

Online practicum and teacher efficacy: correlation, challenges, and lessons arising from Covid-19 pandemic

Çevrimiçi Uygulama ve Öğretmen Yeterliliği: Covid-19 Pandemisinden Kaynaklanan Korelasyon, Zorluklar ve Dersler

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Abstract

This study examined the influence of teaching practicum on preservice teachers' sense of self-efficacy during the covid-19 pandemic. In particular, the study sort to establish if both online and school-based teaching practicums have the same influence on the preservice teachers self-efficacy. A questionnaire was used to collect data from 40 preservice teachers, 2 of them were also interviewed for further insight into the answers provided. It was found that the preservice teachers' sense of self-efficacy was at best "average" during the pandemic time, with online-based practicum teachers showing a slightly stronger self-efficacy overall. However, school-based practicum teachers showed higher self-efficacy in classroom management and student engagement. The slight differences in efficacy levels were found not to be statistically significant to cause a difference in opinion between online teaching practicum and school-based teaching practicum. Possible reasons for general low levels of self-efficacy were discussed, and causes for slightly higher efficacy for online-based practicum also suggested.

Key words: Instructional strategies, online-based practicum, school-based practicum, self-efficacy, student engagement.

Introduction

Teachers around the world continually experience challenges emanating from among other things; heavy workloads, education policy dynamics, and other societal demands that

Öz

Bu çalışma, öğretmenlik uygulamasının, covid-19 salgını sırasında öğretmen adaylarının öz-yeterlik duygusu üzerindeki etkisini incelemiştir. Özellikle, çalışma, hem çevrimiçi hem de okul temelli öğretim uygulamalarının, öğretmen adaylarının öz yeterliği üzerinde aynı etkiye sahip olup olmadığını belirlemeyi amaçlamaktadır. 40 öğretmen adayından veri toplamak için bir anket kullanıldı, verilen cevaplara ilişkin daha fazla bilgi için bunlardan 2'si ile görüşüldü. Öğretmen adaylarının öz-yeterlik duygusunun, pandemi döneminde en iyi ihtimalle "ortalama" olduğu ve çevrimiçi temelli stajyer öğretmenlerin genel olarak biraz daha güçlü bir öz-yeterlik gösterdiği bulunmuştur. Bununla birlikte, okul temelli staj öğretmenleri, sınıf yönetimi ve öğrenci katılımında daha yüksek öz yeterlik göstermişlerdir. Etkililik düzeylerindeki küçük farklılıklar, çevrimiçi öğretmenlik uygulaması ile okul temelli öğretim uygulaması arasında bir görüş farklılığına neden olmak için istatistiksel olarak anlamlı bulunmamıştır. Genel düşük öz-yeterlik seviyelerinin olası nedenleri tartışıldı ve çevrimiçi tabanlı pratik için biraz daha yüksek etkinliğin nedenleri de önerildi.

Anahtar kelimeler: Öğretim stratejileri, çevrimiçi temelli uygulama, okul temelli uygulama, öz yeterlik, öğrenci katılımı.

increasingly compel them to rethink their pedagogy. Now more than ever, teachers have come into sharp focus with the advent of Covid-19 pandemic that has forced education

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stakeholders across the globe back to the drawing board. Consequently, e-Platforms which have essentially been 'stand-ins' for traditional schools have now emerged as credible, and in most cases, the only substitutes. This new normal presents yet more challenges to instructors in terms of preparation and preparing learners, availability of resources to guarantee effective eLearning, and accountability in issues like plagiarism.

The challenges above demand teachers to develop a strong sense of teacher efficacy in order to successfully maneuver through. Teacher efficacy is a concept that has been discussed from as back as late 70's, but Tschannen-Moran, Hoy, & Hoy (1998) defined it as "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context." This definition puts into account early works of Bandura on self-efficacy, and also RAND researchers, and Armor and others definition of teacher efficacy.

There is extensive research that links teaching practicum to preservice teachers' sense of teacher efficacy (Cantrell, Young, & Moore, 2003; Atay, 2007; Gurvitch, & Metzler, 2009; Gao & Mager, 2011; Sokal, Woloshyn, & Funk-Unrau, 2013; Moulding, Stewart & Dunmeyer, 2014; Chen, 2019). However, most of these research focuses on school based teaching practicum. Online teaching practicum, which is a relatively new phenomenon, has not been exhaustively researched. It is worth noting that most pre-service teachers are not sufficiently prepared to integrate technology in their lessons (Liu, 2011) despite growing calls for them to use it in their teaching.

Research from various parts of the world; Turkey (Goktas, Yildirim, & Yildirim, 2009), Singapore (So & Kim, 2009), United States (Russell, Bebell, O'Dwyer, & O'Connor, 2003), and South Korea (Han & Shin, 2011), highlights this grim phenomenon as occurring universally across the globe. Therefore, subjecting the technologically-not-ready pre-service teachers to online teaching practicum is bound to have challenges which may tamper with the pre-service teachers' sense of efficacy. Indeed, little exists in research about online practicum and yet it has emerged as a powerful tool in nCovid-19 times. As such, this paper aims to examine how online teaching practicum affects preservice teachers' sense of teaching efficacy, and compare the outcome to that of the school based teaching practicum.

The research utilizes the following research questions to achieve the intended objectives.

How does online teaching practicum influence pre-service teachers' sense of teacher efficacy? Are there differences in the way online teaching practicum and school based teaching practicum influence pre-service teachers' sense of teacher efficacy? What intervening factors cause such differences?

Research objectives are:

1. To establish the effects of online teaching practicum on pre-service teachers' sense of teacher efficacy.
2. To explore differences between the effects of online teaching practicum and those of school based teaching practicum on the pre-service teachers' sense of teacher efficacy.
3. To examine intervening factors that may cause differences in the effects of online teaching practicum and those of school based teaching practicum on the pre-service teachers' sense of teacher efficacy.

Theoretical Framework

Concept of self-efficacy

The concept of self-efficacy is grounded in Albert Bandura's Social Cognitive Theory, which assumes human agency in all individuals, operating in a triadic reciprocal causation, a process that espouses future behavior as a result of the environment, behavior, and internal factors such as cognitive and affective processes (Henson, 2001). Henson further suggested that the three factors influence self believes, determines choices, and actions taken thereafter. It is against this backdrop that Bandura (1977) developed the self-efficacy theory (SET), and in his subsequent works supported and emphasized his notion that self-believe in one's abilities strongly affects behavior and determines one's success or failure (Bandura, 1982, 1986, 1993, 1996, 1997)

Tschannen-Moran, Hoy, & Hoy (1998), drawing from Bandura's extensive work, and combining with that of Armor, Conroy-Oseguera, Cox, King, McDonnell, Pascal, Pauly, & Zellman, (1976), gave unabridged definition of teacher efficacy. They also proposed a teacher efficacy theoretical model that strived to encompass all aspects of teacher efficacy and termed it "the cyclical nature of teacher efficacy" as seen in figure 1 below.

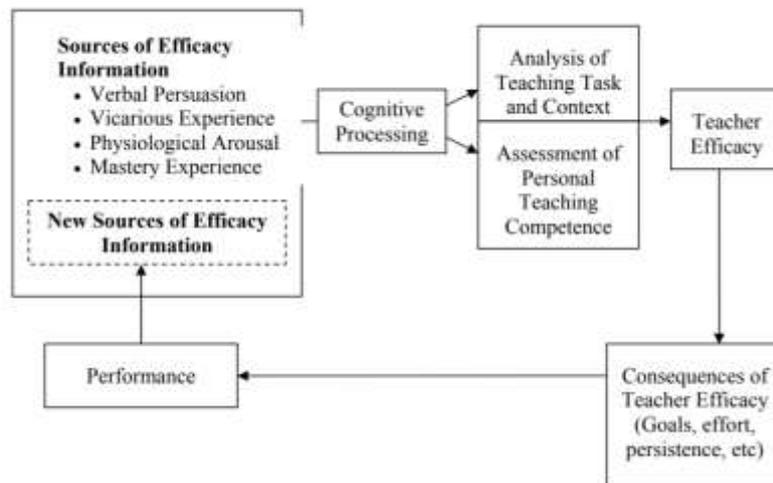


Figure 1. The Cyclical Nature of Teacher's Efficacy (Tschannen-Moran, Hoy, & Hoy, 1998)

Teacher efficacy is affected by a number of factors; chief among them being the interpretation of the source of efficacy information (Çapa, 2005). As displayed in the figure above, sources of efficacy information are verbal/social persuasion, vicarious experience, physiological/emotional arousal, and mastery experience. Of these, pre-service teachers are more likely to rely on mastery experience and verbal persuasion than vicarious experience and emotions (Yüksel, 2014). In other words, pre-service teachers who believe that they have sufficient knowledge of the subject matter and therefore have deep understanding of the content may have enhanced confidence in delivery of the that content. However, mastery of subject content alone may not be adequate, pre-service teachers believe in cognitive pedagogical mastery as well controlled emotion develops the teacher's sense of efficacy considerably (Palmer, 2006). Indeed, Tschannen-Moran, et.al, (1998) contents that perception of a successful performance by a teacher raises efficacy believes. This suggests that teacher efficacy vary depending on the task and context (Çapa, 2005).

Verbal persuasion is perhaps the most commonly used source of self-efficacy. Pre-service teachers can adjust, or completely change their self-efficacy by listening to experienced (mentor) teachers. As Ma & Cavanagh, (2018) suggest, individuals can be swayed to believe in achieving certain goals if they watch someone they believe to be credible achieve the same. They however, warn that such improved self-efficacy can easily be eroded in the face of adversity, such as abortive results.

Online teaching, on the other hand, is a relatively new experience, but with rapid technological

advancement, it has gained momentum, and with it teacher training programs have followed suit, although online teaching practicum has yet to take root. A few researches that have been done about online support for pre-service teachers in the field, but little is available about the whole teaching practicum course taking place online. Indeed it's a difficult concept because the essence of teaching practicum is to provide "hands on" experience for pre-service teachers (Frey, 2008). Dorner & Kumar, (2016) posit that online platform provides a favorable environment for collaboration among mentor teachers, university educators and pre-service teachers, thus, boosting the confidence of pre-service teachers who are in the field on practicum. There is no doubt that online delivery of teacher education impacts positively on pre-service teachers, such that it allows them to share issues that mutually affect them and exchange notes in an effort to correct their mistakes (Ekici, 2018).

Methodology

This is a mixed methods semi-longitudinal study with both quantitative and qualitative approaches applied in order to exhaust all possible avenues of obtaining relevant information. Qualitative approach is especially employed to explain and better understand data obtained quantitatively (Creswell & Creswell, 2017).

Research Hypothesis

Research questions 1 and 3 are hypotheses free, but research question 2 has a hypothesis and is stated in the null as follows.

H₀: There is no difference in opinion between preservice teachers who did online teaching practicum and those who did school-based teaching practicum on the form of teaching practicum that is appropriate for self-efficacy.

Participants

Participants were selected from a leading private university in a longitudinal manner, including recent graduates from up to 3 years back as well as current pre-service teachers. Purposive sampling using stratified technique, with total populations in individual strata, was used to collect data. Total populations were necessary in this study because of insufficient strata populations for alternative sampling methods. Former graduates were engaged in an effort to provide enough data for comparative purposes, and affirm or otherwise give their views on teachers' self-efficacy during school based teaching practicum.

Instruments

A questionnaire was used to collect quantitative data and an interview conducted for qualitative data. The questionnaire was composed of 2 parts; the first part consisted of items for analyzing biodata of the respondents and items for measuring teacher efficacy during online teaching practicum, the second part consists of items for evaluating teacher efficacy during school based teaching practicum. The questionnaire was created on a google form and administered online via sharing option available on the form. The interview schedule was composed of items mostly for clarifying answers

given in the questionnaire and also to gather more data on teacher efficacy during both online and school based practicums. The interviews were conducted via social media video conferences such as Zoom, WhatsApp, and Skype by the researchers. The success rate for both questionnaire and interviews was 100% as the population involved was not large which made follow up easy to undertake.

Results and Discussion

In this study, slightly more than a third of the respondents were male students, 80% of whom either graduated on time or were well positioned to graduate on time. The large number of male students may be attributed to the masculine culture dominant in the region. Majority of those who graduated work in the private sector, mostly in schools, and almost 90% of them earn below \$12000 US dollars a year. In terms of ethnicity, more than three-quarters were local Kurdish, the rest were either of Arabic or Turkish ethnicity, none was from the Turkman ethnic community. A tad above one-third did their teaching practicum in private secondary schools, about a quarter shared public secondary and high schools, and the remaining 45% split between private high schools and private primary schools.

The table below presents a summary of the results as analyzed by SPSS. As may be seen, three factors, classroom management, instructional strategies and student engagement were analyzed together. They were also later, looked at individually in light of online-based respondents vis-a-vis school-based respondents.

Table 1.
Summary of Pre-Service Teachers Self-Efficacy.

Item	Percentages				
	Nothing	Very little	Some influence	Quite a bit	great deal
How much can you do to get through to the most difficult students?	2.50	37.50	27.5	15.00	17.50
How much can you do to help your students think critically?	0.00	27.50	35.0	17.50	20.00
How much can you do to control disruptive behavior in the classroom?	0.00	27.00	30.00	27.50	17.50
How much can you do to motivate students who show low interest in schoolwork?	0.00	20.00	22.50	22.50	35.00
To what extent can you make your expectations clear about student behavior?	0.00	25.00	35.00	27.50	12.50
How much can you do to get students to believe they can do well in school work?	0.00	15.00	25.00	40.00	20.00
How well can you respond to difficult questions from your students?	5.00	20.00	27.50	22.50	25.00
How well can you establish routines to keep activities running smoothly?	2.50	15.00	32.50	22.50	27.50

How much can you do to help your students value learning?	2.50	25.00	20.00	32.50	20.00
How much can you gauge student comprehension of what you have taught?	2.50	7.50	42.50	35.00	12.50
How much can you do to foster student creativity?	2.50	22.50	35.00	32.50	7.50
How much can you do to get children to follow classroom rules?	2.50	15.00	27.50	30.00	25.00
How much can you do to improve the understanding of a student who is failing?	12.50	7.50	25.00	45.00	10.00
How much can you do to calm a student who is disruptive or noisy?	0.00	15.00	25.00	37.50	22.50
How well can you establish a classroom management system with each group of students?	5.00	12.50	20.00	35.00	27.50
How much can you do to adjust your lessons to the proper level for individual students?	0.00	22.50	32.50	30.00	15.00
How much can you use a variety of assessment strategies?	2.50	15.00	22.50	47.50	12.50
How well can you keep a few problem students from ruining an entire lesson?	5.00	22.50	25.00	27.50	20.00
To what extent can you provide an alternative explanation or example when students are confused?	2.50	17.50	22.50	30.00	27.50
How well can you respond to defiant students?	2.50	12.50	32.50	32.50	20.00
How much can you assist families in helping their children do well in school?	7.50	12.50	27.50	22.50	30.00
How well can you implement alternative strategies in your classroom?	2.50	15.00	27.50	40.00	15.00
How well can you provide appropriate challenges for very capable students?	2.50	15.00	30.00	40.00	12.50
Average	2.72	18.46	28.26	30.98	19.67

Table 1 above gives a summary of the preservice teachers' self-assessment on the three constructs of student engagement, classroom management and instructional strategies. In general, most preservice teachers on average do "Quite a bit" to accomplish their tasks. From the table, 40% of the respondents either content that they would do nothing or very little to get through to the most difficult students, and more than half can do very little or have some influence on controlling disruptive behaviour in the classroom, as well as keep a few problematic students from ruining an entire lesson. Indeed, given that such a high percentage of respondents would struggle with classroom management issues, it becomes apparent why only 25% would go an extra mile to get students to follow classroom rules, and 27% would do a great deal to establish classroom routines, with a tad higher percentage than this would strive to establish classroom management systems with groups of students. Of note, however, a sizeable 5% would do absolutely nothing in each of the later 2 aspects of teaching and learning.

Nonetheless, 60% would do quite a bit or a great deal to calm down a student who is disruptive or noisy, whereas only 40% responded in the same way about making their expectations clear about students behavior in the classroom. It's impressive that 35% would have some influence on trying to get students to think critically, and

the same percentage would do a great deal to motivate students who show low interest in school work. Indeed, this is consistent with the 40% who would do quite a bit to make students believe they can do well in school work, but only half of these would go an extra mile to make students value learning.

Creativity in teaching is an area that many teachers struggle with, including experienced teachers. Therefore, it's not surprising that a paltry 7% would go a great deal to foster creativity in students, which is consistent with a significant 12% who would do nothing to improve the understanding of failing students, a bulky 42% who would have just some influence on trying to gauge students understanding of the lesson. In terms of assessment, an impressive 60% would either do quite a bit or a great deal to use a variety of assessment tools, and an approximately similar percentage would do the same to provide appropriate challenges for very capable students, or provide alternative explanations and implement alternative strategies in the classroom.

Families play a major role in the learning process of children; it is therefore worth noting that 7.5% of the respondents would do absolutely nothing to assist families in helping their children do well in school. This is rather a big percentage.

Classroom Management

Table 2 below gives a summary of the comparison of the preservice teachers' efficacy between online-based teaching practicum and

school-based practicum. As can be seen, there are some aspects of classroom management that had clear significant differences between the two groups.

Table 2.

The comparison of Pre-Service Teachers Self-Efficacy in Classroom Management.

Item	Means		Sig.
	Online-based	School-based	
How much can you do to control disruptive behavior in the classroom?	2.17	2.46	0.420
How much can you do to get children to follow classroom rules?	3.42	2.60	0.001
How much can you do to calm a student who is disruptive or noisy?	2.17	2.89	0.033
How well can you keep a few problem students from ruining an entire lesson?	2.08	2.46	0.360
How well can you respond to defiant students?	3.08	2.32	0.031
To what extent can you make your expectations clear about student behavior?	2.00	2.39	0.254
How well can you establish routines to keep activities running smoothly?	2.75	2.50	0.528
Average	2.52	2.52	

From the table, getting students to follow classroom rules, the effort to calm down disruptive or noisy students, and responding well to defiant students, are all viewed differently by the two groups of preservice teachers. The mean differences as displayed in the table are 0.82, 0.72, and 0.76 respectively. This means that the way online-based group would calm a disruptive student, or respond to a defiant student, or gets students to follow classroom rules are significantly different from the way school-based group would do it. It's worth noting that in the three cases, school-based teaching practicum had a higher mean score in only one, calming a student who's disruptive or noisy. Online-based teaching practicum had higher mean scores in the remaining two cases.

The rest of the items tested in this category; controlling disruptive behavior, keeping problematic students from ruining the entire

lesson, making expectations clear about students' behavior, and establishing routines to keep activities going were all viewed in the same way by both groups. That is, there were no statistically significant differences in the way the online-based group would handle these four aspects of classroom management vis-à-vis school-based group. The mean differences as the table indicates, 0.29, 0.38, 0.39, and 0.15 respectively, are not considerably large enough to cause a difference in the preservice teachers' perceptions about how they would handle the four classroom management aspects. Despite having some aspects that are significantly different, the overall outcome indicates no difference in the classroom management efforts between the two groups with an equal mean score of 2.52 for both.

Instructional Strategies

Table 3.

The comparison of Pre-Service Teachers Self-Efficacy in Instructional Strategies.

Item	Means		Sig.
	Online-based	School-based	
To what extent can you provide an alternative explanation or example when students are confused?	2.33	2.75	0.299
To what extent can you craft good questions for your students?	2.50	2.71	0.552
How well can you respond to difficult questions from your students?	2.50	2.39	0.802
How much can you do to adjust your lessons to the proper level for individual students?	2.42	2.36	0.866
How well can you provide appropriate challenges for very capable students?	2.33	2.50	0.630
Average	2.42	2.54	

From the table above, it can be seen clearly that there was no item in this category whose mean difference between the two groups was large enough to be statistically significant. Indeed, the highest mean difference of 0.42 is seen in the extent to which preservice teachers can provide alternative explanations or provide examples where students are confused. The least difference of 0.06 is recorded in how far preservice teachers can do to adjust their lessons to the proper level for individual students. Out of the five categories

examined, school-based teaching practicum had highest mean scores in three of them; providing alternative explanations or examples to confused students, crafting good questions for students, and providing appropriate challenges for very capable students. Online-based practicum scored highest on the remaining two, with an overall lower average mean score of 2.42 as compared to 2.54 of school-based teaching practicum.

Students Engagement

Table 4.
The comparison of Pre-Service Teachers Self-Efficacy in Students Engagement.

Item	Means		Sig.
	Online-based	School-based	
How much can you do to get students to believe they can do well in school work?	2.33	2.79	0.182
How much can you do to help your students to value learning?	2.75	2.29	0.248
How much can you do to motivate students who show low interest in schoolwork?	3.17	2.54	0.014
How much can you assist families in helping their children do well in school?	3.08	2.32	0.039
How much can you do to improve the understanding of a student who is failing?	2.33	2.32	0.977
How much can you do to help your students think critically?	2.17	2.36	0.917
How much can you do to get through to the most difficult students?	2.50	1.89	0.012
Average	2.62	2.36	

From table 4 above, three aspects of student engagement had statistically significant differences in the way preservice teachers perceived them. Motivating students who show low interest in schoolwork, assisting families in helping their children do well in school, and getting through to the most difficult students. All the three, as can be seen, had higher mean scores in the online-based teaching practicum as compared to the school-based teaching practicum. The remaining four aspects of student engagement had means for both groups that were not large enough to cause a statistically significant difference. But unlike the three that had statistically significant differences, these four have highest means alternating between the online-based and the school-based teaching

practicums. From the table, it can be clearly observed that getting students to believe they can do well in schoolwork and helping students to think critically had highest means in the school-based teaching practicum, whereas helping students to value learning and improving the understanding of students who are failing had highest means in the online-based teaching practicum. Interesting to note is that the last item had a very small mean difference of 0.01, almost having the same means between the two groups. But “average” mean scores indicate online-based practicum having an upper hand in student engagement with 2.62 in comparison to 2.36 of school-based practicum.

Mean of the means

Table 5.
The comparison of Pre-Service Teachers overall Self-Efficacy.

Item	Means		Sig.
	Online-based	School-based	
Instructional strategies	2.4167	2.5429	0.574
Classroom management	2.5238	2.4694	0.782
Student engagement	2.6190	2.3571	0.027
Average	2.5198	2.4565	

Table 5 above shows the overall analysis of the overall comparison of the preservice teachers' efficacy regarding the three constraints in this paper. Instructional strategies and classroom management were found to have no significant differences between the online-based and the school-based teaching practicums. Online-based practicum seems to have a higher mean in classroom management and school-based practicum a higher mean in instructional strategies. However, student engagement showed a statistically significant difference between the two groups. The mean difference doesn't seem to be that large but the P-value of 0.027 indicates a significant difference. The overall means indicate online-based teaching practicum having a tad higher self-efficacy with a mean of 2.52 as compared to 2.46 of school-based teaching practicum.

The Independent Samples T-Test

One question was put to respondents seeking their opinion on whether online teaching practicum was appropriate for self-efficacy rather than school based face to face practicum. From Levene's Test for Equality of Variances, 0.819, the two groups' variances were not significantly different statistically; therefore, the null hypothesis is not rejected at 0.05 confidence level with a P value 0.634. This implies that there is no significant difference in opinions of the preservice teachers that did the teaching practicum online and those that did it face to face in schools, on which of the two forms of teaching practicum was appropriate for self-efficacy.

Interviews

School-based teaching practicum group showed a higher self-efficacy in classroom management and some of the responses attest to this. When asked why they would do "quite a bit" to control disruptive behavior in the classroom, one of them responded thus;

"If I face any problem like that we should control our self-do not shout and try to solve the problem smoothly if not we should inform school manager to fix the problem if not we should call their parents."

On the other hand, the online based group that scored slightly less in classroom management, asked why they would do "very little" to control disruptive behavior in class explained thus;

"very little because I cannot see them in the face to face and we cannot discuss during the lessons

just we can ask them and they can answer to us but we don't have a lot of chance to discuss in the classroom."

For instructional strategies, responses were much more varied. For example, when the school-based group was asked they can go "a great deal" to provide an alternative explanation or an example when students are confused, one explained thus;

"We as teachers have many methods to use during our explanation; I can say like doing group working or invite them to outside of the class to explain to them."

The response from online-based group to why they would "do nothing" to provide an alternative explanation or an example when students are confused, one explained thus;

"Nothing because students cannot ask during the lesson because we are not meeting them and also for example if one can come to school after class and ask the missing or the confusing something or tell us the we can help."

Finally for student engagement responses were similar but explanations in most cases were different. When the school-based group were asked why they would go to "a great deal" to get students to believe they can do well in school work, one of them answered thus;

"I can befriend them and motivate them every time and teach them how to believe themselves, and set actionable goals. And be with them so they do not think negatively and encourage them to try again and again."

But when the online-based group was asked way they would go to "a great deal" to get students to believe they can do well in school work, one of them answered thus;

"A great deal, I tell students that School work is just like playing games, they spend a lot of time on the online gaming so they can do something like this with schoolwork. We are not giving them a lot of schoolwork because if it's too much the students will get bored and will not do it but they should play less and not late."

Conclusions

The results show what can be described as "average" self-efficacy at best. This is a relatively low self-efficacy, a result consistent with Ma & Cavanagh, (2018) who found lower

level self-efficacy in preservice teachers. Possible reasons for such low level self-efficacy may include long protracted fighting and instability in the region, and Iraq in particular. General lack of proper structures including teacher training institutions and personnel may also be a contributing factor.

Preservice teachers showed a slightly stronger self-efficacy in classroom management, a result consistent with the finding of Chen, J. (2019). The result, however, differs from Sarfo, Amankwah, Sam & Konin, (2015) who found that student engagement commanded higher self-efficacy in teachers. This may be due to different geographical regions and therefore different societal and personal beliefs that influence teachers' self-efficacy. In this study, the higher self-efficacy in classroom management may be due to the high power distance culture that dominates the region. This is a culture that demands respect for elderly and those in power, they cannot be questioned about the decisions they make. The society is also highly patriarchal. Students, therefore hold teachers in positions of power and automatically accord them due respect. Preservice teachers' stronger self-efficacy in classroom management may have been informed by this belief. Indeed, as one of the respondents plainly put, teachers have three options when it comes to classroom management; try to do it themselves, bring in the school administration, or call in parents. School administrators and parents are more respected due to their positions. Students would not want their parents to be called in, let alone be taken to the school administrators.

Student engagement came in second after classroom management as no surprise. The low level of educational development in the region has kept most of the population uneducated. Teachers and other education stakeholders, therefore, constantly engage in motivation and persuasion to keep students in schools. Of course student engagement in this respect refers to how teachers involve students in the lesson. In which case they, teachers, have to balance delicately between pushing students to participate and enticing them not to quit altogether. Teachers have to "befriend" students, put them in some sort of social groups and constantly keep them engaged in order to keep their minds off societal issues that may affect their progress at school.

The slight higher self-efficacy among the online-based preservice teachers may be attributed to a number of factors. This result is also consistent with Mahalingappa, Hughes, & Polat, (2018)

findings that preservice teachers who took E-Pal project had positive self-efficacy as compared to those who didn't, and also that of Mergler & Tangen, (2010) who posited that internet preservice teachers had higher efficacy than internal ones. First, the current generation of teachers is mostly tech-savvy, they are almost always online on social media or gaming sites. This may have enhanced their self-confidence in technology and online platforms prior to joining the teacher training program. Secondly, the nCOVID-19 pandemic may have had a hand in this too. With everyone scared of face to face meetings, the preservice teachers must have psyched themselves to do their best as that was the only chance for them to get a full teacher training experience. Lastly, the anxiety, confusion, and even fear that new teachers experience when going in class for the first time may be reduced, and for others entirely eliminated by the fact that they do not meet students face to face. A virtual classroom may be akin to flight simulator, where preservice teachers assume a nonrealistic trial of the classroom. This phenomenon may also perhaps explain why online preservice teachers showed a stronger self-efficacy in student engagement. The assumption being that they were able to reach out to students through various online platforms, especially those ones frequented or favored by learners. For instance, if teachers play the same online games with students they develop a close relationship that may break barriers which exist automatically between teachers and students. If this happens, teachers can easily engage students on any topic, including school related issues, and becomes easier to engage students in class as well.

However, school-based preservice teachers showed a strong self-efficacy in instructional strategies, perhaps signifying the challenges of switching instructional methods in virtual classrooms. Whereas physical classrooms affords a teacher close proximity to students which allows for quick assessment of the effectiveness of the method of instruction, virtual classrooms do not afford teachers the same advantage. Teachers may take a longer time to ascertain whether the method of teaching employed is indeed effective or not. Therefore, face to face classroom teachers may be in a position to switch instructional methods faster and effectively as compared to virtual classroom teachers.

In conclusion, therefore, the study hypothesis was not rejected leading to the conclusion that there is no difference in opinion between

preservice teachers who did online teaching practicum and those who did school-based teaching practicum on the form of teaching practicum that is appropriate for self-efficacy. In other words, either of the two forms of teaching can be good for teachers' self-efficacy. Indeed, there was no significant difference in preservice teachers' level of self-efficacy between the online-based and the school-based groups.

Bibliographic references

- Armor, D., Conroy-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pauly, E., & Zellman, G. (1976). Analysis of the school preferred reading programs in selected Los Angeles minority schools (Rep. No. R-2007-LAUDS). Santa Monica, CA: RAND. (ERIC Document Reproduction Service No. 130 243)
- Atay, D. (2007). Beginning teacher efficacy and the practicum in an EFL context. *Teacher development*, 11(2), 203-219.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Bulletin*, 84, 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bandura, A. (1996). *Self-efficacy in changing societies*. New York: Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Cantrell, P., Young, S., & Moore, A. (2003). Factors affecting science teaching efficacy of preservice elementary teachers. *Journal of Science Teacher Education*, 14(3), 177-192.
- Çapa, Y. (2005). Factors influencing first-year teachers' sense of efficacy (Doctoral Dissertation), The Ohio State University, Ohio.
- Chen, J. (2019). Efficacious and positive teachers achieve more: Examining the relationship between teacher efficacy, emotions, and their practicum performance. *The Asia-Pacific Education Researcher*, 28(4), 327-337.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Dorner, H., & Kumar, S. (2016). Online collaborative mentoring for technology integration in pre-service teacher education. *TechTrends*, 60(1), 48-55.
- Ekici, D. I. (2018). Development of pre-service teachers' teaching self-efficacy beliefs through an online community of practice. *Asia Pacific Education Review*, 19(1), 27-40.
- Frey, T. (2008). Determining the impact of online practicum facilitation for in-service teachers. *Journal of Technology and Teacher Education*, 16(2), 181-210.
- Gao, W., & Mager, G. (2011). Enhancing preservice teachers' sense of efficacy and attitudes toward school diversity through preparation: A case of one US inclusive teacher education program. *International Journal of Special Education*, 26(2), 92-107.
- Goktas, Y., Yildirim, S., & Yildirim, Z. (2009). Main barriers and possible enablers of ICTs integration into pre-service teacher education programs. *Educational Technology & Society*, 12, 193-204.
- Gurvitch, R., & Metzler, M. W. (2009). The effects of laboratory-based and field-based practicum experience on pre-service teachers' self-efficacy. *Teaching and Teacher Education*, 25(3), 437-443.
- Han, I., & Shin, W. S. (2011). A Multimedia Case-based Environment: Teaching Technology Integration to Pre-service Teachers. *Educational Technology International*, 12(1), 1-20.
- Henson, R. K. (2001). Teacher self-efficacy: Substantive implications and measurement. Retrieved from https://www.researchgate.net/publication/2365774_Teacher_Self-Efficacy_Substantive_Implications_and_Measurement_Dilemmas
- Liu, S. H. (2011). Factors related to pedagogical beliefs of teachers and technology integration. *Computers & Education*, 56, 1012-1022.
- Ma, K., & Cavanagh, M. S. (2018). Classroom ready? Pre-service teachers' self-efficacy for their first professional experience placement. *Australian Journal of Teacher Education*, 43(7), 8.
- Mahalingappa, L., Hughes, E. M., & Polat, N. (2018). Developing preservice teachers' self-efficacy and knowledge through online experiences with English language learners. *Language and Education*, 32(2), 127-146.
- Mergler, A. G., & Tangen, D. (2010). Using microteaching to enhance teacher efficacy in pre-service teachers. *Teaching Education*, 21(2), 199-210.
- Moulding, L. R., Stewart, P. W., & Dunmeyer, M. L. (2014). Pre-service teachers' sense of efficacy: Relationship to academic ability, student teaching placement characteristics, and mentor support. *Teaching and teacher education*, 41, 60-66.



Palmer, D.H (2006). Sources of self-efficacy in a science methods course for primary teacher education students. *Research in Science Education*, 36(4):337-353. doi:10.1007/s11165-005-9007-0

Russell, M., Bebell, D., O'Dwyer, L., & O'Connor, K. (2003). Examining teacher Technology use: Implications for preservice and in-service teacher preparation. *Journal of Teacher Education*, 54, 297–310.

Sarfo, F. K., Amankwah, F., Sam, F. K., & Konin, D. (2015). Teachers' self-efficacy beliefs: The relationship between gender and instructional strategies, classroom management and student engagement. *Ghana Journal of Development Studies*, 12(1-2), 19-32.

So, H. J., & Kim, B. (2009). Learning about problem based learning: Student teachers

integrating technology, pedagogy and content knowledge. *Australasian Journal of Educational Technology*, 25, 101–116.

Sokal, L., Woloshyn, D., & Funk-Unrau, S. (2013). How important is practicum to pre-service teacher development for inclusive teaching? Effects on efficacy in classroom management. *Alberta Journal of Educational Research*, 59(2), 285-298.

Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of educational research*, 68(2), 202-248.

Yüksel, H. G. (2014). Becoming a teacher: tracing changes in pre-service English as a foreign language teachers' sense of efficacy. *South African Journal of Education*, 34(3).