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A Comparative Study of Saudi Arabian and U.S. Pre-service Teachers' Readiness for Technology Integration

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The purpose of this study was to find by self-report how knowledgeable and comfortable teachers felt about their use of technology within their classroom. For the purpose of this study, we defined educational technology as the "systematic use of technology resources in a curriculum area to support teaching and learning" (Evans, 2006, p. 6). We also defined the use of technology within the classroom as technology used by teachers not only to teach general education subjects, but to aid students in their use of technology as well. Although technology can incorporate the use of many different devices, the primary interest of this study was the use of computer technology (particularly software).

With the advent of the COVID-19 pandemic, general and special education teachers of all grade levels and specialties throughout the world have had to resort to teaching using technology at a rate unprecedented in modern history. However, this pandemic has only hastened changes to technology in general and special education that have already affected teachers in this and the previous century. Rapid technological advancements, globalization, and the dominance of computers in the 21st century create an imperative demand for teachers' expertise in integrating technology into educational processes. Complex technologies have become a central part of life in almost every corner of the globe, and education at all levels now involves using advanced technologies, especially Information Communication Technologies (ICTs), to complete administrative functions, create educational materials, and deliver instruction. Moreover, technological competence is critical for success in modern careers. Governments and teacher accreditation agencies in several countries have now established digital competency as a key skill related to basic functionality along with reading, numeracy, and the ability to express oneself orally and in writing, and these entities are pushing for direct efforts to include specific training for educators on the use of technology for teaching (Council for the Accreditation of Educator Preparation/CAEP, 2018; Instefjord & Munthe, 2016; Nelson, Voitfer, & Cheng, 2019; Saini & Abraham, 2019; U.S. Department of Education, 2017).

Using technology as an integral part of educational operations is central to creating and delivering effective curricula that require students to learn and practice skills that are fundamental to succeeding in 21st

century careers. Some examples of critical twenty-first century skills include problem solving, communication, collaboration, literacy, critical thinking, research abilities, and creativity (Chigona, 2015; Lambert & Gong, 2010; Nelson et al., 2019). To provide such skill acquisition, today's general and special education teachers must use technology for more than administrative functions, lesson planning, or presentations. They must be competent in using advanced technology to facilitate the entire educational process, integrating technology into teaching to support higher-order thinking, student-centered learning, and student enrichment (Nelson et al., 2019; Rehmat & Bailey, 2014; Saini & Abraham, 2019). Teachers must be able to use and adapt technology for different purposes and help students use it too. Lambert and Gong (2010) noted clearly that incorporating technology into courses is of limited usefulness without effective training for teachers in how to leverage the technology to help students learn course content and 21st century skills.

However, despite the availability and abundance of advanced technology, it is still relatively underused in education in both developed and developing countries, considering the depth and breadth of technology use for ordinary tasks, business, and socialization (Al-Zahrani, 2015; Al Mulhim, 2014; Chigona, 2015; Lambert & Gong, 2010; Rehmat & Bailey, 2014. Another significant challenge faced by the education field today is that students are often more proficient with technology than current teachers, and educational technology systems are relatively new and rapidly changing. In current educational settings, faculty members often have limited skills in using the same educational technology that they need to teach their students to use (Ertmer, 2005; Lambert & Gong, 2010; Rehmat & Bailey, 2014). This skill gap is more pronounced in developing countries where Internet access is inconsistent and most teaching occurs in traditional closed-classroom environments. Therefore, developing teacher education programs that include specific training and practice directed at integrating technology into general educational processes is a pressing issue for both technologically advanced and developing countries (Al Mulhim, 2014; Al-Zahrani, 2015; Nelson et al., 2019; Rehmat & Bailey, 2014; Saini & Abraham, 2019).

Current research indicates that pre-service teachers from many disciplines still lack needed specific training and support to prepare them to integrate technology into the educational process effectively (Al Mulhim, 2014; Chelsey & Jordan, 2012; Instefjord & Munthe, 2016; Nelson, 2017; Nelson et al., 2019). Furthermore, facilitating pre-service teachers' abilities, readiness, and motivation to apply technology creatively in the classroom requires training that accomplishes more than technological and pedagogical skill. Recent studies indicate that simply experiencing a learning management system or stand-alone technical classes to complete educational requirements is insufficient. A lack of quality instruction in applying classroom technology during pre-service teacher training is a primary obstacle to teachers' using the many beneficial features of advanced technology to prepare students effectively for twenty-first century careers (Al Mulhim, 2014; Chigona, 2015; Foulger, Buss, & Lindsey, 2012; Lambert & Gong, 2010; Nelson et al., 2019). Additionally, strictly technical training does not guarantee that teachers will actually integrate technology into their

teaching, because the attitudes and comfort levels of educators with a given technology influence the degree to which they actually apply the technology in the classroom (Chen, 2010; Gyamfi, 2016; Instefjord & Munthe, 2016; Nelson et al., 2019; Sadaf, Newby, & Ertmer, 2016; Saini & Abraham, 2019; Tondeur, van Braak, Siddiq, & Scherer, 2016; Tondeur, Scherer, Siddiq, & Baran (2017). Variables that have been found to be influential in determining pre-service teachers' readiness for technology integration and the actual implementation of classroom technology include technological, pedagogical, and content expertise, beliefs, values, and self-efficacy. In addition, empirical studies show that institutional support, positive role modeling on the part of instructors, real-time classroom experience during pre-service preparation, technology infused pre-service teacher training, and individual mentoring during pre-service programs support later technology-infused teaching practices (Al Mulhim, 2014; Nelson et al., 2019; Tondeur et al., 2012; Sadaf et al., 2016; Saini & Abraham, 2019). The most recent research regarding pre-service teacher preparation indicates if instructors model the use of technology and engage pre-service teachers in using educational technology for general education courses throughout training, they are more likely to apply the technology in the classroom on their own. As such, research is underway to shift the focus and content of teacher training programs to increase actual levels of integration of technology into educational practices (Nelson et al., 2019; Saini & Abraham, 2019; Tondeur et al., 2012; Tondeur, Scherer, Siddiq, & Baran, 2017).

This study investigated the status of U.S. and Saudi Arabian general and special education pre-service teachers' readiness for technology integration to provide a useful comparison of skill and attitudinal variables between the two participant groups. The results provide information about progress toward technology integration in the U.S. and the status of pre-service teachers' readiness for technology integration in Saudi Arabia. The findings also offer guidance regarding the training priorities and resources needed to accelerate the growth of technology-infused education in Saudi Arabia and other, similarly technologically emerging countries.

Methods

Participants

To participate in this research, the following inclusion criteria were required: the pre-service teacher participants must have been K-6 pre-service teachers from either the U.S. or Saudi Arabia, and they must have had some exposure to educational technology in their pre-service teacher training. Altogether, 150 pre-service teachers participated in this research (45 teachers from the U.S. and 105 participants from Saudi Arabia).

The schools in this study were chosen purposefully by the researchers to represent schools in each country which are recognized nationally. The university in the U.S. is a state-sponsored university in the Rocky Mountain region of the U.S. that began as a "normal school" to prepare teachers in the 19th century, was renamed as a teaching college in the early 20th century and is today a university well known for its teacher education programs. The university in Saudi Arabia is one of the oldest established universities in the country, with an international reputation for excellence. Although teaching is not its

primary focus, many students are education majors.

To recruit participants, a request was sent to the education departments of each school requesting that they forward a recruitment letter to all of their pre-service teachers who met the criteria (having had at least one university course that taught them about educational technology).

Respondents were primarily female students, over half of whom had prior teaching experience, aged between 18 and 50 years old, primarily juniors and seniors, and from a variety of disciplines from Accounting to Society. Complete descriptions of these demographics are presented in Tables 1 to 6 which follow.

Table 1

Respondents - Primary Language

What is your primary language?	Frequency	Percent
English	45	30.41
Arabic	103	69.59
Total	148	100.00

Table 2

Respondents - Age

Age	Frequency	Percent
18-21	47	31.76
22-30	85	57.43
31-40	11	7.43
41-50	5	3.38
Total	148	100.00

Table 3

Respondents - Sex

Sex	Frequency	Percent
Males	5.00	3.38
Females	143.00	96.62
Total	148.00	100.00

Table 4

Respondents - Years in School

Year in School	Frequency	Percent
Freshman	3	2.03
Sophomore	7	4.73
Junior	39	26.35
Senior	96	64.86
Missing	3	2.03
Total	148	100.00

Table 5

Respondents - Prior Teaching Experience

Have you had prior teaching experience?	Frequency	Percent
No	67	45.27
Yes	81	54.73
Total	148	100.00

Table 6

Respondents - Majors

Major	Frequency (*n* = 148)	Percent
Accounting	1	.68
Biology	3	2.03
Childhood Studies	31	20.95
Computer Eng	1	.68
Computer science	8	5.41
Education art	15	10.14
Educational tech	5	3.38
Elem Ed-Math/ ESL	1	.68
Elementary Ed	37	25.00
Elem Ed SPED	1	.68
Family science	27	18.24
Information science	1	.68
Interior design	1	.68
Islamic	1	.68
Master – Elem Ed	2	1.35
MAT	4	2.70
Mathematics	8	5.41
Society	1	.68

Note: all respondents are pre-service teachers; major denotes the type of major within their teaching fields

Because the exact number of students who met the inclusion criteria was not known by the department, the specific response rate is unknown; however, from the researchers' knowledge of the institutions and conversations with the institutions, we believe that approximately 90% of Arabian students responded, while the U.S. response was approximately 10%. Conversations with the education department of the U.S. school led us to believe that the reason for this low response rate was due to the fact that the students in these majors were typically inundated with surveys each term and were therefore much less likely than their Arabian counterparts to volunteer to respond to our survey.

Instrument

Because no instrument was found that measured all of the components desired by the researchers to gauge pre-service teachers' ability and comfort levels in teaching technology, a 54-item, self-report measure was constructed for this study (see the Appendix for the complete survey in English and Arabian). This survey contains adapted questions from the ideas of five existing surveys (Gyamfi, 2016; Gülbahar, 2008; Koc & Bakir, 2010; Teo & Koh, 2010; Sun, Strobel, & Newby, 2017). It was developed based on the Technological Pedagogical Content Knowledge (TPACK) theory (Mishra & Koehler, 2006) and the first researcher's 18 years of experience as a teacher of Educational Technology, in consultation with colleagues from the educational field and with the aid of the second researcher, who advised on sentence and survey construction. A pilot survey was administered to students in a pre-service course, and further revisions were made until the survey was determined to be complete. Since we were interested in comparing a developed nation (the U.S.) to a developing nation (Saudi Arabia), the first researcher translated the instrument to Arabian, asking a colleague to assist in back translation, and adapting the instrument as needed until the translations were deemed equivalent by the researchers and their colleagues.

Although the instrument is constructed overall to assess pre-service teachers' knowledge and comfort with using technology in a classroom, the questions

are separated into five subscales:
1) Comfort levels using technology (CLT); 2) Perceived self-efficacy (PSE); 3) Basic skills in using Internet (BSI); 4) Attitude toward technology (ATT); and 5) Intent to use the technology upon becoming a teacher (ITU). The questions were designed to ask participants about their perceptions about themselves, not about the field in general.

This research was the first time the instrument was used and therefore no previous reliability scores were available. However, after the research was conducted and the data collected, we performed a reliability analysis using Cronbach's alpha to determine internal consistency. Reliability for the entire scale (both English and Arabic, with 52 variables) was .982, and individual subscales ranged from .915 to .985. These reliability scores indicate that the survey may be able to be reduced due to similarities in items, thus emphasizing the need for further refinement of the survey in the future. Development of this instrument is still ongoing.

Procedure

After obtaining internal review board approval from both the U.S. and Arabian universities, we asked the respective departments to send emails to the students that shared links to both the English and Arabian versions of the survey. Students who accepted the email invitation then went to the Qualtrics© surveys and completed them in an average of approximately thirteen minutes for the U.S. participants and nine minutes for the Arabian participants. Twelve participants (two U.S. and ten Arabic participants) did not complete the survey, and were not included in any of the analysis, including completion time. After all data were collected and factor analysis and reliability analyses of the instrument were conducted (see the Instrument section above), a comparison of the two groups of participants was conducted to answer our research questions.

Results

To answer our research questions, a one-way multivariate analysis of variance (MANOVA) was conducted using SPSS© version 23 to test the hypothesis that there would be one or more mean differences between groups of participants (U.S. versus Arabian) and the five subscales.
A statistically significant MANOVA effect was obtained, Wilk's Lamda = .755, $F(5, 149) = 9.682$, $p < .001$. After determining that there were significant differences in the model, we looked at the subscales to determine which scales showed significant group differences. All subscales but one (comfort levels using technology) showed a significant difference between the groups (see Table 7).

Research Question 1: How knowledgeable are Saudi Arabian and U.S. pre-service teachers in terms of teaching technology to K-6 students?

To answer this question, we examined the data to see how Saudi Arabian and U.S. pre-service teachers felt about the extent of their knowledge in using technology, their ability to perform basic skills in using the Internet, and their intent to use technology in the future. In all cases, the results showed significant differences between Arabian and U.S. participants, with U.S. participants showing a higher belief in their abilities to teach and use technology in the future (see Table 7).

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Table 7

Differences Between U.S. and Arabian Pre-service Teachers in Subscales 1-5

Subscale	U.S. Preservice Teachers[a]	Arabian Preservice Teachers[a]	Is There a Statistically Significant Difference Between the Two Groups?
Comfort levels using technology	3.62	3.73	No, F(1, 153) = 0.895, p = .346
Perceived self-efficacy (PSE)	3.96	3.48	Yes, F(1, 153) = 5.333, p = .022
Basic skills in using Internet (BSI)	4.52	3.46	Yes, F(1, 153) = 24.855, p < .001
Attitude toward technology (ATT)	4.33	3.55	Yes, F(1, 153) = 18.228, p = .001
Intent to use the technology upon becoming a teacher (ITU)	4.41	3.53	Yes, F(1, 153) = 16.366, p < .001

Note: [a] Indicates the average score for each subscale, from 1 (indicating low confidence in the teachers' abilities) to 5 (indicating high confidence in the teachers' abilities)

Research Question 2: How comfortable are Saudi Arabian and U.S. pre-service teachers in terms of helping K-6 students adapt to the use of technology in their studies?

To answer this question, we examined subscales concerning comfort levels using technology and attitudes toward technology (see Table 7 for results). When asked questions about how comfortable students felt concerning technology on a scale of 1 to 5 (5 being very comfortable), the groups were not statistically different. Both groups of students indicated a comfort level between 3 (neutral) and 4 (agree), with little deviation within groups (.579 for U.S. students, and .653 for Arabian students), indicating some (but not an extremely high level of) comfort in the use of technology in teaching and helping students learn. However, in terms of attitudes, U.S. participants indicated a significantly more positive attitude toward using technology than Arabian participants, which suggests that these participants might use technology more often and therefore are more likely to become more comfortable with technology than their Arabian counterparts.

Discussion

As this paper is being written, the world is being affected by a pandemic in a way that has never occurred before; people are using technology to perform daily functions from home for extended periods of time. This includes education for all ages of learners, from preschool through postgraduate college. While online college education is not new, due to this pandemic many K-12 teachers internationally were given little time or support to switch their teaching from in-person pedagogies to online. Though the immediacy and totality of the switch in delivery systems was bound to cause disruption even in teachers who had experienced some online instruction before, the primary question became, how knowledgeable and comfortable were these K-12 teachers, particularly those people who are being taught today to become new teachers soon, to teach using technology before they were forced to switch to a totally online delivery method?

This research project was developed because of the first researcher's first-hand observation of children in the U.S. growing up using technology in their classrooms while solving mathematics problems and

completing their worksheets. To accomplish this method of teaching successfully, U.S. teachers had to use different educational hardware and software programs and know how to use this technology to teach various subjects to their students. However, in the first researcher's native country of Saudi Arabia, teachers did not use computers in classrooms for themselves and their children and they were not knowledgeable regarding how to use technology to teach different subjects. She theorized that recent technology advancements in the world have caused citizens in all countries to be more knowledgeable about technology; she asked how that would relate to the education of pre-service teachers in both countries? This question led the first researcher to create an instrument to determine how knowledgeable and comfortable pre-service teachers would be in both countries using technology in their future teaching. As an instructor of pre-service teachers for over 15 years who has had experience with both countries, she has seen technology expand everywhere; from recent interviews, she has also discovered that some students spend more than 16 hours per day on social media (such as Snapchat, Instagram, and Facebook). However, the question remains: how does the recent advancement of technology in society translate to knowledgeability and comfort levels with using and teaching technology in the classroom?

From the results of this study, it would appear that U.S. pre-service teachers feel more knowledgeable and somewhat more comfortable with using technology to teach their students than their Arabian counterparts. According to our results, Arabian pre-service teachers perceive themselves to be less efficacious in using technology to teach students, less capable in using the Internet, and less willing to use technology in their classrooms. In addition, their attitude toward using technology in their classrooms is not as positive as U.S. pre-service teachers. From our experience with students from both countries, we feel that this is an accurate representation of the difference between U.S. and Arabian systems of education, where U.S. students are more likely to encounter and use technology in their learning than are Arabian students, who are taught in a more traditional lecture style classroom with little use of technology. The only anomaly in this study's results was found in the data from the subscale measuring the pre-service teachers' comfort levels in teaching using technology in their classroom, where Arabian participants actually scored a higher average response (3.73) than American participants (3.62). We believe this response is an indication of the greater amount and turnover of technology within the U.S. educational system. Whereas U.S. pre-service teachers face a great deal of technology within their classrooms, where students are independent in their use of technology, Arabian teachers and students use less technology in the classroom compared to U.S. teachers and students, with less turnover in equipment and software, and are therefore more comfortable with the technology they are using. However, this is a hypothesis that has not yet been tested; more study is needed to understand these results.

Limitations

This study was conducted with a new instrument developed specifically to measure participants' self-reported confidence and abilities in their attitudes and use of technology in classrooms. As we found no instruments that matched the

total desired content of our instrument, we were unable to compare it to another instrument; however, we did construct it based on ideas of other existing instruments (Gyamfi, 2016; Gülbahar, 2008; Koc & Bakir, 2010; Teo & Koh, 2010; Sun, Strobel, & Newby, 2017). Future studies could compare the results of these and other instruments with ours. This instrument can and should be refined, and we invite others with similar interests to help us refine this tool to aid in their understanding of their country's teacher preparation of technology use in the classroom.

However, we also believe that these findings are significant in terms of the world adapting to the technological needs of teachers and students today. This study does not claim to be definitive in assessing the capability of pre-service teachers across the world. It is our hope that our findings will generate conversations about a possible divide between first-world countries and other countries in terms of their capability to be able to teach using the latest technology, whether the situation be normal or extraordinary (in the case of pandemics, war, natural disasters or other situations that may arise).

Implications

The participants in this research are practitioners who will be teachers in the future. Pre-service teachers' knowledge and comfort levels in using technology to teach is important for providing efficient teaching services in their classrooms. This means we have to be aware of what future teachers know about technology and how they can use this technology in their classroom in the future. In this study, U.S. students indicated that they felt more prepared in both skills and attitude to teach using technology in the future. Although both groups indicated some comfort levels in the use of technology in their classroom, we believe that this level could be increased in both groups if pre-service teachers were given more instruction during their teacher training. This is especially true for developing countries like Saudi Arabia, who are trying to bring their educational systems to higher levels but are currently not preparing their teachers to use technology as well as developed countries have prepared their students.

It is our belief that developed countries with more access to technology (and therefore more ease in using that technology) can help developing countries with more than the physical deliveries of needed equipment or software. Training by developed countries in terms of when and how to use the equipment and software could also be provided via international forums. This training should incorporate the best standards of curriculum and pedagogy in terms of educational technology.

We believe that the time for discussion regarding teachers' knowledge and comfort in using technology in their classroom is upon us. Technology is not merely for using the Internet to browse for topics, play games, or even to write documents. Technology should be a tool that enhances learning for students of all ages. Even after the current pandemic crisis is over, the world will have changed in significant ways. From our experience as teachers (and instructors of teachers), we believe that children have learned successfully over the Internet, even if their teachers were not as prepared technologically as they might have been. It is our belief that, even when students are back in school, long-distance education for many students of all ages is going to occur by choice, as well as due to natural disasters, wars and other

pandemics. When the opportunity to use technology for teaching does occur, teachers across the globe need to be more prepared to face the challenge.

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Appendix

Survey Instrument (English and Arabic versions)

Self-Efficacy and Knowledge Survey

General Information
Major:_____

Do you have previous teaching experience? Yes No

Age 18 – 21
22 – 30
31 – 40
41 – 50
51 +

Year in university Freshman Sophomore Junior Senior

Sex: Male Female

(Note: the following questions will be arranged on Qualtrics to fit the formatting of the technology being used; no paper versions will be used)

(Note: these instructions are given at the beginning of each section in the electronic survey)

Please answer the following questions about your computer skills by selecting the answer that best describes how you feel about the comment:

- SD means that you Strongly Disagree with the statement
- D means that you Disagree with the statement
- N means that you do not have an opinion either way or are Neutral about this statement
- A means that you agree with this statement
- SA means that you strongly agree with this statement

Example:

Items	SD	D	N	A	SA
I would like to get some real teaching experience before I finish my degree.					X

1. **Computer skills**

Items	SD	D	N	A	SA
I know how to solve my own technical problems.					
I can learn technology easily.					
I keep up with important new technology.					
I know about a lot of different kinds of software programs.					
I have had sufficient opportunities to work with different types of software.					

I have the technical skills I need to use technology software.					
My teacher education program has caused me to think more deeply about how technology could influence the teaching approaches I use in my classroom.					
I think critically about how to use technology in my classroom.					
I can adapt the use of the technologies that I am learning to different teaching activities.					
I have the ability to deal with any software to use for teaching in my classroom.					
I can use strategies that combine content, technologies, and teaching approaches that I learned about in my coursework in my classroom.					
I can provide leadership in helping others to coordinate the use of content, technologies, and teaching approaches at my school and/or district.					
I am able to use a word processor to create, edit and format documents for specific student progress (e.g. Microsoft Word).					
I am able to use presentation software (e.g. Microsoft PowerPoint) for classroom delivery.					
I am able to use spreadsheets (e.g. Microsoft Excel) to record data, including making simple calculations.					

2. Pre-service teachers' readiness (perceived self-efficacy) for technology integration

Please answer the following questions about your readiness for technology integration by selecting the answer that best describes how you feel about the comment:

- SD means that you Strongly Disagree with the statement
- D means that you Disagree with the statement
- N means that you do not have an opinion either way or are Neutral about this statement
- A means that you agree with this statement
- SA means that you strongly agree with this statement

Items	SD	D	N	A	SD
I feel confident that I understand technology well enough to maximize the use of technology in my classroom.					
I feel confident that I have the skills necessary to use the computer for instruction.					
I feel confident that I can successfully teach relevant subject content with appropriate use of technology.					

I feel confident in my ability to evaluate software for teaching and learning.					
I feel confident that I can use correct computer terminology when directing my students' computer use.					
I feel confident I can help my students when they have difficulty with the computer.					
I feel confident I can effectively monitor students' computer use for project development in my classroom.					
I feel confident that I can motivate my students to participate in technology-based projects.					
I feel confident I can mentor students in appropriate uses of technology.					
I feel confident I can consistently use educational technology in effective ways.					
I feel confident I can provide individual feedback to students during technology use.					
I feel confident I can regularly incorporate technology into my lessons, when appropriate to student learning.					
I feel confident about selecting appropriate technology for instruction based on curriculum standards.					
I feel confident about assigning and grading technology-based projects.					
I feel confident I can be responsive to students' need during computer use.					
I feel confident about using technology resources (such as spreadsheet, electronic portfolios, etc.) to collect and analyze data from student tests and products to improve instructional practices.					

3. Basic skills in using internet (Teo and Koh, 2010)

Please answer the following questions about your comfort with basic skills in using the internet by selecting the answer that best describes how you feel about the comment:

- SD means that you Strongly Disagree with the statement
- D means that you Disagree with the statement
- N means that you do not have an opinion either way or are Neutral about this statement
- A means that you agree with this statement
- SA means that you strongly agree with this statement

Items	SD	D	N	A	SA
I am able to use the internet to search for information and resources.					
I am able to use email (e.g., Hotmail, Outlook, Yahoo, Gmail, etc.) for communication.					
I am able to use blogging for personal use (social media).					
I am able to use a learning management system (e.g. Blackboard, Canvas, and Moodle) to support teaching.					
I use the internet to work on documents with others (e.g., Google Doc, Microsoft 365, etc.).					

4. Pre-service teacher attitude toward technology

Please answer the following questions about your attitude toward technology by selecting the answer that best describes how you feel about the comment:

- SD means that you Strongly Disagree with the statement
- D means that you Disagree with the statement
- N means that you do not have an opinion either way or are Neutral about this statement
- A means that you agree with this statement
- SA means that you strongly agree with this statement

Items	SD	D	N	A	SA
Using computers will improve my work.					
Using a computer will improve my effectiveness.					
Using computers will improve my productivity.					
I find computers a useful tool for my work.					
Computers make work more interesting.					
I like using computers.					
I look forward to those aspects of my job that require me to use computers.					
Working with computers is fun.					

5. Intent to use computers for lesson planning and better learning

Please answer the following questions about your comfort with lesson planning skills in using the internet by selecting the answer that best describes how you feel about the comment:

- SD means that you Strongly Disagree with the statement
- D means that you Disagree with the statement
- N means that you do not have an opinion either way or are Neutral about this statement
- A means that you agree with this statement
- SA means that you strongly agree with this statement

Items	SD	D	N	A	SA
I will use computers for lesson plans.					
I will use computers for teaching.					
I will use computers for administrative work.					
I will use computers for communication with my students.					
I will use a computer to search for information to plan lessons.					
I will use technology to promote students' higher-level thinking skills.					
I want my students to use a visual program to show me concepts they learned.					
I will use computers to create activities for my students.					

Thank you so much for taking the time to complete this survey! If you have any questions or would like further information, including a copy of our report, please feel free to email us. Please click the "Submit" button below to submit your responses and complete the survey.

استبانة المعرفة والكفاءة الذاتية

المعلومات العامة

التخصص

هل لديك خبرة في التدريس؟ نعم. لا

العمر

١٨-٢١

٢٢-٣٠

٣١-٤٠

٤١-٥٠

٥١+

المرحلة الجامعية

السنة الأولى

السنة الثانية

السنة الثالثة

السنة الرابعة

الجنس

ذكر

أنثى

(ملاحظة: الأسئلة التالية سيتم وضعها على موقع النت مولتريك لتجميع الاحصائيات دون استخدام الورق)

رجاء قم/ي بالإجابة على الأسئلة التالية عن مهارات الحاسب الآلي باختيارك إحدى الخيارات التالية:

لا أوافق بشدة/ تعني عدم الاتفاق تمامًا مع الموضوع.

لا أوافق/ تعني رفض الموضوع.

لا أعلم/ تعني لدي فكرة مبسطة آو لا عن الموضوع.

أوافق/ تعني أتوافق مع الموضوع.

أوافق بشدة/ تعني أؤيد الموضوع بشدة.

مثال:

البنود	لا أوافق بشدة	لا أوافق	لا أعلم	أوافق	أوافق بشدة
أود الحصول على خبرة ميدانية في التدريس قبل التخرج					X

1 . مهارات الحاسب الآلي

البنود	لا أوافق بشدة	لا أوافق	لا أعلم	أوافق	أوافق بشدة
لدي معرفة في حل مشكلات الحاسب الآلي التقنية					
لدي القدرة على تعلم التكنولوجيا بسهولة					
أتابع دائما المستجدات من التكنولوجيا					
لدي معرفة عن كل مختلف البرامج الحاسوبية					
أتيحت لي الفرصة الكافية للتعامل مع مختلف البرامج الحاسوبية					
لدي المهارات التقنية التي تساعدني في استخدام برامج التقنية					
برنامج إعداد المعلمين جعلني أفكر بعمق عن كيفية تأثير التكنولوجيا على أساليب التدريس التي أستخدمها.					
أؤمن باستخدام التكنولوجيا داخل الفصول					
يمكنني تكييف استخدام التكنولوجيا في الأنشطة التعليمية المختلفة					
لدي القدرة على التعامل مع أي برنامج لاستخدامه في التدريس في الفصل					
يمكنني استخدام الاستراتيجيات التي تجمع بين المحتوى والتقنيات وأساليب التدريس التي تعلمتها في أثناء دراستي					
يمكنني مساعدة الآخرين على استخدام التقنيات في إعداد المحتوى وأساليب التدريس في مدرستي المدرسة					
يمكنني استخدام معالج النصوص لإنشاء المستندات وتحريرها وتنسيقها مثل (Microsoft Word).					
يمكنني استخدام برنامج العرض التقديمي (Microsoft PowerPoint) في تكليفات المواد					
يمكنني استخدام جداول البيانات (Microsoft Excel) لتسجيل البيانات، بما في ذلك إجراء عمليات حسابية بسيطة.					

٢. استعداد الطالبات/المعلمات وأدراك (الكفاءة الذاتية) في دمج التكنولوجيا

البنود	لا أوافق بشدة	لا أوافق	لا أعلم	أوافق	أوافق بشدة
أشعر بالثقة بقدرتي على استيعاب التكنولوجيا بشكل جيد داخل الصف					
أشعر بالثقة بامتلاكي المهارات اللازمة لاستخدام الكمبيوتر في التعليم					
أشعر بالثقة بأن بإمكاني الالمام بالمحتوى وما يناسبه من تكنولوجيا مستخدمة					
أشعر بالثقة في قدرتي على تقييم البرامج التعليمية					
أشعر بالثقة في أنني أستطيع استخدام مصطلحات الكمبيوتر الصحيحة عند توجيه طلابي أثناء استخدام الكمبيوتر					
أشعر بالثقة في أنني أستطيع مساعدة طلابي عندما يواجهون صعوبة أثناء استخدام الكمبيوتر					
أشعر بالثقة في أنني أستطيع متابعة طلابي لاستخدام الكمبيوتر في تطوير مشاريعهم في الفصل					
أشعر بالثقة في أنني أستطيع تحفيز طلابي للمشاركة في المشاريع القائمة على التكنولوجيا					
أشعر بالثقة في قدرتي على توجيه طلابي في الاستخدام التكنولوجيا المناسبة					
أشعر بالثقة في أنني أستطيع استخدام تكنولوجيا التعليم بطرق فعالة دومًا					
أشعر بالثقة بأن بإمكاني تقديم ملاحظات فردية لطلابي أثناء استخدام التكنولوجيا					
أشعر بالثقة في أنني أستطيع دمج التكنولوجيا المناسبة لطلابي دائمًا في دروسي.					
أشعر بالثقة في اختيار التكنولوجيا المناسبة للتدريس بناءً على معايير المناهج					
أشعر بالثقة في وضع التكليفات القائمة على استخدام التكنولوجيا وتصحيحها					
أشعر بالثقة بأنني أستطيع توجيه طلابي أثناء استخدام الكمبيوتر					
أشعر بالثقة بشأن استخدام مصادر التكنولوجيا (جداول البيانات وملف الإنجاز الإلكتروني وغيرها) لجمع وتحليل البيانات من اختبارات طلابي لتحسين العملية التعليمية					

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. المهارات الأساسية في استخدام الانترنت

البنود	لا أوافق بشدة	لا أوافق	لا أعلم	أوافق	أوافق بشدة
يمكنني استخدام الإنترنت للبحث عن المعلومات والمحتوى					
يمكنني استخدام البريد الإلكتروني (Hotmail وOutlook وYahoo وGmail وغير ذلك) للتواصل					
يمكنني استخدام المدونات الشخصية في شبكات مواقع التواصل الاجتماعي					
يمكنني استخدام نظام إدارة التعلم (Blackboard، Canvas، وMoodle) لدعم التدريس					
أستخدم الإنترنت لتبادل المستندات مع الآخرين (Google، Microsoft 365 ، وغير ذلك)					

٤. اتجاهات الطالبات/المعلمات نحو التكنولوجيا

البنود	لا أوافق بشدة	لا أوافق	لا أعلم	أوافق	أوافق بشدة
استخدام أجهزة الكمبيوتر سيحسن من عملي					
استخدام الكمبيوتر سيحسّن أدائي					
سيؤدي استخدام أجهزة الكمبيوتر إلى تحسين إنتاجي					
أجد أجهزة الكمبيوتر أداة مفيدة في عملي					
أجهزة الكمبيوتر تجعل العمل أكثر إثارة للاهتمام					
أحب استخدام الكمبيوتر					
أتطلع لاستخدام الكمبيوتر في وظيفتي					
استخدام الكمبيوتر ممتع					

٥. استخدام الكمبيوتر لإعداد الدروس من أجل تعلم أفضل

البنود	لا أوافق بشدة	لا أوافق	لا أعلم	أوافق	أوافق بشدة
سأستخدم الكمبيوتر لإعداد الدروس					
سأستخدم الكمبيوتر في التدريس					
سأستخدم أجهزة الكمبيوتر في العمل الإداري					
سأستخدم أجهزة الكمبيوتر في التواصل مع طلابي					
سأستخدم جهاز كمبيوتر للبحث عن المعلومات لتخطيط الدروس					
سأستخدم التكنولوجيا لتعزيز مهارات التفكير العليا لدى طلابي					
أود من طلابي استخدام البرنامج الخاصة بالصور المرئية لشرح المفاهيم					
سأستخدم أجهزة الكمبيوتر لتصميم أنشطة لطلابي					

شكرًا لتعاونك مع تمنياتنا بالتوفيق

د. يسرى بوقس

د. راندي ليكر