Challenges and Support for Pre-service Teachers' Virtual Teaching and Practicums: Implications for Bahamian Educational Systems

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Abstract

Teacher education programmes, nationally and internationally, are unique both at the undergraduate and graduate levels. Specifically, in the Bahamian educational system, they are designed to produce certified K-12 teachers who demonstrate academic and professional excellence in a variety of subject areas. These programmes incorporate a theoretical component and a culminating practical experience that requires pre-service teachers to be evaluated on the quality of their teaching. Normally the culminating experience has been completed in the traditional face-to-face setting. However, the onset of COVID-19 resulted in an immediate imposition of a virtual teaching practicum. This integrated literature review explores the challenges pre-service teachers faced and the support systems they needed during a virtual teaching practicum and addresses implications for practice in a Bahamian setting.

Introduction

Teacher education programmes globally are tasked with the responsibility for producing quality teachers to meet the demands of the K-12 educational system. The demands for teacher education programmes vary depending on grade level, content area, and geographical location. However, there is one commonality: teacher education programmes should effectively connect theory and practice. Over the years, a variety of models have been utilized by teacher preparation programmes in the development of K-12 teachers. Traditional teacher preparation and certification programmes require candidates to complete university courses prior to teaching. Other programmes provide an alternative route through certification programmes, in which pre-service teachers begin teaching before completing all certification requirements (Smithers & Bungey, 2017). Despite the teacher preparation programme option, Hollins and Warner (2021) stated it is imperative that the teacher education programme is coherent with all course work and clinical experiences based on a vision. Hence, courses are connected to both practice and theory as well as another key component early in the programme—field-based experiences (Yang et al., 2021).

According to Yang et al. (2021), online learning is one of the most debated and controversial topics at all levels within the educational system. There is no exception to this debate as it relates to teacher education programmes and teaching practicums for pre-service teachers. In more recent years, and especially as a direct result of COVID-19, educational systems globally were unexpectedly mandated to transition from face-to-face to a virtual learning environment; teacher education programmes and practicums were not an exception. This has resulted in many challenges for the pre-service teachers, teacher education programmes, and tertiary institutions. While challenges are inevitable, it is paramount that proper support systems are in place to guarantee the success of pre-service teachers. Utilizing this understanding as a foundational platform, this integrated literature review has three overarching objectives specific to virtual pre-service teacher teaching and teaching practicums. This review will explore both the challenges of transitioning from traditional and virtual learning environments and the challenges encountered by pre-service teachers in online teaching. Finally, vital pre-service teacher support systems for successful online teaching and learning specific to the Bahamian context are presented which would address the stated challenges. This review also includes implications for practice and strategies to implement effective support systems for pre-service teachers throughout the Bahamian archipelago.

This paper is critical because it provides a robust synthesis of the literature regarding pre-service teacher challenges and support systems for virtual teaching and teaching practicums. It also offers strategies for success in an online learning environment specific to The Bahamas while addressing the gap in Bahamian literature regarding pre-service teachers and teaching practicums in The Bahamas.

Background and Problem

Considering the COVID-19 pandemic, educational institutions around the world have been forced to transition from the traditional way of teaching (i.e., face-to-face) to virtual instruction (Burgess & Sievertsen, 2020). While many international colleges and universities have been accustomed to online education for many years (Arenson, 1998; Harting & Erthal, 2005; Kentnor, 2015), this delivery method is relatively new for The

Bahamas. Pre-schools, primary schools, secondary schools, and tertiary institutions in The Bahamas were forced to alter curricula, class timetables, instruction delivery methods, and record keeping formats. Their efforts reflected broader initiatives occurring globally to re-conceive teaching strategies, logistics, and resources due to the pandemic. Professionals at these diverse institutions endeavoured to find suitable virtual formats for instruction and provided extensive teacher training for the use of virtual formats. The typical procedures and operations of schools in The Bahamas were significantly modified to accommodate both learners and teachers engaged in online instruction. This transformation, however, presented many challenges, including teachers' use of unfamiliar online learning platforms, poor internet service, lack of support from cooperating teachers, and insufficient computers and other devices for students to use during online classes. Pre-service teachers are expected to manage large classes inclusive of struggling learners, manoeuvre unfamiliar virtual platforms (for which they received insufficient training) and battle technical difficulties should they arise (Gallup et al., 2021). The transition from face-to-face instruction to virtual teaching also poses significant implications for future practice and pre-service teacher preparedness. Consequently, teacher education programmes must be reformed to facilitate pre-service teacher proficiency in various technological devices and strategies.

Gallup et al. (2021) also found that although this generation of pre-service teachers are considered technologically savvy, many express uncertainties and low self-efficacy with teaching virtually. Similarly, Han et al.'s (2017) investigation of the impact of pre-service teacher's pedagogical experiences found that pre-service teachers who had more technology-based teaching experiences displayed higher levels of self-efficacy regarding online teaching compared to those who did not possess sufficient exposure to teaching with technology.

Virtual teaching in The Bahamas is the new normal for education delivery. It is therefore crucial that teacher education programmes provide the necessary support and skills for pre-service teachers to effectively transition from a traditional teaching practicum to a virtual teaching practice programme, in addition to executing lessons in the virtual domain. Virtual learning environments are far different from traditional learning environments (i.e., face-to-face) and thus require teachers to be more creative in their approaches.

Integrated Literature Review Methodology

Torraco (2005) outlined that most integrated literature reviews address two kinds of topics: those that are (a) mature or newly emerging or those that (b) address new or emerging topics that would benefit from a holistic conceptualization and synthesis of the literature to date. The overall goal of this literature review is to explore challenges and support systems associated with pre-service teachers online teaching or virtual teaching practicums. More specifically, this review explores this phenomenon because of COVID-19 and its impact on the educational system. This integrated literature review provides the background and context for the research problem and shares the results of previous studies closely related to the study.

The strategy for conducting this integrated literature review included a comprehensive search of peer-reviewed journals using databases such as Google Scholar and ERIC. Keywords identified for the search include "pre-service teachers," "pre-service educators," "teaching practicums," "teaching internships," "impact of COVID-19 on

education," "COVID-19 and teaching practicums," "online teaching and learning," "challenges of pre-service teachers," "support for pre-service teachers," and "strategies for success for pre-service teachers." The inclusion criteria for the integrated literature review comprised only peer-reviewed articles published in English between 2006-2021. Both older and recently published articles were systematically searched by initially analysing the article abstract for relevance to the topic, examining the article citations (from search of selected databases), and then conducting an in-depth review of the article. Any articles that did not meet the criteria were disregarded. The initial search yielded approximately 100,000 hits. However, after scrutiny only 30 articles were selected for this review.

Transitioning from Traditional to Virtual Learning Environments

Transitioning from the traditional to the virtual classroom is an adjustment that should not be taken trivially. While the virtual classroom has many advantages for 21st century learning (Kadir & Aziz, 2021), important aspects of face-to-face learning cannot be replaced by new technology. By losing the personal touch and physical connection with their students from face-to-face interactions, Bahamian pre-service teachers are forced to be more innovative in fostering positive teacher-student relationships from a virtual aspect. In online classrooms, students are not afforded the opportunity to go to the teacher's board and practice problems in mathematics; gather in cooperative learning groups to conduct science experiments; or play basketball for physical education, which were characteristic of the typical Bahamian classroom prior to COVID-19. The pandemic has positioned teachers with the challenge of delivering a subject's content virtually and continuously to meet the needs of all learners, including

those with special education needs. Word walls, reading corners, and physical learning centres are gradually becoming obsolete and are being replaced with break out rooms (Zoom) and interactive PowerPoint lessons. The methods for assessing student work and teachers' strategies for record keeping are changing. These are other areas of teaching for which pre-service teachers must be prepared.

Teachers must exercise novel skills in the virtual online environment compared to face-to-face instruction and management. Not only are teachers' pedagogical approaches different, but so are their strategies for facilitating order and organization in the class. Current studies conducted since the onset of the COVID-19 pandemic revealed that paper and pencil tests, physical mark books, lesson plan books, and registers are all becoming digitized, thrusting teachers into the online world whether they are willing to adapt or not (Krach et al., 2020). Regardless of the differences between the face-to-face and the virtual classroom, behaviour management (classroom management) will always be an issue. However, the strategies employed to manage a virtual class may be slightly different (Lathifah et al., 2020). Classroom noise levels will still have to be controlled and students will often be prompted to raise their (virtual) hands and take turns to speak, for example. The teacher's chalkboard is replaced with virtual whiteboards and individual whiteboards for each student to use digitally.

Lesson Permanence

Virtual lessons may be recorded effortlessly with very little thought or supervision. Researchers supported the recording of lessons as a way of facilitating later reflection—for both the teacher and student. Teachers may reflect upon previous lessons and identify the areas requiring adjustment or

improvement; whereas students may replay the lesson if there is any misunderstanding. Nacak et al.'s (2020) study on the effectiveness of YouTube videos for lesson instruction revealed that the use of videos and asynchronous lessons reinforces learning among students.

Individualized Instruction

Many online platforms (e.g., Zoom, MicrosoftTeams, and Google Classroom) provide technological capabilities through which Bahamian teachers may meet with students on a one-to-one level. However, traditional face-to-face interaction with students has been shown to create a more personal engagement, with students feeling more connected to the teacher in the physical classroom setting compared to the virtual classroom.

According to Ogbonnaya et al. (2020), this is not an advantage for struggling learners who may not understand the information presented and require assistance from a teacher who is instructing via a face-to-face format. Individualized instruction, similar to whole class instruction, is often interrupted in the virtual setting due to disturbances from family members and other distractions in the home. These challenges may lead students to become frustrated as they may miss important content. However, in the traditional learning environment, it is easier for the teacher to find a quiet place to work one-on-one with students should the need arise. Ogbonnaya et al.'s study (2020) also found that college students, for example, may feel that written feedback or recorded lectures lack the enthusiasm or quality of verbal feedback or real-time lectures.

In contrast to these findings, however, Brinia and Psoni (2021) found that teachers can engage with their students just as successfully virtually as they do in the traditional classroom. They justified this view by revealing various ways in which teacher-student engagement may be facilitated in the online learning environment. Such approaches include (a) email, (b) class discussion boards, and (c) group projects.

Content Variety

Teaching in both the traditional and virtual classrooms requires that teachers demonstrate significant preparation and planning (Bergstrand & Savage, 2013). Traditional classrooms are inundated with charts, other forms of visual aids, and manipulatives. The virtual classroom is no different, except that the resources are all digital. However, the virtual learning environment is especially beneficial to students with varied learning needs and learning styles: visual, tactile-kinaesthetic, spatial, and others. Resources may be uploaded and downloaded within minutes, sometime seconds, and the virtual environment easily facilitates possible change to a teacher's lesson with the assistance of the Internet. A variety of content in many formats is available instantaneously. This flexibility in accessing information is not as feasible once a face-to-face lesson has been planned. Castle and McGuire (2010) argued the importance of upgrading course content in the online learning environment. According to Castle and McGuire (2010), this is easily facilitated virtually, compared to the traditional learning environment where teachers and students are sometimes forced to work with outdated textbooks and workbooks.

Challenges of Online Teaching

It is not uncommon for pre-service teachers to experience challenges in the traditional learning environment. In fact, some challenges are characteristic of face-to-face

learning environments. Even with face-to-face instruction, pre-service teachers must possess certain pedagogical skills and be able to effectively execute these skills to maximize student academic achievement. Like the traditional learning environment, virtual environments present challenges for pre-service teachers as well. While many pre-service teachers are familiar with cell phones, tablets, and laptops, their level of digital literacy is a matter of great concern. Pre-service teachers are not alone in this situation, as some veteran teachers also find adapting to online teaching a formidable task. Some of the challenges experienced by pre-service teachers preparing to embark upon a virtual practicum include inadequate training for teaching in the virtual classroom, insufficient quantities or lack of devices, and lack of support. These factors are exacerbated during the COVID-19 pandemic.

Inadequate Training for Pre-Service Teachers in Online K-12 Instruction

Researchers contended that many teacher education programmes fail to provide pre-service teachers with the field experience they need to better prepare them for K-12 online instruction (Farmer & Ramsdale, 2016; Manegre & Sabiri, 2020). The methods which inform educators' preparation to teach potentially impacts the quality of instruction they provide in online learning courses. The lack of exposure to virtual teaching experiences, as cited by many pre-service teachers across the literature, hinders the development of pre-service teachers' self confidence in the virtual classroom. Kennedy and Archambault (2012) conducted a qualitative study which examined the results of a national survey of teacher education programmes' efforts to prepare pre-service teachers for K-12 online learning in the United States. Their findings revealed that only 1.3% of responding teacher education programmes were addressing this need via

field experiences in virtual schools. Such findings are echoed by those of Duncan and Barnett (2009), who found that pre-service teachers often lack sufficient opportunities for actively practicing the skills required to develop social and cognitive presence in the virtual classroom. This study which included 19 pre-service teachers and their instructor, showed that teachers felt that courses could have been improved by providing more hands-on individual projects in which they could apply the knowledge they learned (He, 2014).

While some scholars argued that pre-service teachers require extensive experience in the virtual field, others also emphasized the importance of highly trained faculty in the areas of online teaching and learning (Smithers & Bungey, 2017). According to Gurley (2018), pre-service teachers are only as effective as the quality of instruction received from knowledgeable faculty. Gurley (2018) argued for the importance of faculty preparation specific to teaching in blended and online learning environments. If pre-service teachers are not trained efficiently to manage the demands of the online learning environment, they will experience frustration and their self-confidence will decrease. In fact, this supposed lack of preparedness positions most pre-service teachers as apprehensive toward completing their practicum virtually.

Insufficient Quantity or Lack of Devices

While virtual education is supported by research (Ogbonnaya et al., 2020) as an effective method of education delivery, the issue of device availability should be taken into consideration. Current research cited insufficient or lack of available devices such as laptops, tablets, and personal computers as a limitation to online instruction across K-12 virtual classrooms. Since the beginning of the

COVID-19 pandemic, Bahamian parents and teachers alike were faced with the demand of purchasing electronic devices to accommodate online teaching and learning with very little advanced warning. Since 2020, computers have become a fundamental resource for students and teachers; unfortunately, unlike paper notebooks, computers are not as easily obtained for many students. Additionally, some pre-service teachers have been found to lack essential equipment for supporting online instruction after preparing for the traditional form of instruction (face-to-face) and were, therefore, highly dependent upon their schools to provide the necessary equipment.

When schools in The Bahamas were forced to discontinue face-to-face instruction upon the arrival of COVID-19 in March 2020, the Bahamas Minister of Education was concerned about the lack of devices accessible to students. The Minister's concern reflected the sentiments shared by Bahamians and held by parents and citizens globally. The Bahamas' Ministry of Education was concerned that public school students (specifically less-fortunate students) would lose valuable instruction time as many of them did not possess a computer, tablet, or other appropriate electronic device needed to access the learning management system used in The Bahamas (Rolle, 2020). The lack of technological resources negatively impacted both students and teachers and, by extension, pre-service teachers preparing to embark upon their teaching practicum.

Online instruction is a relatively new concept for Bahamian pre-service and in-service teachers, as classes were always conducted face-to-face. With the onset of COVID-19 in-service and pre-service teachers were forced to provide online K-12 instruction using platforms with which they were unfamiliar and devices which some of their schools provided. Teachers were often hesitant to use

their personal devices for fear of their devices crashing. Few teachers possessed the required devices and software for efficiently managing virtual classrooms. Without the necessary software and hardware, creating an online classroom conducive to learning was impeded.

Lack of Support

Online teaching, particularly in recent months, requires a team effort and ongoing collaboration between pre-service and in-service (cooperating) teachers. Pre-service teachers are novices in the field of education; therefore, it is imperative that they are supported by competent, knowledgeable, cooperative, and motivated teachers. The same level of support (and more) in which cooperating teachers are expected to support pre-service teachers in the physical classroom is expected in the online classroom. This includes pedagogical, behavioural (classroom management/student behaviour), and organizational (record keeping and assessment) support. These educators must also receive support in parental relations and much more.

Even before the pandemic hit, researchers proposed that pre-service teachers (like in-service teachers) become discouraged when they do not receive the needed support. They doubt their abilities and tend to reconsider their professions as contributors in the education field (Newton, 2018; Samu, 2020). According to Newton's (2018) qualitative study on attrition among Bahamian special educators, the lack of teacher support is one of the major reasons why many teachers decide to leave education. Such data relates not only to in-service teachers, but pre-service and beginning teachers as well (Yuan & Lee, 2016). Teng (2017) explored the role of emotions in pre-service teachers' identity development and found that pre-service teachers attributed their sense of failure and

powerlessness to the lack of emotional and social support from other teachers and colleagues.

Pre-Service Teacher Support Systems: Strategies for Success

Certain support systems must be in place to enhance pre-service teachers' levels of confidence in their competence (Ersin et al., 2020). Online teaching readiness depends highly upon the competencies of teachers, and their skills to adapt the pedagogy while adjusting to new teacher roles. Thus, a foundation consisting of a strong pedagogical capability to manage all aspects of the online classroom is an extremely crucial part of pre-service teacher preparedness. Teacher education programmes in institutions of higher learning must ensure that the faculty responsible for pre-service teacher training are themselves knowledgeable about the intricacies of online instruction and classroom management (Lathifah et al., 2020). It is, therefore, imperative that teacher education faculty are equipped to provide pre-service teachers with the instructional support needed to successfully instruct students of differing abilities via various media.

To meet the academic needs of their future students, Bahamian pre-service teachers must be prepared to integrate technology into their teaching as well as exercise readiness to teach online. A great concern for many pre-service teachers since the COVID-19 pandemic is their feelings of inadequacy for teaching online. Such concern is supported by findings of recent studies (Ersin et al., 2020; Kadir, & Aziz, 2021). Some pre-service teachers also felt they did not have the support needed to assist them in successfully delivering their lessons, while other pre-service teachers cited poor levels of support from classroom teachers (i.e., cooperating teachers) who themselves were unfamiliar with online

teaching, and who lacked just as much experience or more in online teaching and classroom management.

Due to COVID-19, there is an increasing demand for pre-service teachers to acquire the skills necessary to be proficient in the execution of teaching with technology as part of their educator preparation programmes (Cooper et al., 2018). Learning and applying technological proficiencies which enhance student performance in virtual classrooms can influence pre-service teachers' perceptions of self-efficacy in using technology. Current research cited specific support systems critical to pre-service teacher success in K-12 online instruction (Kadir & Aziz, 2021; Scull et al., 2020). Such support systems include (a) faculty and teacher (i.e., cooperating teacher) mentorship, (b) integration of technology in teacher education courses, (c) pre-service teacher collaboration, and (d) technology training (via workshops).

Integrating Technology in Teacher Education Courses

Researchers concurred that the integration of technology in teacher education courses improves pre-service teacher confidence with teaching online (Scull et al., 2020). According to Scull and colleagues, the technology skills of pre-service teachers also improve when they are learning with computers rather than learning about them. He's (2014) findings echoed those of Scull et al. (2020) that pre-service teacher self-efficacy toward online teaching increases the more they are exposed to using technology both in their teacher education courses and in the field. McAllister and Graham (2016) contended that the inclusion of technology training earlier in teacher education coursework is exceedingly beneficial in significantly improving pre-service teacher technology proficiency. Likewise, Dorner

and Kumar (2016) confirmed that the inclusion of classroom technology training in methods classes has further developed pre-service teacher confidence and proficiency levels regarding integrating technology into the virtual lesson.

However, while the strategy of technology integration in teacher education courses has demonstrated success, other researchers have contested its effectiveness (Vrasida & McIsaac, 2001). According to Martin et al. (2016), the integration of technology in teacher education courses is futile in the absence of the necessary hardware. Vrasida and McIsaac (2021) argued that limited faculty expertise and insufficient time to assist pre-service teachers with technology training for online teaching pose a threat to the proposed effectiveness of technology exposure. McAllister and Graham (2016) concurred that even with exposure to technology, pre-service teachers often experience difficulties in transferring what is learned in their education courses to their field experience in the classroom. Such findings suggest that technology integration, while beneficial to pre-service teachers, will only be as beneficial as the additional supports provided to sustain this proposed benefit. Teacher education faculty must be proficient and efficient in the use of technology for executing online lessons if pre-service teachers are to receive the best possible training, thereby increasing their confidence and proficiency for online instruction and classroom management.

Collaboration Among Pre-service Teachers

For decades, best practices in education have been grounded in the theories of many educational psychologists and philosophers (Bandura, 1986). Bandura's social cognitive theory is based upon the premise that learning takes place through interaction in social

contexts and environments. To this end, educational psychologists and philosophers argue the benefit of pre-service teacher collaboration with their colleagues. Pre-service teachers must be afforded opportunities for networking and collaborating with their peers to build their knowledge base and understanding, and to provide emotional support for each other. Stolba and Kay (2021) described a collaboration strategy as one which established partnerships between universities, colleges, and public schools to create technology-rich learning experiences.

According to Carroll et al. (2003), the use of a collaborative approach to enhance pre-service teacher online teaching confidence and proficiency involves developing communities of practice, knowledge repositories, expertise directories, peer and mentor assistance, and best practice examples. This view was also shared by Dawson and Norris (2000) who proposed that placing pre-service and in-service teachers (i.e., cooperating teachers) in teams to cooperatively identify ways to integrate technology into the curriculum has many benefits, namely an expansion of one's pedagogical knowledge. Their findings also revealed that collaboration among pre-service and cooperating teachers provided opportunities for all teachers to explore and practice technological applications in a supportive environment, develop positive relationships between local public schools and their universities, and increase the comfort level of using technology.

In contrast to Carrol et al.'s (2003) and Dawson and Norris's (2000) findings, Thompson et al. (2003) found that collaboration among teachers would only be effective if all parties are motivated to collaborate and have bought into the idea of virtual instruction. However, in agreement with Thompson et al. (2003), Carroll et al.

(2003) recognized that if one member of the community is resistant to the use of technology, the effectiveness of the collaborative approach is compromised.

Technology Training and Workshops for Pre-Service Teachers

Professional development for pre-service teachers is crucial since the recent transition from traditional methods of teaching to online instruction (Kadir & Aziz, 2021). Researchers contended that pre-service teachers require effective ongoing engagement in the use of educational technology to achieve a successful teaching practicum (Ersin et al., 2020; McLoughlin & Lee, 2010).

Collaborative efforts between the Bahamas' Department of Education and University of The Bahamas' School of Education are needed to plan, implement, execute, monitor, and assess pre-service teacher instructional development in technology use and management for K-12 instruction. Bahamian pre-service teachers require training opportunities that will develop their skills and experiences in using digital technologies to support their teaching in schools. This reality is supported by findings from a study conducted by Gallup et al. (2021), who examined the perceptions of six pre-service primary teachers to determine the potential of an immersion programme to successfully build pre-service teachers' competencies in Aboriginal education. Findings from this study revealed that pre-service teachers are more motivated when immersed in ongoing professional development, teaching, and training programmes.

Results from research conducted on the effectiveness of pre-service teacher technology training and workshops in online instruction indicated that pre-service teachers found training workshops significantly

helpful from a personal and professional perspective in helping to meet the challenges of their first teaching practicum (Scull et al., 2020).

Implications for Practice: Strategies for Success

The cross-section of current literature explored here poses various implications for future practice in the Bahamian education system. As supported by current educational and COVID-19 research, these implications must be addressed if pre-service teachers are to achieve success in their online teaching practicum. Education stakeholders and policymakers must evaluate the successes of pre-service teachers and consider the achievement of all learners in schools across the archipelago of The Bahamas. There must be a consistent effort to understand how these learners are impacted by the teachers responsible for providing online instruction.

Implications for practice include future (a) K-12 online teaching and learning training for in-service teachers, (b) restructuring of college and university teacher education programmes, and (c) establishment of pre-service teacher mentoring programmes. As with any initiative, particularly in education, all stakeholders must be committed. The effectiveness of any educational reform such as the newly implemented K-12 online education is only as effective as the stakeholders facilitating it. Preparing Bahamian pre-service teachers for online instruction requires consistent and effective collaboration of all education stakeholders for pre-service teachers to be effective in their lesson execution and classroom management. Pre-service teachers, education faculty, and in-service teachers (cooperating teachers) are expected to expand their ability to improve online instruction and support for all learners. Pre-service teachers must be exposed to the support systems that will

facilitate their success in the virtual classroom. These support systems, as justified by research, will not only guide pre-service teachers in their pedagogical approaches, but also enhance their knowledge, proficiency, and comfort.

K-12 Technology Training for Cooperating Teachers

Findings from the examined research revealed the importance of pre-service teacher support from cooperating teachers (Kadir & Aziz, 2021) in virtual instruction and classroom management. To facilitate this support, in-service teachers must first be trained to effectively use educational technology and execute best practices for online instruction. Lack of practical support from cooperating teachers implies that in-service teachers, like pre-service teachers, require extensive training not only in technology but the use of technology for online teaching and learning from K-12 levels. Instructional, professional, and emotional support from cooperating teachers are important to the success of pre-service teachers' teaching practicum. However, cooperating teachers' support level and efficacy reflect the extent of their knowledge of virtual education. To provide the support pre-service teachers require, cooperating teachers must be knowledgeable about (and be able to manipulate) various devices, learning platforms, and software needed to enhance online education for all learners and improve pre-service teachers' instructional competence.

While the evolution of the COVID-19 pandemic has revealed the deficiencies within the public education system in terms of insufficient pedagogical support, it should be noted that pre-service teachers have previously struggled with less than efficient cooperating teachers in some instances. Although technology was not a major issue,

as this was still a novel concept, some pre-service teachers were placed under the supervision of classroom teachers (i.e., cooperating teachers) who did not always demonstrate current or effective best practices. Often, pre-service teachers experienced a conflict in terms of what they were taught in their teacher education programmes with what their cooperating teachers were instructing, or rather allowing them to do in the classroom.

Considering the current COVID-19 pandemic and the inescapable transition from the traditional instructional format of face-to-face teaching and learning, the Bahamas' Ministry of Education must provide ongoing educational technology training for all in-service teachers. In-service teachers do not know in advance when they may be required to serve as cooperating teachers for teaching practicum students. To this end, all teachers must be prepared to share their expertise with teacher candidates attached to their classes.

Beyond the realm of the teaching practicum, however, all pre-service teachers must unavoidably become accustomed to teaching all learner types as online instruction is now the new norm of education delivery. While this training is undoubtedly crucial to the success of future teacher education practicums and overall student learning outcomes, the Ministry of Education may discover the need to provide incentives for apprehensive in-service teachers, particularly those who may feel uncomfortable using new devices and resources.

Tertiary Institutions' Teacher Education Programmes

Current literature demonstrates that effective online instructional practices during pre-service teachers' practicums hinge upon the exposure, training, technology-focused field experiences, faculty support, and integration

of technological accommodations throughout teacher education programme curricula and methods classes (Scull et al., 2020).

Education stakeholders in The Bahamas must raise their standards to effectively meet the challenges encountered by pre-service teachers faced with completing teaching practicums virtually. The current literature speaks to the critical role of the quality of teacher education programmes. To this end, education faculty at the University of The Bahamas must implement assessment measures to facilitate the consistent assessment of pre-service teachers' concerns, apprehensions, and needs pertaining to teaching virtually, and consequently adapt the existing teacher education programme to meet these needs adequately.

The status quo of teacher education programmes prior to COVID-19 should not be maintained, as practicums are now required to be completed in an unprecedented format. With online instruction becoming the new normal of teaching and learning, educational technology must be integrated throughout all teacher education courses (in addition to the provision of additional technology courses). Research indicated that frequent engagement with educational technology in courses and within field experiences enhances pre-service teacher confidence with their online teaching practicums.

While the pandemic has forced a revamping of the type of teacher education preparation provided at the tertiary level, one advantage has arisen from this ordeal; given the archipelagic structure of The Bahamas, online instruction in teaching practicums has made teaching on Family Islands (i.e., other islands within the country) much easier, or rather more convenient for pre-service teachers. Prior to the COVID-19 pandemic, many pre-service teachers residing on Family

Islands were forced to relocate to the capital to complete their final teaching practicum. However, since the implementation of online teaching, such teachers may remain on their residing islands and just as effortlessly complete the requirements for their practicum. Considering the geographical structure of The Bahamas, it would seem inevitable that distance education would have been introduced on a full scale prior to the pandemic. This change in the delivery of education has proven to be the solution to a long existing issue.

## Establishment of Mentoring Programmes

Virtual classrooms differ significantly from the traditional face-to-face classroom setting, and until March 2020, pre-service teachers enrolled in University of The Bahamas' teacher education programme have only been accustomed to preparing for a face-to-face teaching practicum. Prior to the COVID-19 pandemic, the type of instructional support received by pre-service teachers in methods courses at University of The Bahamas was primarily geared toward the traditional form of education delivery (i.e., face-to-face). Consequently, pre-service teachers were not familiar with executing lessons within a virtual domain. Further, neither they nor the cooperating teachers assigned to them were accustomed to the learning management systems platform which the Bahamas' Ministry of Education has recently implemented for all public-school use. To this end, the development of a pre-service teacher mentoring programme is now a necessity.

Mentoring provided by the School of Education faculty and cooperating teachers is essential in providing the necessary professional development required to help ensure that pre-service teachers successfully perform in the teaching practicums (see

Figure 1). To ensure the success of such a mentoring programme, it is important to ascertain that all mentors are highly trained in educational technology and best practices for online instruction from Kindergarten through Grade 12 (Dorner & Kumar, 2016).

Figure 1

Support Systems for Pre-service Teachers: Virtual Teaching Practicum
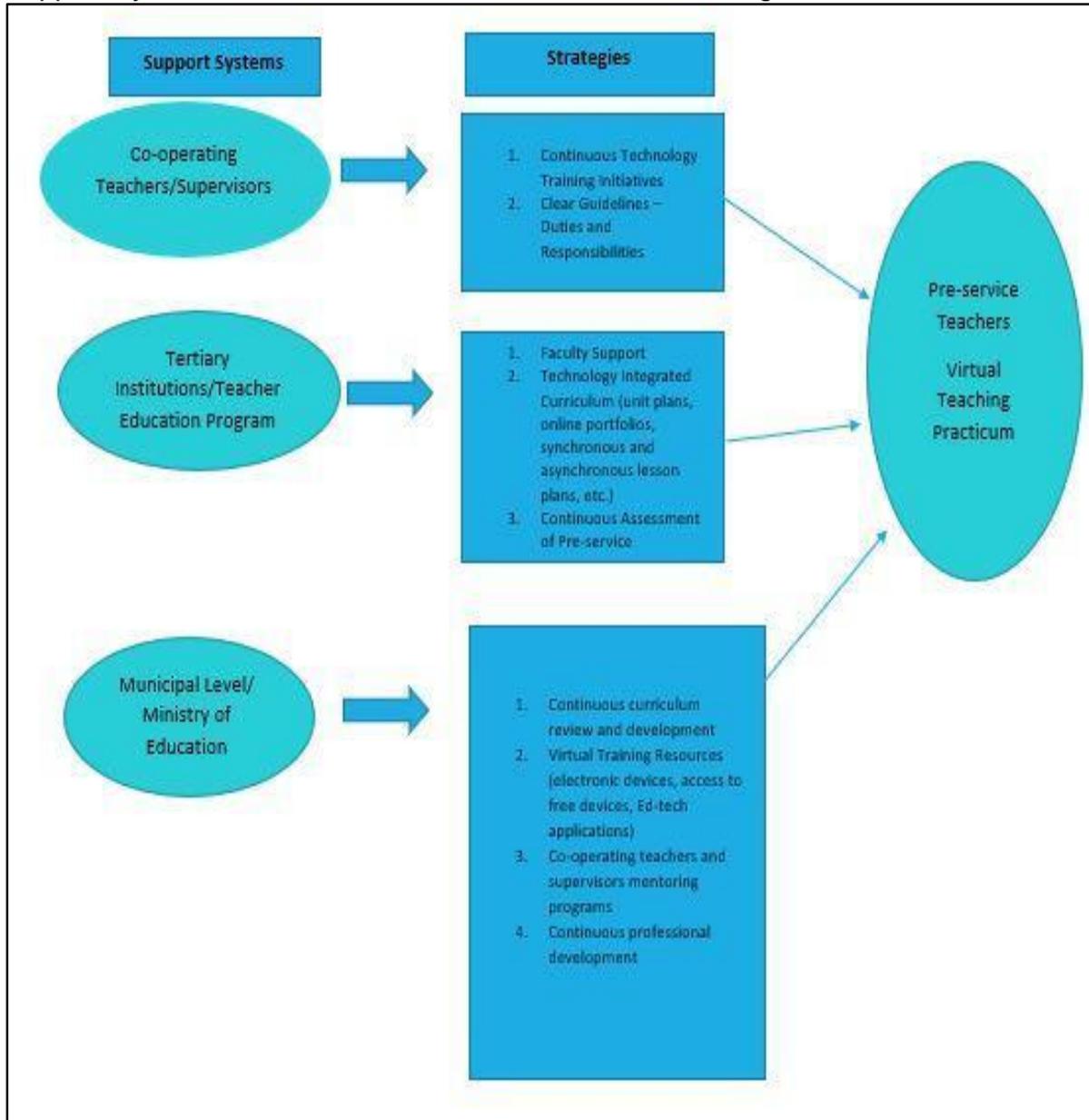
Conclusion

The duties and responsibilities of teacher education programmes are multi-layered. They must meet the demand of developing skilled teachers who meet (and exceed) institutional, national, and international standards, and they are also tasked with the responsibility of nation building, one student at a time. Although traditional pre-service teacher programmes delivered courses primarily face-to-face, there has been an unprecedented shift toward a virtual platform. The unanticipated introduction of COVID-19 mid-semester (Spring) in 2020 resulted in an immediate halt of traditional pre-service teacher education programmes and the introduction of a completely virtual programme despite the lack of preparedness from tertiary institutions, programmes, and students for this immediate transition. This further compounded the challenges that pre-service teachers already encounter. To ensure their success, proper support systems must be in place. This integrated literature review provided a synthesis of the challenges encountered by pre-service teachers and support systems needed to ensure their success. Emphasis was placed on the implications for practice in the context of The Bahamas.

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