



EXAMINATION OF EDUCATIONAL INTERNET USAGE SELF-EFFICACY BELIEFS OF TURKISH TEACHER CANDIDATES

Kürşad Çağrı Bozkirli¹

Department of Social Sciences and
Turkish Language Education,
Faculty of Education,
Kafkas University, Turkey

Abstract:

The aim of this study is to examine the educational internet usage self-efficacy beliefs of Turkish teacher candidates studying at Kafkas University. The study, carried out with the survey model, included 209 Turkish teacher candidates studying at Kafkas University in 2016-2017 academic year and they were selected by random sampling method. In the study, "Educational Internet Use Self-Efficacy Beliefs Scale" developed by Şahin (2009) was used as data collection tool. The Cronbach alpha value of the scale consisting of 28 items was found to be 0.95. The data obtained were analyzed using SPSS 17.0 package program. Based on the results of the study, it was determined that Turkish teacher candidates found themselves sufficient in terms of educational internet use and educational internet usage self-efficacy beliefs did not change according to gender but differed significantly according to the grade levels of candidate teachers, owning a personal computer, and having internet connection at home.

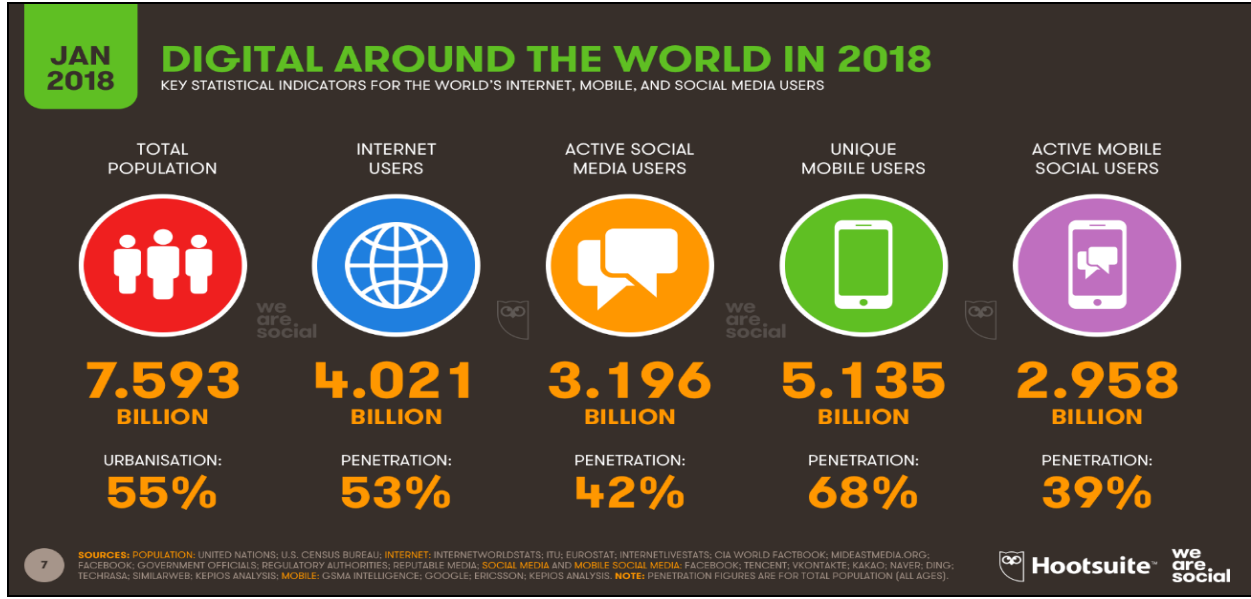
Keywords: Turkish teacher candidate, educational internet, self-efficacy

1. Introduction

Originally developed for military purposes, the Internet has become one of the musts of human life with the widespread use of computers and especially smart phones.

¹ Correspondence: email kursad36@gmail.com

Chart 1: Global Internet, social media and mobile user statistics (We Are Social, 2018)



Many people feel incomplete and uneasy every time they are not connected to the Internet, and they look for ways to connect to the Internet. Current internet usage statistics throughout the world confirm this situation.

It can be stated that the Internet spreading rapidly since 1995, radically changed the production, storage, publication of and access to information. Education is one of the areas where the Internet has caused significant changes and innovations. The Internet has eliminated the time, space and distance constraints in education and made access to various educational content much easier (Toplu and Gökçeşlan, 2012; Aksüt, Ateş, Er and Balaban, 2013; Balcı, Arsal Gölcü and Eray Öcalan, 2013; Yoldaş and Argın, 2015).

The widespread use of the Internet has led to some negative consequences due to its misuse and overuse in addition to its various benefits. Internet related game addiction (Günlü and Ceyhan, 2017; Arıcağ, Dinç, Yay and Griffiths, 2018), social media addiction (Sağır and Doğruluk, 2018; Aktan, 2018; Agyar Bakır and Uzun, 2018), excessive tendency to sexuality and violence (Sağlam, 2018), some personality disorders (Dikmen and Tuncer, 2018), academic failure (Demir and Kutlu, 2017), reduction of physical activity and obesity (Karayağız Muslu and Bolışık, 2009) are just few of them. Although Internet allows easy and fast access to information, accessing accurate information on the Internet is another problem, revealing the fact that it is necessary to be conscious and careful about Internet usage.

The Internet has changed the roles of teachers in education, and the teacher has become the person who guides the student to reach information rather than the conveyor of information. This necessitates contemporary teachers to be adequately equipped in terms of accessing current and accurate information, use of information, educational technologies and use of internet in education (Polatcan, 2015; Yoldaş and Argın, 2015). In other words, effective use of technology in education is one of the qualities of today's teachers (Turkish Ministry of National Education [MoNE], 2017). In

order for educational technologies –which have become an integral part of teaching– and especially the Internet to be used in education, teachers need to be efficient in this regard.

Although the concept of self-efficacy, which is stated to be effective on attitude and behavior (Bandura and Adams, 1977; Bandura, Adams, Hardy and Howells, 1980; Bandura and Cervone, 1983; Zimmermann, Bandura and Martinez Ponz, 1992; Morgil, Seçken ve Yücel 2004; Bandura, 2009; Kutluca and Ekici, 2010; Tuncer and Özüt, 2012; Çavuşoğlu and Özsoy, 2018) and defined as the “*state of finding oneself to be efficient*” (Arseven, 2016, p. 67), refers to the “*belief of an individual regarding his or her efficacy in performing a skill rather than the actual efficacy of performing a skill*” (Kabaran, Altıntaş and Göçen Kabaran, 2016), it is thought that educational internet usage self-efficacy beliefs are effective on candidate teachers for proper and effective use of the internet to guide their students and to be informed about educational technologies, and investigating the factors affecting these beliefs will make a positive contribution to the literature. For this reason, answers to the following questions were received in order to determine the educational internet self-efficacy beliefs of Turkish candidate teachers and the factors affecting them:

- What is the level of educational internet usage self-efficacy beliefs of Turkish teacher candidates?
- Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to their gender?
- Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to their grade level?
- Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to owning a personal computer?
- Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to having internet connection at home?

2. Method

2.1 Research Model

The study aiming to determine the educational self-efficacy belief levels of Turkish teacher candidates and to examine educational internet usage self-efficacy beliefs in terms of gender, grade, owning a personal computer and having internet connection at home was designed as a survey model. Survey studies can be considered as “*revealing and explaining existing and ongoing phenomenon*” (Sönmez and Alacapınar, 2011, p. 46).

2.2. Population and Sample

The study sample consisted of 209 students who were selected randomly from teacher candidates studying at Kafkas University, Faculty of Education, Department of Turkish

Education. In the random sampling method, “individuals who are in the population have an equal chance of being included in the sample” (Bal, 2009, p. 105).

The personal characteristics of Turkish teacher candidates participating in the study are as follows:

Table 1: Frequency and percentage distribution according to the personal characteristics of Turkish teacher candidates included in the study sample

Variables		N	%
Gender	Female	108	51.7
	Male	101	48.3
	Total	209	100
Grade level	1st Year	65	32.1
	2nd Year	53	25.4
	3rd Year	47	22.5
	4th Year	44	21.1
	Total	209	100
Owning a personal computer	Yes	125	59.8
	No	84	40.2
	Total	209	100
Having internet connection at home	Yes	139	66.5
	No	70	33.5
	Total	209	100

According to Table 1, 108 (51.7%) of the participants were female and 101 (48.3%) were male. Of the Turkish teacher candidates included in the sample, 65 (32.1%) were 1st year, 53 (25.4%) were 2nd, 47 (22.5%) were 3rd, and 44 (21.1%) were found to be 4th grade students. Of the participants, 125 (59.8%) had a personal computer and 84 (40.2%) had no personal computers. 139 (66.5%) prospective teachers had internet access at home and 70 (33.5%) did not have internet access at home.

2.3. Data Collection and Analysis

“Educational Internet Usage Self-Efficacy Scale” developed by Şahin (2004) was used to examine the educational internet usage self-efficacy beliefs of Turkish teacher candidates. The 5-point Likert-type scale consisting of 28 items is one-dimensional. The Cronbach Alpha reliability coefficient calculated by the developer of the scale was found to be 0.96. The Cronbach Alpha reliability coefficient calculated in this study was 0.95. According to Nunnally (1978) this value needs to be 0.70 and above. The lowest score that can be obtained in the scale is 28 while the highest score is 140. High scores obtained from the scale were interpreted as a high self-efficacy belief in terms of educational internet usage, whereas low scores were interpreted as a low self-efficacy belief.

The Kolmogorov-Smirnov test was used to determine whether the data obtained on the educational internet usage self-efficacy beliefs of Turkish teacher candidates showed normal distribution. Arithmetic mean was used to determine self-efficacy belief levels; independent samples t test was used for owning a personal computer and

having internet access at home variables; and one-way analysis of variance (ANOVA) was used for grade level variable. While analyzing the obtained data, significance level was accepted as 0.05 ($P < 0.05$).

3. Results

3.1 What is the level of educational internet usage self-efficacy beliefs of Turkish teacher candidates?

Table 2: The mean level of self-efficacy beliefs of Turkish teacher candidates

	N	Min	Max	\bar{x}	ss
Overall Mean	209	35	140	94.82	1.44

According to Table 2, the mean level of self-efficacy belief of Turkish teacher candidates is 94.82. Considering that the highest score that can be obtained from the scale is 140, it can be said that Turkish teacher candidates who participated in the study considered themselves sufficient in terms of educational internet usage.

3.2 Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to their gender?

Table 3: Educational internet usage self-efficacy beliefs of Turkish teacher candidates according to their gender

Groups	N	\bar{x}	S	sd	t	p
Female	108	95.20	18.56	207	.27	.78
Male	101	94.41	23.24			

Table 3 shows the results of independent samples t test performed in order to determine whether Turkish teacher candidates' educational internet usage self-efficacy beliefs showed a significant difference according to their gender. According to these results, there was no significant difference in educational internet usage self-efficacy beliefs according to gender ($t = 0.27$, $P > 0.05$). This finding shows that educational internet usage self-efficacy belief levels of male and female Turkish teacher candidates are similar.

3.3 Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to their grade level?

Table 4: Self-efficacy beliefs of Turkish teacher candidates according to their grade levels

Source of variance	Sum of squares	df	Mean of squares	F	p
Intergroup	4306.659	3	1435.553	3,397	,019
Intragroup	86641.449	205	422.641		
Total	909048.108	208			

Table 4 shows the results of one-way ANOVA test performed in order to determine whether Turkish teacher candidates' educational internet usage self-efficacy beliefs showed a significant difference according to their grade. According to these results, there was a significant difference in educational internet usage self-efficacy beliefs according to grade ($F = 3.397, P < 0.05$). The post-hoc Tukey test performed to identify the source of difference revealed that educational internet usage self-efficacy belief of third year candidate teachers was significantly higher than that of second year candidate teachers.

3.4 Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to owning a personal computer?

Table 5: Educational internet usage self-efficacy beliefs of Turkish teacher candidates according to owning a personal computer

Groups	N	\bar{x}	S	sd	t	p
Yes	125	99.84	20.02	207	4.42	.00
No	84	87.35	20.06			

Table 5 shows the results of independent samples t test performed in order to determine whether Turkish teacher candidates' educational internet usage self-efficacy beliefs showed a significant difference according to owning a personal computer. According to these results, there was a significant difference in educational internet usage self-efficacy beliefs according to owning a personal computer ($t = 4.42, P < 0.05$). The educational internet usage self-efficacy belief of candidate teachers who owned a personal computer was significantly higher than that of candidate teachers who did not own a personal computer.

3.5 Is there a significant difference in the educational internet usage self-efficacy beliefs of Turkish teacher candidates according to having internet connection at home?

Table 6: Educational internet usage self-efficacy beliefs of Turkish teacher candidates according to having internet connection at home

Groups	N	\bar{x}	S	sd	t	p
Yes	139	98.58	20.22	207	3.77	.00
No	70	87.35	20.37			

Table 6 shows the results of independent samples t test performed in order to determine whether Turkish teacher candidates' educational internet usage self-efficacy beliefs showed a significant difference according to having internet connection at home. According to these results, there was a significant difference in educational internet usage self-efficacy beliefs according to this variable ($t = 4.42, P < 0.05$). The educational

internet usage self-efficacy belief of candidate teachers who had internet connection at home was significantly higher than that of candidate teachers who did not.

4. Conclusion, Discussion, and Recommendations

Based on this study conducted in order to determine the educational internet usage self-efficacy beliefs of Turkish teacher candidates and examine these beliefs in terms of gender, grade, personal computer ownership and having internet connection at home, it was found that the participants considered themselves sufficient in terms of educational internet usage ($\bar{x}= 94.82$). This result is consistent with other studies investigating educational internet usage self-efficacy beliefs of teacher candidates (Kahraman, Yılmaz, Erkol and Altun Yalçın, 2013; Yoldaş and Argın, 2015; Akın, 2016; Kabaran, Altıntaş and Göçen Kabaran, 2016).

Another result of this study is that educational self-efficacy beliefs of Turkish language teachers do not differ according to gender, but differ according to grade level, personal computer ownership and having internet connection at home. There are studies in the literature supporting this lack of difference between genders (Kutluca and Ekici, 2010; Tuncer and Özü, 2012; Kahraman, Yılmaz, Erkol and Altun Yalçın, 2013; Yoldaş and Argın, 2015; Akın, 2016; Kabaran, Altıntaş and Göçen Karaban, 2016). On the other hand, Yenilmez, Turğut, Anapa and Ersoy (2011) found that educational internet usage self-efficacy beliefs differed in favor of male teacher candidates. In this study, it was highlighted that educational internet usage self-efficacy beliefs of Turkish teacher candidates differed significantly according to their grades and the difference was in favor of third year students when compared to the second-year students. Akın (2016) reported that Turkish teacher candidates' educational internet usage self-efficacy beliefs differed according to grade, while the difference was in favor of the fourth-year students. On the other hand, Yenilmez, Turğut, Anapa and Ersoy (2011) concluded that grade levels did not make a significant difference on educational internet usage self-efficacy beliefs. The results obtained in this study were interpreted as the positive effect of computer courses taken by second year candidate teachers on their self-efficacy beliefs.

In this study, it was noted that owning a personal computer and having internet connection at home significantly increased educational internet usage self-efficacy beliefs of candidate teachers. According to the study conducted by Yenilmez, Turğut, Anapa and Ersoy (2011), owning a personal computer made a significant difference in educational internet usage self-efficacy; whereas Kutluca and Ekici (2010) stated that personal computer ownership did not make a significant difference. Kahraman, Yılmaz, Erkol and Altun Yalçın (2013) have noted that computer experience increases educational self-efficacy belief. Since owning a personal computer is expected to increase computer experience, our result is consistent with that of Kahraman, Yılmaz, Erkol and Altun Yalçın (2013). Although there is no study in the literature that examines having internet connection at home as a variable, some studies show that time

spent on the Internet has a positive effect on educational internet usage self-efficacy beliefs (Yenilmez, Turğut, Anapa and Ersoy, 2011; Tuncer and Özü, 2012). Due to the fact that having internet connection at home will directly affect the time spent on the Internet, our results support the results of other studies investigating time spent on the Internet.

Based on the results of this study, the following recommendations can be made:

- Within the scope of this study, educational internet usage self-efficacy beliefs were evaluated in terms of gender, grade level, owning a personal computer and having internet connection at home, and the results were found to be consistent with some of the studies in the relevant literature, and inconsistent with some others. Therefore, the effect of these variables and new variables can be examined in future studies.
- In this study, it was found that grade level significantly differentiated educational internet usage self-efficacy belief, and this difference was interpreted as the effect of computer courses taken during the second year. Since a course where teacher candidates learn basic computer usage can affect educational internet usage self-efficacy beliefs, courses where educational technologies are introduced and applications of internet usage in education are presented can be included in faculty curricula.
- It was highlighted that the educational internet usage self-efficacy beliefs of teacher candidates who own a personal computer and have internet connection at home, or in general terms have the opportunity to spend longer time on the internet, differed significantly from those who do not have this opportunity. Therefore, measures should be taken to facilitate the access of disadvantaged teacher candidates to computers and internet access in educational environments and faculty facilities.

References

- Ağyar Bakır, B. and Uzun, B. (2018). Developing the social media addiction scale: Validity and reliability studies. *Addicta: The Turkish Journal on Addictions*. Advance online publication. <http://dx.doi.org/10.15805/addicta.2018.5.3.0046>.
- Akın, E. (2016). Turkish teacher candidates' educational use of the internet from various self-evaluation of the works. *International Journal of Language Academy*, 4(1), 348-359.
- Aksüt, M., Er, O., Ateş, S. and Balaban, S. (2013). Üniversite Tarih ve Türkçe bölümü öğrencilerinin bilişim teknolojilerine yönelik görüşlerinin incelenmesi. *Eğitim Teknolojileri Araştırma Dergisi*, 2(2).
- Aktan, E. (2018). Assessment of social media addiction levels of university students by numerous variables. *Erciyes İletişim Dergisi*, 5(4), 405-421.

- Arıca, O. T., Dinç, M., Yay, M. and Griffiths M. D. (2018). Adapting the short form of the internet gaming disorder scale into Turkish: Validity and reliability. *Addicta: The Turkish Journal on Addictions*. Advance online publication. <http://dx.doi.org/10.15805/addicta.2019.6.1.0027>.
- Arseven, A. (2016). Self-efficacy: A concept analysis. *Turkish Studies*, 11(19), 63-80.
- Bal, H. (2009). *Sosyal bilimlerde nicel araştırma yöntem ve teknikleri*. Isparta: Fakülte.
- Balcı, Ş., Arsal Gölcü, A. and Eray Öcalan, M. (2013). Internet usage patterns among university students. *Selçuk İletişim*, 7(4), 5-22.
- Bandura, A. (2009). Cultivate self-efficacy for personal and organizational effectiveness. *Handbook of Principles of Organizational Behavior*. (2nd. ed.), (ed. Edwin A. Locke). MA: Blackwell Business, pp. 179-200.
- Bandura, A. and Adams, N. E. (1977). Analysis of Self-Efficacy Theory of behavioral change. *Cognitive Therapy and Research*, 1(4), 287-310.
- Bandura, A. and Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology*, 45(5), 1017-1028.
- Bandura, A., Adams, N. E., Hardy, A. B. and Howells, G. N. (1980). Tests of the generality of Self-Efficacy Theory. *Cognitive Therapy and Research*, 4(1), 39-66.
- Demir, Y. and Kutlu, M. (2017). Relationships among internet addiction, academic procrastination and academic achievement. *The Journal of Academic Social Science Studies*, 61, 91-105.
- Dikmen, M. and Tuncer, M. (2018). The effect of internet addiction on family relationships. *Online Journal of Technology Addiction & Cyberbullying*, 5(1), 34-52.
- Günlü, A. and Ceyhan, A. A. (2017). Investigating adolescents' behaviors on the internet and problematic internet usage. *Addicta: The Turkish Journal on Addictions*, 4, 75-117. <http://dx.doi.org/10.15805/addicta.2017.4.1.0016>.
- Kabaran, H., Altıntaş, S. and Göçen Kabaran, G. (2016). Investigation of the relationship between prospective teachers' educational internet use self-efficacy beliefs and academic self-efficacy beliefs. *Eğitim Kuram ve Uygulama Araştırmaları Dergisi*. 2(1). 1-11.
- Kahraman, S., Yılmaz, Z. A., Erkol, M. and Altun Yalçın, S. (2013). Investigation of pre-service teachers' self-efficacy beliefs of educational internet use. *İlköğretim Online*, 12(4), 1000-1015.
- Karayağız Muslu, G. and Bolışık, B. (2009). Internet usage among children and young people. *TAF Preventive Medicine Bulletin*, 8(5), 445-450.
- Kutluca, T. and Ekici, G. (2010). Examining teacher candidates' attitudes and self-efficacy perceptions towards the computer assisted education. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 38, 177-188.
- MEB (2017). Öğretmenlik mesleği genel yeterlikleri. Ankara: Millî Eğitim Bakanlığı.
- Morgil, İ., Seçken, N. and Yücel, A. S. (2004). Based on some investigation of self-efficacy beliefs of preservice chemistry teachers variables. *BAÜ Fen Bil. Enst. Dergisi*, 6(1), 62-72.

- Nunnally, J. C. (1978). *Psychometric theory*. (2nd ed.). New York: McGraw-Hill.
- Polatcan, F. (2015). Attitudes and opinions of prospective Turkish teachers regarding computer use. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 12(32), 388-400.
- Sağır, M. and Doğruluk, S (2018). The relationship between prospective teachers' social media use and internet addiction. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 18(2), 1041-1063.
- Sağlam, M. (2018). Investigating the risks that online game web sites have with regard to children. *Erciyes İletişim Dergisi*, 5(4), 253-262.
- Şahin, İ. (2009). Validity and reliability of educational internet use self-efficacy beliefs scale. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 21, 461-471.
- Sönmez, V. and Alacapınar, F. (2011). *Örneklendirilmiş bilimsel araştırma yöntemleri*. Ankara: Anı.
- Toplu, M. and Gökçearslan, Ş. (2012). Development of e-learning and reflections of the internet on the process of education: A case study at Gazi University. *Türk Kütüphaneciliği*, 26(3), 501-535.
- Tuncer, M. and Özü, A. (2012). Self-efficacy perception of preservice class teachers to educational internet usage. *Turkish Studies*, 7(2), 1079-1091.
- We Are Social (2018). <https://wearesocial.com/blog/2018/01/global-digital-report-2018>.
- Yenilmez, K., Turğut, M., Anapa, P. and Ersoy, M. (2011). Preservice elementary mathematics teachers' self-efficacy beliefs in educational internet use. 5th International Computer & Instructional Technologies Symposium. <http://web.firat.edu.tr/icits2011/papers/27737.pdf> (17.05.2018).
- Yoldaş, C. and Arın, F. S. (2015). The analysis of belief of self-efficiency of educational internet usage of students who study at the faculty of education. *Eğitim ve Öğretim Araştırmaları Dergisi*, 4(1), 276-283.
- Zimmermann, B. J., Bandura, A. and Martinez Ponz, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663-676.

Kürşad Çağrı Bozkirli
EXAMINATION OF EDUCATIONAL INTERNET USAGE
SELF-EFFICACY BELIEFS OF TURKISH TEACHER CANDIDATES

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Education Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).