How to Cite:
Taneja, M., Kiran, R., & Bose, S. C. (2022). Critical analysis of kolb experiential learning process: Gender perspective. *International Journal of Health Sciences*, *6*(S1), 8713–8723.
https://doi.org/10.53730/ijhs.v6nS1.6962

Critical analysis of kolb experiential learning process: Gender perspective

Mohit Taneja
Research Scholar, School of Humanities and Social Sciences, Thapar Institute of Engineering and Technology, Patiala, Punjab, India.

Prof. (Dr.) Ravi Kiran
Professor and Former Head, School of Humanities & Social Sciences, Former Professor in charge Alumni Affairs, Thapar Institute of Engineering & Technology, Patiala, Punjab, India.

Dr. S.C Bose
Assistant Professor, School of Humanities and Social Sciences, Thapar Institute of Engineering and Technology, Patiala, Punjab, India.

***Abstract*---**Purpose – Education policies in an economy are framed after considering today's need of acquiring learning skills. Though, in India the system of rote-learning and learning on the basis of text was introduced by the British in India which is being reciprocated by new teaching skills and methodologies. Learning is now affected through direct or virtual experiences and is also based on actual hands on activities. Thus, today it becomes important for countries like India to introduce experiential learning especially in Entrepreneurial education in higher educational Institutions. Experiential learning in entrepreneurial education serves as the principal means of opportunity recognition and helps students to explore their experiences and develop new ideas and experiment with their implementation (Corbett 2005). This research is an effort to examine if there is a difference in the perception of male and female with respect to experiential learning. The model of Experiential Learning as expounded by Kolb has been used for the current study. Design/ Methodology – For achieving the aim of the study primary data collection technique are used. The data was collected through self-constructed questionnaire and it was filled up by the students who are actually involved experiential learning. The data was collected from 323 students among them 195 were male and 128 were females which constitutes 59% & 41%. Data was collected from the three regions: Punjab, Haryana and NCR and only top 100 ranked higher educational institutions were considered under National Institutional Ranking framework (NIRF). Findings – With the help of SPSS software

Manuscript submitted: 09 Feb 2022, Manuscript revised: 18 March 2022, Accepted for publication: 27 April 2022

data was analyzed through one-way ANOVA. The result highlight that there is a difference in perception of male and female in three out of four phases of Kolb mode, viz. abstract. Thus, results highlighted significant difference between both males and females with respect to experiential learning. These results may be useful to suggest how the difference may be kept in mind in offering training to males and females to finally emerge successful in entrepreneurship.

***Keywords*---**Entrepreneurial Experiential learning, Entrepreneurship, Concrete experience, Abstract conceptualization, Entrepreneurial self-efficacy, Reflective observation, Active experimentation.

Introduction

Learning theories such as "Schema theory" are linked with discipline of psychology in such a way that it will be impossible to segregate the history related to learning theories from the history related to psychology discipline (Piaget, 1923, Schema theory). Basically, learning is similar to psychological process, and so similar to the investigation of the principles. Thus, learning mechanisms are subject of research and debate since the initiation of psychological lab by Wilhelm Wundt in Leipzeig, in 1879. *Learning* can be defined as a permanent change in the behaviors or self-beliefs of an individual that results from new or existing experience (Mayer, 2011). In this world living organism's ability to learn helps them in adapting to a dynamic atmosphere. Thus, learning is un-ignorable outcome of life and if we try to ignore learning, we would die (Brewer, 1923).

Learning theories has gone through many evolutions and phases through which these theories have passed from broad theories that explain the ways in which learning occurs to the more precise theories that are limited to the types of learning. Learning theories are mainly divided into two perspectives. Theories, where learning can be examined through observation i.e. behaviorist approach introduced by John Watson in 1913. Second, thought considers that learning can only be examined when it is studied through cognitive process (Wundt.W, 1915).

Further, learning perspective when linked with experience is known as experiential learning, perspective of experiential learning or learning through experience can be found in the works of Dewey, Lewin and Piaget, period which states the origin of learning through experience perspective. The basic reason behind exponential learning perspective was to examine the role played by experience in learning (Kolb, 1984). Thus, this differentiates Experiential learning theories from behavior and cognitive theories. It should be noted that the main aim of experiential learning theory was not be the third alternative theory after behavior and cognitive theory, but to state that experiential learning is a combination of experience, perception, cognition and behavior (Kolb, 1984).

Role of Experiential learning theory in education

As discussed earlier that learning is basis of psychological process and if learning occurs through experience it becomes dynamic learning or experiential learning.

Traditional learning like theoretical text book learning without its practical implementation is not effective learning anymore. As stated by (Kolb, 2012) learning is defined as permanent change in behavior and belief of an individual through applying gained experience in practical life, which is not possible through rote learning. According to Dewey,(1897) education without practical applicability is always poor.

Since early 1970s' experiential learning is used to conduct educational courses and programs in Kindergarten to 12th education (K-12) (McCarthy, 1987). According to Mentkowski, (2000) various undergraduate courses are designed with respect to experiential learning framework in countries like U.S, Canada etc which are linked with entrepreneurial education. Further studies like (Reese, 1998; Boyatzis, Cowan, & Kolb, 1995) stated that experiential learning gained its important in professional education courses and ELT approaches have been in existence in almost every course from accounting to zoology (Kolb & Kolb, 2006).

Thus, due to its practicality, experiential learning theory became basic framework for education boards now days (Passarelli & Kolb, 2012), as experiential learning principles offers practical grounding for theoretical base. When the principles and techniques of ELT are applied in teaching-learning process learning becomes interesting and it also states that teacher has fully entered into learning relationship with students (Palmer, 1997). Education, according to ELT is not only providing cognitive knowledge but also educating whole person through development of social and emotional maturity (Lave & Wenger, 1991).

So, from above literature it is obvious that experiential learning theory plays very important role in education as education is learning oriented (Kolb, 2012) proof of which is crises in American economy and education which occurred due to poor learning techniques provided to students. After, the shift which led excessive focus on experiential learning in entrepreneurial education revived American economy.

Conceptual Framework

The development of the experiential learning theory was carried out by Kolb in his "Theory of Experiential Learning" which was propounded by him in 1984. Kolb Experiential learning theory is one of the most popular and notable educational theories. Kolb theory cemented very crucial place in the modernization of the educational institutes specially in developing economies (Sharlanova, 2004). Kolb work can be regarded as most influential work for the teachers, trainers and students. According to Kolb, (1984) Experiential learning can be defined as learning through transfer of knowledge or sharing of experience. D. Kolb has introduced phases in which learning passes through. Thus, the study of Experiential learning theory is connected to four phases which are linked with doing, sensing, reflecting, planning etc.

The study carried out by David Kolb is extension of the works of John Devy and Kurt Levin, Research of Kolb according to Zuber-Skerritt "forms a broad theory that set a standard for the education approach. An important feature of Kolb theory and four phases is that a person can enter in any phase of the cycle as the

phases are inter-connected but you have to follow the sequence (Kolb, 1984). According to, study of Boreham (1987) "experiential learning framework emphasized on the concept that learning is only fruitful if it reflected on the experience, without reflection means creating same mistakes again and again. The essence of Kolb's learning process cycle model is it has pictured out the transformation of experience through reflection in individual's ideas and concepts, which is further significant for active experimenting or planning for the choice of new idea.

The steps or stages of Kolb learning cycle are : 1) Concrete experience (CE) or remaining of new or existing experience 2) Reflection i.e.- observing 3) Generalization or Abstract Conceptualization (AC) – Brainstorming 4) Active Experimentation (AE) – planning or trying out what was learnt. A major contribution of experiential learning in Entrepreneurial education is that it serves as the principal means of opportunity recognition and helps students to explore their experiences and develop new ideas and experiment with their implementation (Corbett 2005).

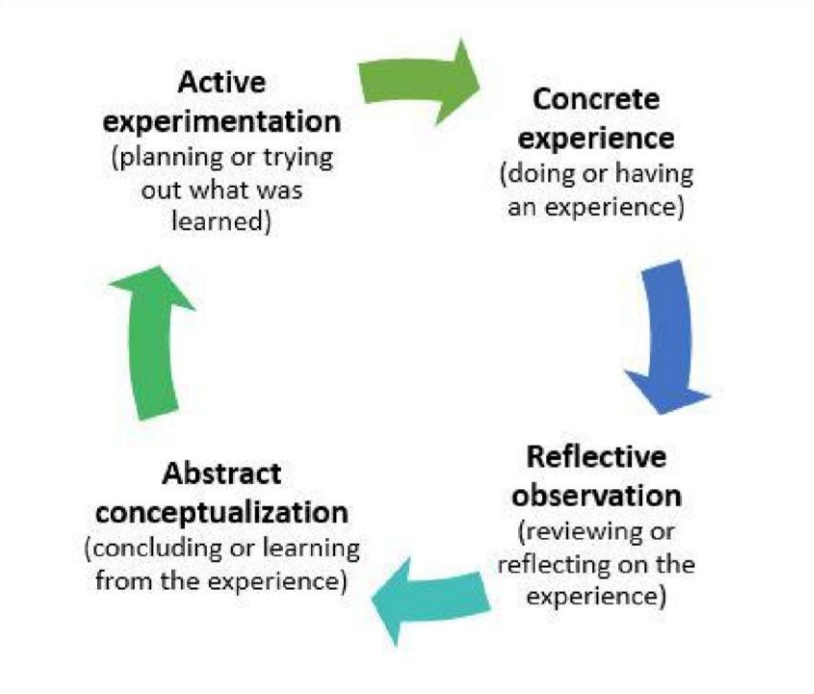
In the present study, the Kolb model has been used for analyzing experiential learning. Baker, Jensen and Kolb (2005), highlight that dialogues enthuse reflection and creativity among students as they learn from their own experiences.

Concrete Experience

Kolb's learning process cycle begins with a concrete experience. This can either be a completely new experience or a reimagined experience that already happened. In a concrete experience, each learner engages in an activity or task. Kolb believed that the key to learning is involvement. It is not enough for learners to just read about it or watch it in action. In order to acquire new knowledge, learners must actively engage in the task.

Reflective Observation

After engaging in the concrete experience, the learner steps back to reflect on the task. This stage in the learning cycle allows the learner to ask questions and discuss the experience with others. Communication at this stage is vital, as it allows the learner to identify any discrepancies between their understanding and the experience itself. Good vocabulary also allows a solid review of the events that occurred.



Source: *Kolb Learning cycle process (1984)*

Abstract Conceptualization

The next step in the learning cycle is to make sense of these events. The learner attempts to draw conclusions of the experience by reflecting on their prior knowledge, using ideas with which they are familiar or discussing possible theories with peers. The learner moves from reflective observation to abstract conceptualization when they begin to classify concepts and form conclusions on the events that occurred. This involves interpreting the experience and making comparisons to their current understanding of the concept. Concepts need not be "new"; learners can analyze new information and modify their conclusions on already existing ideas.

Active Experimentation

This stage in the cycle is the testing stage. Learners return to participating in a task, this time with the goal of applying their conclusions to new experiences. They are able to make predictions, analyze tasks, and make plans for the acquired knowledge in the future. By allowing learners to put their knowledge into practice and showing how it is relevant to their lives, you are ensuring that the information is retained in the future.

Literature Review and Hypotheses development

Hessel et al. (2010) studied the impact of entrepreneurial education provided to students on their entrepreneurship skills and motivation. Further, according to Isaac (2011) Entrepreneurial education influence Entrepreneurial attitudes and

intention of the students. Salamzadeh et al., (2013) indicated that social entrepreneurial education is a very important concept to be taught to students and make them aware about economic problems. Bae et.al (2014) studied the relationship between EE and EI of the students which was significant but small, and concluded that entrepreneurial education is effective only when it is taught in early age of students. Hussian Altaf & Norashidah (2015) analysed the influence of Entrepreneurial education on entrepreneurial intentions of Pakistan students and which stated similar direction result for both.

According to Rauch & Hulsink (2015) both Entrepreneurial education and Entrepreneurial behavior are related and suggested that entrepreneurial education is effective. Further according to Daniela et al., (2016) the influence of entrepreneurial education or training on the intention of students was positive. Edrus & Bakar (2018) studied university role for promoting entrepreneurial activities among university students and found that there is a significant difference between university's role regarding entrepreneurship amongst undergraduate (UG) and master's students. According, to Kai (2018) the influence of social entrepreneurial education (EE) through experiential learning on intention formation among students was very strong and it was found EE through experiential learning has huge impact on self-efficacy of the students. The direction of research transcends to examining this with respect to experiential learning. Thus, study of Thomsen et.al (2019) showed the effect experiential learning on student's entrepreneurial learning outcome which was significant. Recently study like Nyarko et.al (2020) tried to study the influence of Entrepreneurial education on intention of students to carry out their own venture and results showed positive influence. Anwar & Abdullah (2021) examined how Entre-experiential training determines the intent of students in higher studies; it was found that Entre-experiential learning has a very strong effect on self-efficacy and entrepreneurial intentions. The review highlights that there are more studies relating entrepreneurial education with entrepreneurial intentions. However, a few have tried to cover the experiential learning aspect. Thus, this leaves a scope for covering entrepreneurial education from an experiential learning perspective.

Gender and Entre-experiential learning

Past studies showed diverse views on the relationship between gender and Entre-experiential learning, women choice on entrepreneurship as a career is often less than man, For example, studies like Bem (1974) stated that there is always possibility of males and females to react differently according to social and cultural aspects. Scherer et al. (1990) showed that women are less inclined towards becoming entrepreneurs than men, reason for which is lack of self-belief. Further, study by Wilson et al. (2007) examined role of gender differences and education grabbed for becoming an entrepreneur and results showed that females were less assured about whether they have skill to accomplish a given task or not (Koellinger et al., 2008). Further studies like Stephen and Mary (2008) stated that there was positive influence of gender differences and self-efficacy with gender role characteristics. Thus studies like Delmar and Davidsson, (2000) showed that social norms related to gender wise roles predict that men are generally more suitable for becoming entrepreneurs since they are perceived as

more energetic, have freedom for working outside the home and women are perceived as more concerned with the functioning of groups and interrelationships (Skitka and Maslach, 1996; Eagly et al., 2008). Chengyan et al. (2020) showed the impact of gender role on ESE of 526 students in which 265 were males and 261 were females and result showed that male entrepreneur and female entrepreneur do not differ significantly in ESE. The study divides ESE into masculine gender role characteristics and feminine gender role characteristics. Further study by Arshad et al. (2016) found that ESE had a greater effect on the entrepreneurship attitudes of males than females, perceived social norms had a greater effect on female entrepreneurship attitudes. Nwonsksi et al (2017) studied the influence of entrepreneurial education on intentions of students with respect to gender influence and found that male are more intended towards becoming entrepreneurs than female. Entrepreneurship attitudes of women were found to be primarily driven by community feelings and aspirations (Arshad et al., 2020). Moreover as reported by Drydakis et al. (2018) females who exhibit masculine personality are more inclined towards becoming entrepreneurs. Thus, from the above literature it can concluded that there are studies related to entrepreneurial education from gender perspectives but there is need to examine experiential learning from gender perspective. Efforts have to be made to find gender wise differences in Entre-experiential learning and the related hypothesis is:

Hypothesis 1: There is a significant difference between males and females with respect to experiential learning as conceptualized by Kolb.

Hypothesis 1^a: There is a significant difference between males and females with respect to Concrete Experience.

Hypothesis 1^b: There is a significant difference between males and females with respect to Reflective observation.

Hypothesis 1^c: There exists a significant difference between males and females with respect to Abstract Conceptualization.

Hypothesis 1^d: There is a significant difference between males and females with respect to Active experimentation.

Research Methodology

Research Design

The data used for this study was primary in nature and it was collected from the students of top 100 ranked higher educational institutions in Punjab, Haryana and NCR. The study has used National Institutional Ranking Framework (NIRF). It is ranking framework which was setup in 29th September 2015 and approved by Minister of Human Resource Development (MHRD). Both undergraduate and postgraduate students enrolled in entrepreneurship course are in study population. The sample of the study comprises students in the age ranging between 18 and 30 years. Total data was collected from 323 students out of which 195 were male and 128 were females.

Tools for data collection

A self-constructed questionnaire was developed for collecting data from the selected respondents. Five-point scale was used to record the responses. The questionnaire was constructed with the help of questionnaire developed by Kolb

(1976, 1984) , Honey & Mumford (1982) Marshall, J. C.; Merritt, S. L. (1986). In Statistical tools adequate tools are used for analysis of the data collected during the study. As, for questionnaire used for collecting the data was validated by experts and reliability was measured through Cronbach alpha test, and with the help of SPSS software data was analyzed through one-way ANOVA.

Analysis and Results

Initially it was important to check reliability of the questionnaire. Table 1 highlights the Cronbach alpha for Experiential Learning scale. For checking reliability of the questionnaire Cronbach alpha measure was used through SPSS software and Cronbach alpha was separately calculated for main construct and its sub constructs, overall Cronbach alpha for the construct was 0.92 and for the sub-constructs was: AC- 0.842, RO- 0.78, AE- 0.76, and CE- 0.70. For all sub-constructs reliability was greater than 0.7, hence it was important to move ahead with analysis. Overall reliability for Experiential leaning scale was 0.92.

Table 1
Cronbach alpha

Constructs	Reliability (Cronbach alpha)
1. Concrete experience or reimagination (CE)	0.70
2. Abstract conceptualization (AC)	0.842
3. Reflective observation (RO)	0.78
4. Active experimentation (AE)	0.76
Experiential Learning (Overall)	0.92

Next ANOVA was applied to find out whether *there is a significant difference between males and females with respect to experiential learning as conceptualized by Kolb. The results are shown by*

Table 2
Gender-wise ANOVA for Kolb's experiential learning model

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
CE	Between Groups	.019	1	.019	.085	.771
	Within Groups	72.397	322	.225		
	Total	72.416	323			
RO	Between Groups	2.797	1	2.797	12.126	.001
	Within Groups	74.283	322	.231		
	Total	77.081	323			
AC	Between Groups	2.213	1	2.213	7.350	.007
	Within Groups	96.964	322	.301		
	Total	99.177	323			
AE	Between Groups	2.595	1	2.595	9.923	.002
	Within Groups	84.206	322	.262		
	Total	86.801	323			

Significance level is 5% or 0.05*

Further, for measuring significance one-way ANOVA was used through SPSS. The result highlight that there is a difference in perception of male and female in three out of four phases of Kolb mode, viz. abstract. Thus, results showed significant difference between male's perception and female's perception with respect to experiential learning. Except concrete experience rest three sub-constructs were significant. As shown in the above ANOVA table F ratios for RO, AC, & AE are significant as p<.05, which means that following three sub-hypotheses are accepted.

Hypothesis 1^b: There is a significant difference between males and females with respect to Reflective observation.
Hypothesis 1^c: There exists a significant difference between males and females with respect to Abstract Conceptualization.
Hypothesis 1^d: There is a significant difference between males and females with respect to Active experimentation.
However, hypothesis 1^a: There is a significant difference between males and females with respect to Concrete Experience has not been accepted as p-value is not significant. Overall, inferences of study can be: that the results show significant difference between male and female perceptions or in other words we can say accept *H1 that there is a significant difference between males and females with respect to experiential learning as conceptualized by Kolb.*

These results highlight that initially even when males and females start with same perception, i.e. in terms of concrete experience (CE), there is difference in perception with respect to others, viz. *Abstract Conceptualization (AE);* Reflective observation (RO); *Active Experimentation (AE).*

Discussion

As has been reflected through ANOVA results, the value of F statistics is highest for Reflective observation, followed by active experimentation and abstract

conceptualization. In Reflective observation as the learner reflects on the task. This stage is very important as the learner discusses the experience with others. The results highlight a difference in perception of males and females in this stage. This could be due to this stage covering the psychological aspects, and females may be more involved in this stage, but we need future study to validate this important result. However, these results do justify separate training may be needed for males and females for training them for entrepreneurship. We can conclude indulging students in these activities will guide them to increase their learning effectiveness in different learning situations (Loo 1997). Our study also stated that males and females differ in three out of four phases of Kolb, (1984) learning cycle, so the focus should also be on providing suitable training to males and females separately. As stated by Nowinski et al., (2017) that females generally are less intended towards entrepreneurship than men, thus this study may be useful in designing experiential learning modules.

Entrepreneurship as a process not only involves creativity like identifying entrepreneurial opportunities but also hardcore financial analysis. Many studies confirm that the male and female differs in their approach towards finance. This might have impacted the current outcome. Women usually follow the principle of "safety first and invest less money that too on less risky assets in compare to men (Hira and Loibi, 2008). On the other hand entrepreneurship is very risky. Egerova et al. 2016) has reiterated that higher education institutions could provide entrepreneurial education more effectively if students enter into universities with basic knowledge of entrepreneurship i.e. before Entre-experiential learning basics**.**

Implications

This study carried out showed results improving for policy making. The study recommends that Central and State government of India should support entrepreneurial experiential learning through creating institutional framework which allow access for higher educational institution students entrepreneurial experiential learning. In future the study can be extended to examine the link between entrepreneurial self-efficacy and entrepreneurial Intention.

References

1. Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014). The relationship between entrepreneurship education and entrepreneurial intentions: A meta–analytic review. *Entrepreneurship theory and practice*, *38*(2), 217-254. https://doi.org/10.1111/etap.12095
2. Corbett, A. C. (2007). Learning asymmetries and the discovery of entrepreneurial opportunities. *Journal of Business Venturing*, *22*(1), 97–118. doi.org/10.1016/j.jbusvent.2005.10.001
3. Elert, N., F. W. Andersson, and K. Wennberg. 2015. "The Impact of Entrepreneurship Education in High School on Longterm Entrepreneurial Performance." *Journal of Economic Behavior & Organization 111*, 209–223. doi: 10.1016/j.jebo.2014. 12.020
4. Bakar, A. S. A. The role of University in promoting entrepreneurship among university Students: A comparative study of Universiti Utara Malaysia (UUM)

and University Malaysia Kelantan (UMK) Robiaatul Adawiah Edrus Banking and Risk Department. *International Journal of Economics and Financial Issues*, *7*(2), 243.

5. Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice Hall.
6. Kolb, B. (2008). *Marketing research: a practical approach*. Sage.
7. Kolb, S. M. (2012). Grounded theory and the constant comparative method: Valid research strategies for educators. *Journal of emerging trends in educational research and policy studies*, *3*(1), 83-86.
8. Passarelli, A. M., & Kolb, D. A. (2012). Using experiential learning theory to promote student learning and development in programs of education abroad. *Student learning abroad: What our students are learning, what they're not, and what we can do about it*, 137-161.
9. Baker, M. A., Robinson, J. S., & Kolb, D. A. (2012). Aligning Kolb's Experiential Learning Theory with a Comprehensive Agricultural Education Model. *Journal of Agricultural Education*, *53*(4).
10. Arshad, M., Farooq, O., Sultana, N., & Farooq, M. (2016). Determinants of individuals' entrepreneurial intentions: a gender-comparative study. *Career Development International*.
11. Arshad, M., Farooq, M., Atif, M., & Farooq, O. (2020). A motivational theory perspective on entrepreneurial intentions: a gender comparative study. *Gender in Management: An International Journal*.
12. Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of consulting and clinical psychology*, *42*(2), 155.
13. Eagly, A., & Wood, W. eta Diekman, A.(2000):"Social role theory of sex differences and similarities: A current appraisal". *T. Eckes eta H. Trautner (arg.), The developmental of social psychology of gender, Lawrence Erlbaum Associates, New Jersey*, 123-174.
14. Loo, R. 1997. Using Kolb's Learning Style Inventory (LSI 1985) in the classroom, Proceedings of theAssociation of Management 15(1):47-51.
15. Mueller, S. L., & Dato-On, M. C. (2008). Gender-role orientation as a determinant of entrepreneurial self-efficacy. *Journal of developmental Entrepreneurship*, *13*(01), 3-20.
16. Spence, J. T., Helmreich, R. L., & Sawin, L. L. (1980). *The Male-Female Relations Questionnaire: A self-report inventory of sex role behaviors and preferences and its relationships to masculine and feminine personality traits, sex role attitudes, and other measures*. American Psycholog. Ass., Journal Suppl. Abstract Service.
17. Scherer, F. M., & Ross, D. (1990). Industrial market structure and economic performance.
18. Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self–efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship theory and practice*, *31*(3), 387-406.
19. Nowiński, W., Haddoud, M. Y., Lančarič, D., Egerová, D., & Czeglédi, C. (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. *Studies in Higher Education*, *44*(2), 361-379.