey from Student to Entrepreneur: A review of the existing research into graduate entrepreneurship, UK National Council for Graduate Entrepreneurship, London.

Harris, S.P., Renko, M. and Caldwell, K. (2013), "Accessing social entrepreneurship: Perspectives of people with disabilities and key stakeholders", *Journal of Vocational Rehabilitation*, Vol. 38 No. 1, pp. 35-48.

Hegarty, C. (2006), "It's not an exact science: Teaching entrepreneurship in Northern Ireland", *Education and Training*, Vol. 48 No. 5, pp. 322-335.

Hinkin, T.R. (1998), "A brief tutorial on the development of measures for use in survey questionnaires", *Organizational Research Methods*, Vol. 1 No. 1, pp. 4-12.

Hox, J. J., Maas, C. J. M. and Brinkhuis, M. J. S. (2010), The effect of estimation method and sample size in multilevel structural equation modelling, *Statistica Neerlandica*, Vol. *64*, pp. 157–170.

Hu, L. and Bentler, P. M. (1999), Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *Structural Equation Modelling*, Vol. *6*, pp. 1–55.

Hu, L.T. and Bentler, P. (1995), "Evaluating model fit" in Hoyle, R.H. (Ed.), Structural Equation Modeling. Concepts, Issues, and Applications, Sage, London, pp.76-99.

Hynes, B., Costin, Y. and Birdthistle, N. (2011), "Practice-based learning in entrepreneurship education", *Higher Education, Skills and Work-based Learning*, Vol. 1 No. 1, pp. 16-28.

Hytti, U. and O'Gorman, C. (2004), "What is enterprise education? An analysis of the objectives and methods of enterprise education programmes in four European countries", *Education and Training*, Vol. 46 No. 1, pp. 11-23.

Ianchovichina, E. and Lundstrom, S. (2009), Inclusive Growth Analytics: Framework and application, Policy Research Working Paper, No. 4851, World Bank, Washington, DC.

Isenberg, D. (2010), "The big idea: How to start an entrepreneurial revolution", *Harvard Business Review*, Vol. 88 No. 6, pp. 20-50.

Jansen, W.S., Otten, S., van der Zee, K.I. and Jans, L. (2014), "Inclusion: Conceptualization and measurement", *European Journal of Social Psychology*, Vol. 44 No. 4, pp. 370-385.

Jones, P., Maas, G., Dobson, S., Newbery, R., Agyapong, D. and Matlay, H. (2018), "Entrepreneurship in Africa, Part 3: Conclusions on African entrepreneurship", *Journal of Small Business and Enterprise Development*, Vol. 25 No. 5, pp. 706-709.

Keat, O.Y., Selvarajah, C. and Meyer, D. (2011), "Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students", *International Journal of Business and Social Science*, Vol. 2 No. 4, pp. 206-220.

Kirby, D.A. (2004), "Entrepreneurship education: Can business schools meet the challenge?" *Education and Training*, Vol. 46 No. 8/9, pp. 510-519.

Kline, R. B. (2005). *Principles and Practice of Structural Equation Modelling* (2nd ed.). New York: The Guilford Press.

Kolvereid, L. and Moen, O. (1997), "Entrepreneurship among business graduates: Does a major in entrepreneurship make a difference?", *Journal of European Industrial Training*, Vol. 21 No. 4, pp. 154-160.

Krejcie, R.V. and Morgan, D.W. (1970), "Determining sample sizes for research activities", *Educational and Psychological Measurement*, Vol. 30 No. 3, pp. 607-610.

Kuratko, D.F. (2005). "The emergence of entrepreneurship education: Development, trends and challenges", *Entrepreneurship Theory and Practice*, Vol. 29 No. 5, pp. 577-597.

Lanero, A., Vazquez, J.K., Gutierrez, P. and Garcia, M.P. (2011), "The impact of entrepreneurship education in European universities: An intention-based approach analysed in the Spanish area", *International Review on Public and non-profit marketing*, Vol. 8 No. 2, pp. 111-130.

Liguori, E., Corbin, R., Lackéus, M. and Solomon, S.J. (2019), "Under-researched domains in entrepreneurship and enterprise education: Primary school, community colleges and vocational education and training programs", *Journal of Small Business and Enterprise Development*, Vol. 26 No. 2, pp. 182-189.

Lin, S. and Xu, Z. (2017), "The factors that influence the development of entrepreneurship education", *Management Decision*, Vol. 55 No. 7, pp. 1351-1370.

Liñán, F. and Chen, Y.W. (2009), "Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions", *Entrepreneurship Theory and Practice*, Vol. 33 No. 3, pp. 593-617.

Loon, M. and Bell, R. (2018), "The moderating effects of emotions on cognitive skills", *Journal of Further and Higher Education*, Vol. 42 No. 5, pp. 694-707.

Maritz, A. and Laferriere, R. (2016), "Entrepreneurship and self-employment for people with disabilities", *Australian Journal of Career Development*, Vol. 25 No. 2, pp. 45-54.

Matlay, H. (2008), "The impact of entrepreneurship education on entrepreneurial outcomes", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 2, pp. 382-396.

McKeown, J., Millman, C., Reddy Sursani, S., Smith, K. and Martin, L. (2006), "Graduate entrepreneurship education in the United Kingdom", *Education and Training*, Vol. 48 No. 8/9, pp. 597-613.

Miller, D.J. and Acs, Z.J. (2017), "The campus as entrepreneurial ecosystem: The University of Chicago", *Small Business Economics*, Vol. 49 No. 1, pp. 75–95.

Muñoz, R.M., Salinero, Y., Peña, I. and Sanchez de Pablo, J.D. (2019), "Entrepreneurship education and disability: An experience at a Spanish University, *Administrative Sciences*, Vol. 9 No. 2, pp. 34.

Muñoz, R.M., Salinero, Y. and Fernández, M.V. (2020) "Sustainability, Entrepreneurship, and Disability: A New Challenge for Universities", *Sustainability*, Vol. *12* No. 6, p. 2494.

Nabi, G., Liñán, F., Fayolle, A., Krueger, A. and Walmsley. A. (2017), "The impact of entrepreneurship education in higher education: A systematic review and research agenda", *Academy of Management Learning & Education*, Vol. 16 No. 2, pp. 277-99.

Nahapiet, J. and Ghoshal, S. (1998), "Social capital, intellectual capital, and the organizational advantage", *The Academy of Management Review*, Vol. 23 No. 2, pp. 242-266.

Namatovul, R., Dawa, S., Mulira, F. and Katongole, C. (2012), Entrepreneurs with Disability in Uganda, Investment Climate and Business Environment Research Fund Report, Dakar.

Neck, H.M. and Greene, P.G. (2011), "Entrepreneurship education: Known worlds and new frontiers", *Journal of Small Business Management*, Vol. 49 No. 1, pp. 55-70.

Neck, H., Brush, C. and Greene, P. (2014), Teaching Entrepreneurship: A Practice-Based Approach, Edward Elgar, Cheltenham: UK.

Nunnally, J.C. (1978), Psychometric Theory, McGraw-Hill, New York, NY.

Olutuase, S.O., Brijlal, P., Yan, B. and Ologundudu, E. (2018), "Entrepreneurial orientation and intention: Impact of entrepreneurial ecosystem factors", *Journal of Entrepreneurship Education*, Vol. 21 No. 1, pp. 1-14.

Omede, A., Oguche, G.O. and Ogbadu, R.A. (2016), "Entrepreneurship education for persons with disabilities in Nigeria", *Journal of Educational Policy and Entrepreneurial Research*, Vol. 3 No. 9, pp. 29-36.

Oosterbeek, H., van Praag, M. and Ijsseltein, A. (2008), The Impact of Entrepreneurship Education on Entrepreneurship Competencies and Intentions: An evaluation of junior Achievement students Mini-company program, IZA Discussion paper, 3641, Institute of Labor Economics (IZA), Bonn.

Peterman, N.E. and Kennedy, J. (2003), "Enterprise education: Influencing students' perceptions of entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 28 No. 2, pp. 129-144.

Ratten, V. and Jones, P. (2020), "Entrepreneurship and management education: Exploring trends and gaps", Vol. 19 No. 1, *The International Journal of Management Education*, p. 100431.

Ratten, V. and Usmanij, P. (2020), "Entrepreneurship education: Time for a change in research direction?", Vol. 19 No. 1, *The International Journal of Management Education*, p. 100367.

Rauch, A. and Hulsink, W. (2015), "Putting entrepreneurship education where the intention to act lies: An investigation into the impact of entrepreneurship education on entrepreneurial behavior", *Academy of Management Learning & Educatio*n, Vol. 14 No. 2, pp. 187-204.

Renko, M., Harris, P.S. and Caldwell, K. (2016), "Entrepreneurial entry by people with disabilities", *International Small Business Journal*, Vol. 35 No. 4, pp. 555-578.

Rideout, E.C. and Gray. D.O. (2013), "Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education", *Journal of Small Business Management*, Vol. 51 No. 3, pp. 329-351.

Rolle, J., Kisato, J., Rock, P. & Winstanley, J. (2020), "Inclusive entrepreneurship: A critical look at the inclusion of persons with disabilities", *International Journal of Business & Economic Development*, Vol. 8 No. 2, pp. 199-205.

Sarasvathy, S.D. and Venkataraman, S. (2011), "Entrepreneurship as method: Open questions for an entrepreneurial future", *Entrepreneurship: Theory & Practice*, Vol. 35 No. 1, pp. 113-135.

Saxena, S.S., and Pandya, R.S. (2018), "Gauging underdog entrepreneurship for disabled entrepreneurs", *Journal of Enterprising Communities: People and Places in the Global Economy*, Vol. 12 No. 1, pp. 3-18.

Schoger, K. (2006), "Reverse inclusion: Providing peer social interaction opportunities to students placed in self-contained special education classrooms", *Teaching Exceptional Children Plus*, Vol. 2 No. 6, Article 3.

Shane, S. and Cable, D. (2002), "Network ties, reputation, and financing of new ventures", *Management Science*, Vol. 48 No. 3, pp. 364-381.

Sideridis, G. and Chandler, J. (1997), "Assessment of teacher attitudes toward inclusion of students with disabilities: A confirmatory factor analysis", *Adapted Physical Activity Quarterly*, Vol. 14 No. 1, pp. 51-64.

Soukakou, E.P., Winton, P.J., West, T.A., Sideris, J.H. and Rucker, L.M. (2014), "Measuring the quality of inclusive practices: Findings from the inclusive classroom profile pilot", *Journal of Early Intervention*, Vol. 36 No. 3, pp. 223-240.

Timmons, J. and Spinelli, S. (2008), New Venture Creation: Entrepreneurship for the 21st Century, McGraw Hill, Boston, MA.

Uribe-Toril, J., Ruiz-Real, J.L., Ceresia, F. and Valenciano, P. (2019), "Entrepreneurship and psychological disorders in academic publishing", *Journal of Entrepreneurship Education*, Vol. 22 No. 2.

Valle, J.W., & Connor, D.J. (2019), Rethinking Disability: A Disability Studies Approach to Inclusive Practices (2nd ed.). Routledge.

Wiklund, J., Hatak, I., Patzelt, H., and Shepherd, D.A. (2018), "Mental disorders in the entrepreneurship context: When being different can be an advantage", *Academy of Management Perspectives*, Vol. 32 No. 2, pp. 182-206.

Yatu, L., Bell, R. and Loon, M. (2018), "Entrepreneurship education research in Nigeria: current foci and future research agendas", *African Journal of Economic and Management Studies*, Vol. 9 No. 2, pp. 165-177.

Appendix 1: Survey Questionnaire

ENTREPRENEURSHIP EDUCATION

Pedagogy

Statement		Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
pdg1	Lecturers used entrepreneurship case studies and stories as teaching material	1	2	3	4	5	6
pdg2	Lecturers made us make presentations about entrepreneurship	1	2	3	4	5	6
pdg3	Students made business plans during entrepreneurship classes	1	2	3	4	5	6
pdg4	The creative atmosphere in the class inspires my entrepreneurial mind	1	2	3	4	5	6
pdg5	My lecturers organized study visits to companies and markets	1	2	3	4	5	6
pdg6	Lecturers facilitated projects when teaching entrepreneurship e.g. (event, exhibition, newspaper, video etc.)	1	2	3	4	5	6
pdg7	I was guided on how to manage finances in business	1	2	3	4	5	6

Course Content

Statement		Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
cc1	The course increased my understanding of the attitudes of entrepreneurs	1	2	3	4	5	6
cc2	The entrepreneurship course enhances my ability to identify business opportunities	1	2	3	4	5	6
cc3	The course places emphasis on how students can develop business plan	1	2	3	4	5	6
cc4	The syllabus is about connecting entrepreneurs to students' hobbies and interests	1	2	3	4	5	6
cc5	The course brings successful entrepreneurs into the classroom	1	2	3	4	5	6

INCLUSION

Support

Statement		Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
sup1	My lecturers budget to obtain EE resource materials for students with disabilities	1	2	3	4	5	6
sup2	Adequate instructional materials for teaching entrepreneurship made available to me	1	2	3	4	5	6
sup3	Adequate support services are readily available to me	1	2	3	4	5	6
sup4	My lecturers remediate learning deficits of students with disabilities	1	2	3	4	5	6
sup5	I can count on my friends, schoolmates & lecturers when things go wrong	1	2	3	4	5	6
sup6	I receive support for social communication in my class	1	2	3	4	5	6
sup7	There is a special person who is around when I am in need of business ideas	1	2	3	4	5	6
sup8	I get the emotional help/support I need from my peers	1	2	3	4	5	6

Acceptance

Statement		Totally disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Totally agree
acc1	My school environment copes with instructional needs of students with disabilities	1	2	3	4	5	6
acc2	Lecturers have easily accepted the behavior of students with disabilities	1	2	3	4	5	6
acc3	Students with disabilities are connected with the class environment	1	2	3	4	5	6
acc4	Students with disabilities are humiliated by their typical peers	1	2	3	4	5	6
acc5	Entrepreneurship lecturers like having students with disabilities in their class	1	2	3	4	5	6
acc6	Students with disabilities are socially accepted by typical students	1	2	3	4	5	6
acc7	Relating well with business counterparts will help me succeed when I become an entrepreneur	1	2	3	4	5	6
acc8	I experience reciprocal relationships from the school	1	2	3	4	5	6

ENTREPRENEURIAL ACTION

Statement		Not at all effort	Little effort	Somewhat little effort	Somewhat much effort	Much effort	Very much effort
How much effort have you already put into….							
eac1	… mobilising the funds to create a business?	1	2	3	4	5	6
eac2	… looking for business premises?	1	2	3	4	5	6
eac3	… sourcing for employees?	1	2	3	4	5	6
eac4	… registering a company?	1	2	3	4	5	6
eac5	… developing a business plan?	1	2	3	4	5	6
eac6	… making the first sale?	1	2	3	4	5	6
eac7	… advertising my business?	1	2	3	4	5	6
eac8	… buying stock for my business?	1	2	3	4	5	6
eac9	… opening my business to the public?	1	2	3	4	5	6
eac10	… analyzing the market?	1	2	3	4	5	6
eac11	… analyzing my competitors?	1	2	3	4	5	6
eac12	… evaluating business opportunities?	1	2	3	4	5	6