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Research Article

Integration of Entrepreneurial Skills in Primary and Secondary Education based on 21st Century Pedagogy

Vijaya Kumari
Research Scholar, Banasthali Vidyapith, Rajasthan, India

Dr. Shaheema Hameed
Assistant Professor, Banasthali Vidyapith, Rajasthan, India
0000-0002-1758-7085

Dr. Latha Krishnadas Mazumder
Assistant Professor, Khawarizwarizmi International College,
Abu Dhabi, UAE- United Arab Emirates
0000-0002-0014-3701

Alka Sathyan
Heriot-Watt University, Dubai, UAE- United Arab Emirates

ABSTRACT

This article evaluates the importance of teaching entrepreneurial skills in education at primary and secondary levels. It also discusses the narrow and wide definitions of being entrepreneurial. This article compares entrepreneurial education to other instructional teaching methods and it explains to a great extent why entrepreneurial education can initiate much greater levels of enthusiasm, commitment, thoughtful and reflective learning than can other instructional methodologies. The study conducted a survey through a questionnaire, and the respondents were 175 school teachers in the UAE. The study examined the importance of teaching entrepreneurial skills in school students. Data analysis shows that the pedagogical practice leads to the development of entrepreneurial skills. There is statistically no significant relationship of gender with entrepreneurial variable. UAE has more female teachers than male teachers, and the data may not be accurate as data is highly skewed towards females.

Key Words: entrepreneurial, entrepreneur, skills, primary, secondary, pedagogy

1. Introduction

Interest in entrepreneurship education has been increasing due to the proliferation of entrepreneurship programs over the last few decades (Valerio et al., 2013). Entrepreneurship education also found to enhance the intention to launch a business (Noel, 2000), as well as contribute to economic growth and job creation (Falkäng and Alberti, 2000). Hence, awareness about the importance of entrepreneurship education has been on the rise (Carland and Carland, 2004). Childhood, along with adolescence is the preferred period to plant entrepreneurial seeds and to nurture positive attitudes toward entrepreneurship as well as to acquire basic knowledge on the topic (Peterman and Kennedy, 2003).

It is imperative to develop entrepreneurial skills right from primary schools to shape the next generation of entrepreneurs. In the 21st century, entrepreneurial skills are essential as reading, writing, mathematics and science to become successful global citizens. Each child does not need to become an entrepreneur, but the skills they have developed will add value to their career in future.

The new national policy of education 2020 discusses reducing the curriculum content to enhance experiential learning by empowering the students with the flexibility of course choices, including vocational skills and Mathematics, English, and Science. This will help the students to develop entrepreneurial skills like effective collaboration, effective communication, thinking outside the box, financial literacy, creativity, innovative thinking, problem-solving, empathy, resource management, negotiation skills, self-efficacy and risk-taking. Traditional teaching methods will not be able to develop the skills mentioned above, and the teachers need to be trained to create a learning environment where how it is taught is more important what is taught that promotes the entrepreneurial skills. The new national policy of education 2020 also discusses the yearly professional development of teachers and leaders to upskill themselves on the updated pedagogical approaches and implement those based on competency-based education. Hopefully, the education department will provide the framework and the relevant professional training for the teachers to implement appropriate strategies in their lessons to instil entrepreneurial skills in students.

2. Literature Review

What we imply when we consider entrepreneurship in education differs a lot. For example, some might consider that students should be aided to start their own company. However, this relies on a relatively limited definition of entrepreneurship, where it is seen as one opening a new business. There exists another school of thought that believes in a process that allows students to be creative, opportunistic, proactive and innovative. The basis of entrepreneurship lies in the students' ability and readiness to "create value" for others. (OECD, 2015)

Definitions of entrepreneurship

The definition of “entrepreneurial” can differ from individual to individual. Gartner (1990) found that a popular interpretation of entrepreneurship is the formation of "innovative organizations" that develop and "create value", be it for profit or not. As Shane (2003) wrote, the individual-

opportunity nexus discussed those opportunities can be found and discovered not just built from scratch and that a connection exists between an individual and an opportunity. Stevenson and Jarillo proposed another definition (1990) "a process by which individuals, either on their own or inside organizations, pursue opportunities without regard to the resources they currently control" where 'opportunity' is characterized as "a future situation which is deemed desirable and feasible."

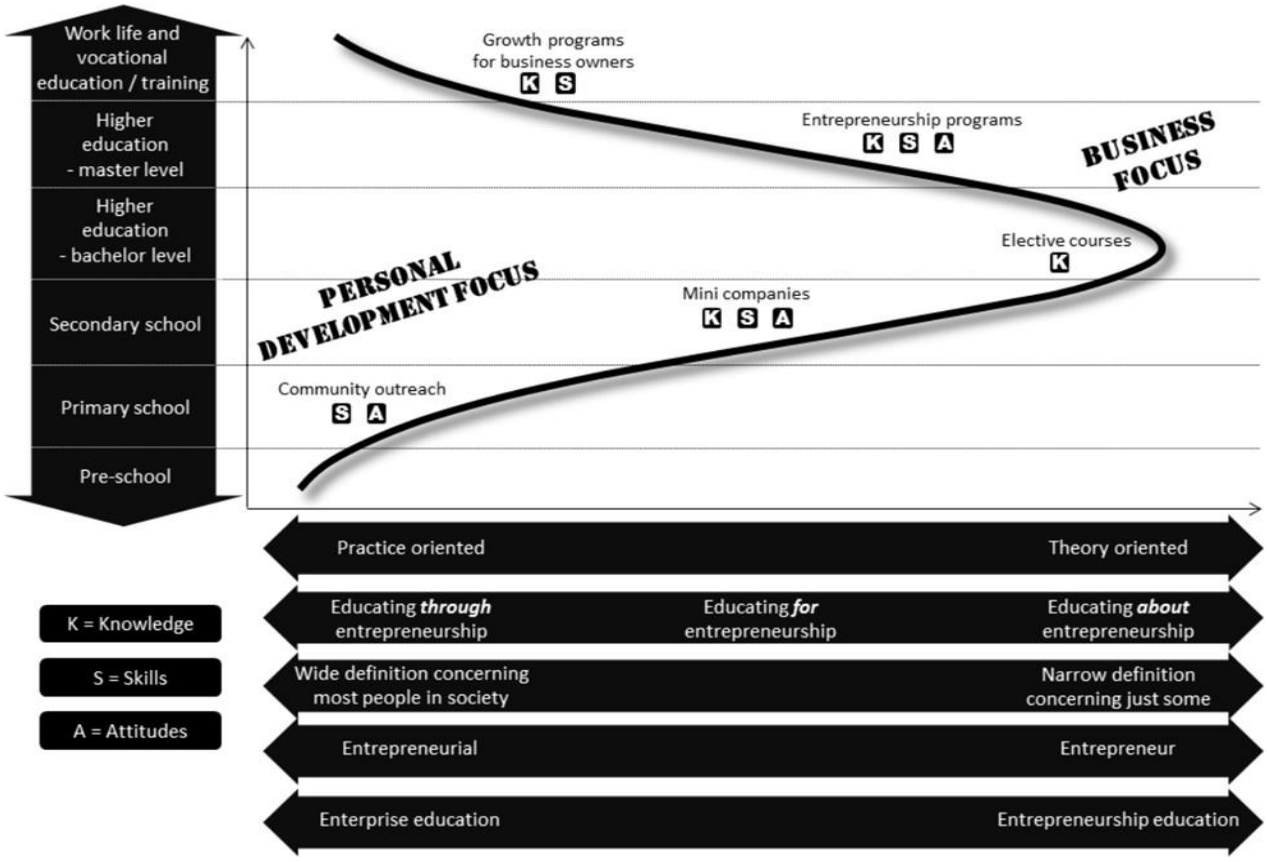

Figure 2.1. Overview of terms and definitions currently used in entrepreneurial education. Some examples illustrate the current progression over time in the educational system, with shifting definition, pedagogical approaches and varying emphasis on theory over practice. The current lack of practice orientation on higher education levels lamented by many researchers is illustrated in the figure

The narrow definition of entrepreneurship relates to "opportunity identification, business development, self-employment, venture creation and growth" or, in other words, an entrepreneur (Fayolle and Gailly, 2008, QAA, 2012, Mahieu, 2006). On the other hand, the wide definition pertains to "personal development, creativity, self-reliance, initiative-taking, action orientation", namely being entrepreneurial. "Educational objectives, target audiences, course content design, teaching methods and student assessment procedures" hinge on the definition one chooses to use, thus leading to an extended sequence of approaches (Mwasalwiba, 2010).

The entrepreneurial process located within its environment and time. The dialog between the individual and the new value created and it constitutes the core of entrepreneurship (Bruyat and Julien, 2001, p.170).

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The answer to the question of when entrepreneurship should be interspersed is quite apparent. Ideally speaking, entrepreneurship should be introduced in primary school, implementing the wider definition of entrepreneurship and using the 'through' teaching method. Subsequently, the narrow definition can be applied in secondary school and higher education with a vocational and business-centred approach. This strategy is, while in theory is best, the practicality of some challenges needs to be managed for it to be successful. (OECD, 2015)

This brings us to the crux of the matter: how to instil entrepreneurial skills in students. Employing "learning-by-doing" is the most sensible and productive method. However, the bigger is – what will the student learn to do? Experts believe in allowing students the freedom to collaborate in interdisciplinary units and connect with other outside traditional schooling walls. However, for this approach to be considered as "entrepreneurial", value creation is a requirement. It is not enough for students to simply interact with participants, but they need to have beneficial outcomes that "create value" for said participants. To do so, educators can gather "tools, methods and processes" that exist within the entrepreneurial discipline. (OECD, 2015)

Entrepreneurial Teaching Methods:

O'Connor (2013) summarized that entrepreneurial education commonly accepts the 'for', 'through' and 'about' methods. The 'about' method affirms the concept of entrepreneurship from an academic point of view and is primarily applied in higher education (Hannon, 2005, Heinonen and Hytti, 2010). The 'for' approach is designed to provide a foundation for growing entrepreneurs with the insight to build one or more businesses (Heinonen and Hytti, 2010). The 'through' defines a method that teaches entrepreneurship by way of ingraining the core competencies in different subjects (Hannon, 2005) beyond business and management going be. This method allows the individual to connect with their surroundings, encouraging them to discover, evaluate and exploit opportunities, hence, causing them to process the world around them as entrepreneurs and innovators (Shook et al., 2003). The 'for' and' about' methods are mainly used in a secondary school or higher education setting, while the 'through' method is used in primary and secondary school (Hannon, 2005, Heinonen and Hytti, 2010).

Table 2.1 below shows similarities and differences between entrepreneurial education and some pedagogical approaches often stated to be similar (Lackéus, 2013). It explains to a great extent why entrepreneurial education can initiate much greater levels of enthusiasm, commitment, thoughtful and reflective learning than can other instructional methodologies.

Table 2.1

Major focus	Entrepreneurial education	Problem-based learning	Project-based learning	Service Learning
Problems	■	■	■	■
Opportunities	■			
Authenticity	■	■	■	■
Artefact creation	■		■	
Iterative experimentation	■			
Real-world(interaction)	■			■
Value creation to external stakeholders	■			■
Teamwork	■	■	■	
Work across extended periods	■		■	■
Newness/ innovativeness	■			
Risk of failure	■			

Comparison of pedagogical approaches. Similarities and differences between entrepreneurial education and some pedagogical approaches often stated to be similar. (Lackéus, 2013)

Extending the time horizon up to 2030, Dawe (2004) considers the following generic skills as becoming most important: complex-problem solving, critical thinking, originality thinking, active learning, judgement and decision making and (Driessen, 2005) confirms that skills can, in general, be learned and improved by program participation. It is necessary for educators at the school level to integrate entrepreneurial skills into the daily lessons they teach. Once instilled in them, these skills will help them navigate themselves in the uncertain world and prepare them for real life.

3. Statement of the problem

This article discusses the importance of introducing entrepreneurship education to develop entrepreneurial skills in school students to shape the next generation of entrepreneurs. It compares

the skills developed through entrepreneurial education and other instructional practices like project-based learning, theme-based learning.

4. Objectives of the Study

The study aims to

1. To identify the entrepreneurial skills that can be instilled in school students to prepare them for an uncertain future after school life.
2. Evaluate the importance of teaching entrepreneurial skills in school students.
3. To identify the type of pedagogical approach which can develop the entrepreneurial skills identified in lessons.

5. Research Methodology

1. Research Methodology

Research Design: Researchers use a non-probability sample design

Population of the study: school teachers in UAE.

Collection of data: Primary and Secondary sources were used for the collection of data.

Primary Source: A questionnaire was used as a primary source of data. A questionnaire link was sent to 184 teachers in UAE and received the response of 175teachers in a google form used for analysis. The questionnaire had five parts: Part A, Part B, Part C, Part D, Part E. Part A was the collection of the profile of the respondents. Part B was about competencies measured on 5 – point Likert scale, Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. Part C covered skills and competencies on 3 – point scale of Yes, No and Sometimes. Part D coveredcompetencies and Professional Development, and Lifelong Learning measured on 5

– point Likert scale. Part E covered questions on professional development courses attended recently. The secondary resources included various published dissertations, research papers, journals, previous research abstracts, journals, and books available at different online libraries.

Secondary source data: The secondary sources included various published dissertations, research papers, journals, previous research abstracts, journals and books which are available at different online libraries.

Statistical methods and tools used in the research

Reliability Statistics, T-Test, One Way ANOVA and Pearson correlation are the statistical methods and tools used in the research.

6. Data Analysis and Interpretation

Respondents employed as teachers in schools in the United Arab Emirates were selected for the study.

Table 6. 1 - Demographic distribution of the respondents

Particulars	Frequency	Percentage
Gender		
Male	27	15
Female	148	85
Age		
21-30	20	11.4
31-40	79	45.1
41-50	58	33.1
51-60	18	10.3
Teaching Grades		
Grade 1	13	7.42
Grade 2	20	11.4
Grade 3	19	10.8
Grade 4	17	9.7
Grade 5	11	6.28
Grade 6	17	9.71
Grade 7	10	5.71
Grade 8	12	6.85
Grade 9	11	6.28
Grade 10	10	5.71
Grade 11	21	12
Grade 12	14	8
Teaching experience		
Up to 3 years	32	18.20
3-7 years	59	33.71
7-11 years	29	16.57
11-15 years	27	11.42
Above 15 years	28	16

In the study, the Cronbach's Alpha co-efficient of reliability was found based on primary data of the present study as shown in Table 6.2, and the details are as follows:

Table 6.2 Reliability Statistics

Cronbach's Alpha	N of Items
.926	20

The reliability value is well above the minimal level (> 0.7) and acceptable (Nunnally, 1987). Therefore, the reliability of all the constructs is good.

The following hypothesis was tested.

$H_0$1: The effect of pedagogical practice on entrepreneurial skills. The hypothesis was tested using one-way ANOVA and the results are shown in Table 6.3.

Table 6.3 ANOVA

GRAND TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	56.040	3	18.680	.229	.876
Within Groups	13918.680	171	81.396		
Total	13974.720	174			

A one-way between subjects ANOVA was conducted to compare the effect of instructional methods (pedagogy) on entrepreneurial skills in lessons. There was no significant effect of instructional methods (pedagogy) on entrepreneurial skills in lessons at the p>.05 level for the condition [F (3,171) =0.229, p=0.876]. There is no relationship between instructional methods (pedagogy) on entrepreneurial skills and failed to accept the null hypothesis $H_0$1.

$H_0$2: Pedagogical practice leads to the development of entrepreneurial skills. The relationship was identified using Pearson Correlation, and the results are shown in Table 6.4.

Table 6.4 Correlations

		TOTAL 3	TOTAL 2
TOTAL 3	Pearson Correlation	1	.782**
	Sig. (2-tailed)		.000
	N	175	175
TOTAL 2	Pearson Correlation	.782**	1
	Sig. (2-tailed)	.000	
	N	175	175
**. Correlation is significant at the 0.01 level (2-tailed).			

A Pearson product-moment correlation coefficient was computed to assess the relationship between instructional methods (pedagogy) and entrepreneurial skills in lessons. There was a positive correlation between the two variables, r = 0.782, n = 175, p = <0.001. It shows that the pedagogical practice leads to the development of entrepreneurial skills and hence accept the null hypothesis $H_0$2.

$H_0$3: Gender has an impact on developing entrepreneurial skills. The relationship was identified using a T-test, and the results are shown in Tables 6.5 and 6.6.

T-Test

Table 6.5 Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
GRAND TOTAL	1	27	35.33	7.136	1.373

	2	148	37.26	9.246	.760

Table 6.6 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
GRAND TOTAL	Equal variances assumed	1.072	.302	-1.026	173	.306	-1.923	1.875	-5.625	1.778
	Equal variances not assumed			-1.225	43.640	.227	-1.923	1.570	-5.087	1.241

The Sig. (2-Tailed) value is more significant than 0.05, and Group Statistics box revealed that the Mean for the variance is almost the same. We can conclude that there is statistically no significant relationship of gender with entrepreneurial variable and hence failed to accept the null hypothesis $H_0$3. UAE has more female teachers than male teachers, and the data may not be accurate as data is highly skewed towards females.

7. Limitations of the study

The universe of the study was school teachers living in the United Arab Emirates (UAE). It was found that from the seven Emirates in UAE, a more significant part of the respondents was from Dubai and Sharjah and a very few from other Emirates. The number of school teachers in UAE is more female in number than male and the data may not be accurate. As the teacher education programme was revised in 2019, the effects of the changes made are yet to be seen and, therefore, cannot be measured.

8. Suggestions

What are entrepreneurial skills and the relationship between entrepreneurial skills and pedagogy? Does pedagogy develop entrepreneurial skills, and does all pedagogy or some type of pedagogy develop entrepreneurial skills in students? Teachers to have clarity on the above is the key area teacher education centres to focus on and the responsibility of school management to upskill the teachers through continuous professional development. Teachers need to evaluate and update their competencies and skills if they are in the teaching profession. The teaching profession provides students with the necessary tools to use in their future professions and the future of pupils who will be change agents. Continuous Professional development and lifelong learning are not optional in the teaching profession.

9. Conclusion

Entrepreneurship has been examined from an economic perspective. Integrating entrepreneurship is much simpler when it comes to elective courses in higher education. However, it is precarious on a primary and secondary school level. The choice educators make among the wide and narrow definitions of entrepreneurship give way to numerous approaches to choose from. Three main approaches to teaching entrepreneurial skills - 'for',' about' and' through'. 'About' method is entrepreneurship in an academic light, 'for' method is devised to provide a base for growing entrepreneurs and 'through' integrates the main concepts of entrepreneurship in subjects other than just business and management. The difference between wide and narrow definitions of entrepreneurship lies in the value creation for outside stakeholders. The degree of achievement of this objective separates an entrepreneur and one being entrepreneurial.

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