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Abstract

With the development of technology in education, various methods of teaching have been adopted across the world. Many countries have made technology an integral part of their classroom, and some nations have worked hard to incorporate it in various ways. Through a literature review, this paper investigates the challenges and opportunities of blended learning in rural and remote schools. This study finds how blended learning helps school districts balance teacher demand and supply issues in rural and remote areas. The present study revealed that blended learning is considerably more favorable than face-to-face only, home-schooling, and pure online education and offers several benefits for learners such as no teacher retention issues and schools available in their community. This research concludes that blended learning is an excellent approach to teaching and learning in rural areas regarding teachers' availability, students' time to travel to the city, and students' interaction with their teachers and colleagues.

Introduction

Blended learning has become a popular teaching and learning approach in today's educational world. As a result, different institutions have started using blended learning in their regular academic programs. However, some schools in remote and rural areas struggle to find a suitable teaching approach in their regular schedules and have faced teacher retention issues in those communities. *That is the reason why many schools have been forced to permanently close, while others have chosen to adopt a hybrid instructional approach called blended learning,* which is a complete mix of traditional and modern methods that have helped significantly solve the problem in remote and rural communities.

Although different institutions explain blended learning differently, the most common definition is "a combination of traditional face-to-face and online instruction" (Graham, 2012, p. 334). Similarly, Neumeier (2005) defines blended learning as "a combination of face-to-face (FtF) and computer-assisted learning (CAL) in a single teaching and learning environment" (p. 164). Thus, students learn from home by using technology in their flexible time and the classroom. In the same context, Hockly (2018) argues that "the use of 'computer technology' as part of blended learning is usually understood to take place in another location to the face-to-face (f2f) teaching, and most likely in the learners' own time" (p. 97).

In today's world, many students are learning from home. Therefore, they think that home-schooling is the best option for them which runs entirely online. However, those students and parents who have experienced blended learning prefer blended learning to online education. Based on a survey conducted by Tayebinik & Puteh (2012), it is concluded that blended learning is "an efficient approach ...in terms of students' learning experience, student-student interaction as well as student-instructor interaction and is likely to emerge as the predominant education model in the future" (Tayebinik & Puteh, 2012, p. 1).

Although many schools worldwide have adopted this approach, there is still much more to be done to make it more effective. To begin with, the training of teachers, students, and parents (Barbosa & Vale, 2021; Halfon & Biton, 2022; Hockly, 2018; Macià-Gual & Domingo-Peñafiel, 2021; Tayebinik & Puteh, 2012; Neumeier, 2005; Grgurovic, 2011) is vital as it is entirely a new phenomenon to all stakeholders. Furthermore, technology plays an essential role, so all stakeholders should be aware of online safety rules. In addition, blended learning is neither wholly face-to-face, nor traditional learning nor entirely online; it is the combination of both, therefore "assessments will need to be designed to test for the content presented in various formats" (Watson, 2008. p. 14).

The rationale of this study is to find the opportunities and challenges of blended reading and provide some possible solutions based on the research and experiences. This research is essential because it will elaborate findings from various literature on this topic and its application. Also, it is evident that in rural and remote areas of northern Canada, there is a high demand for certified teachers, and the schools are being closed due to the lack of qualified teachers. Therefore, this study will provide different strategies to the school districts in these areas to continue classes in rural and remote schools without disturbances.

History of Blended Learning

There was no exact date when blended learning started; however, it seems that this is a hybrid program modified from traditional face-to-face education and online learning. Horn & Staker (2014) assert that "the emergence of blended learning is one-way online learning is marching upmarket" (p. 4). Many scholars take us to the root of distance education to know the origin of this learning approach. Barbour (2014) introduces the term ''Correspondence Education'', the first form of distance education used in different school districts worldwide. In Canada, British Columbia started open and distance learning in 1919 (Barbour, 2014; Winkelmans et al., 2010), which New Zealand followed in 1922 (Rumble, 1989; as cited in Barber, 2014).

Pappas (2015) claims that there were different learning approaches before we came to the blended learning model in the 21st century. According to Pappas (2015), the first "Distance Course" (para 2) started in the 1840s, followed by "Mainframe Computer-Based Training" (para 3) in the 1960s and 1970s and then "TV-Based Technology to Support Live Training" (para 4) in the 1970s and 1980s with "CD-ROM Training and Rise of LMS (Learning Management System)" (para 5) in the 1980s and 1990s. Pappas (2015) further notes that the "First Generation Of Web-Based Instruction" (para 6) developed in 1998, and from around 2000 to until today,

"blended learning has a proven track record of bringing traditional classrooms into the tech-friendly 21st century" (Pappas, 2015, para 9).

Regarding the use of blended learning in English language teaching, Hockly (2018) states that "the term 'blended learning' has been widely used in English language teaching since at least 2007 when Sharma and Barrett published their eponymous teachers' resource book" (para 1). Research shows that blended learning is the continuation of distance learning with online and face-to-face education modifications. Therefore, it is seen that blended learning has been used in institutions since the beginning of the 21st century after the development of the World Wide Web (WWW) (Arney, 2015; Grgurovic, 2011; Hockly, 2018; Kintu et al., 2017; Tayebinik & Puteh, 2013; Winkelmans, 2010).

A Comparative Study between Online Learning and Blended Learning

There have been many changes in education after the development of technology. As discussed above, in the past decades, online learning "has emerged due to the integration of ICT in the education fields" (Tayebinik & Puteh, 2013, para 1). Different institutions have defined online learning in various ways. However, the typical pattern of this phenomenon is the use of technology in the teaching and learning process staying out of the classroom in two ways: synchronous and asynchronous, where "online learning offers the advantage of personalization, allowing individualized attention and support when students need it most" (Watson, 2008, p. 2). By explaining the advantages of online learning, Watson (2008) further claims that online learning "provides the very best educational opportunities to all students, regardless of their zip code...using the Internet and a vast array of digital resources and content" (p. 2).

There are many similarities between online learning and blended learning. Some of them are using technology, working from home or different places than the classroom and working at their own pace. Although it seems that both learning approaches focus on technology, blended learning adds face-to-face instruction partially. It is viewed that online learning lacks face-to-face communication, leading to a lack of socialization process of individuals (Tayebinik & Puteh, 2013). Therefore, it is found that blended learning helps students in more areas than online education. Regarding the balance of online and face-to-face instruction, Glazer (2011) shares personal experience this way:

> Since students learn in different ways and at different paces, placing the rote knowledge tasks online allows students the freedom of asynchronous, self-directed study. I then use the face-to-face class time to elaborate on the basic foundational knowledge acquired either online or from the textbook (p.17).

Advantages and Disadvantages of Blended Learning

From the experience of national and international institutions, there are affordances and limitations to the blended learning approach. While many scholars point out both views about this learning approach, most of them claim that the disadvantages are both outweighed and outnumbered by the affordances.

On the one hand, blended learning has several undeniable benefits. First, blended learning is motivating students considerably in comparison to traditional and online learning. Students feel free and independent in their education, which helps them study at their own pace (Namyssova et al., 2019). Glazer (2011) comments that "teaching in this fashion seems to work by making the class more flexible, approachable, and intrinsically motivating, perhaps because of the self-directed nature of the online materials" (p. 17). Second, in this learning approach, teachers build the student-centred learning environments in the classroom "whereby the teacher's primary role is encouraging students to become active knowledge seekers versus spoon-fed learners" (Caulfield & Aycock, 2011). In this case, many researchers argue that students interact with each other when they are face-to-face and work independently when they are away from the class, making them active and constructive (Kabassi et al., 2016; Caulfield & Aycock, 2011; Glazer, 2011; Allan, 2007/2018).

The third advantage is that this approach to learning is cost-efficient in terms of financial point of view. In addition, it provides lots of flexibility to students and teachers that they do not need to be in the classroom every day. Similarly, schools can enroll more students that help school districts recruit fewer teachers for the schools (Namyssova et al., 2019). Finally, "blended learning maximizes the value of face-to-face time" (Glazer, 2011, p. 7). While blended learning is a combination of online and physical presence in the classroom, "face-to-face contact time is available for synchronous give-and-take, thrashing out questions about difficult topics, identifying and resolving students' assumptions and misconceptions about a topic, building community, doing hands-on activities, and addressing any questions students may have about the technology" (Glazer, 2011, p. 7).

On the other hand, *research has also argued for the potential negative impacts to utilizing this learning approach, such as not easy access to technology and overwork for teachers.* It is seen that some of the students, particularly in the K-12 school setting, have a significant struggle in using the technology properly. Due to the lack of high-speed internet facilities, the students face challenges in some rural areas. Namyssova et al. (2019) assert that "the lack of suitable infrastructure and access to technology can cause some constraints for the successful integration of blended learning" (p. 23). Secondly, it is additional work for teachers as they cannot pick the ready-made syllabus and resources. Hunt (2016) claims that teachers "have to broaden their horizons, pick the most suitable syllabus, and apply significantly more time and effort to find the right balance between online and face-to-face learning" (para 11).

Teacher Retention Issues in Northern Canada

The demand for teachers in northern Canada is increasing daily, but the supply has not been increased due to several reasons. Kitchenham & Chasteauneuf (2010) predict that the shortage of teachers will be more critical in northern and remote areas. "A teacher shortage has meant classes in at least one community in Nunavut (east-Canadian Arctic) have seen the start of their school year delayed" (Pucci, 2018, para 1). In some school districts, this has become a critical problem and has affected the school year. For example, "the shortage in Igloolik is part of a larger problem. More than 50 school districts in the province of British Columbia … have had trouble finding and retaining teachers" (Pucci, 2018, para 3).

Several factors have played an essential role in the issue of teacher shortage in this area. "Some of which include differential teacher salaries, ad hoc salary agreements, limited teaching term agreements, inadequate or non-existent benefits packages, lack of identified vacation time, and limited sick leave time" (Mueller et al., 2011). Certified teachers do not want to stay in remote and rural communities that is why the different school districts in the northern belt "hire local people who have experience working with school-age children, even if they don't have teaching degrees" (Pucci, 2018, para 16). Various school districts in this region have fulfilled their vacancies attracting fresh graduates from the universities; however, they do not continue for a long time. Those new teachers face many challenges that result in a significant increase in teacher drop-out rates in this region. "The challenges include a lack of resources for inexperienced teachers, including mentors or professional development, a shortage of teachers trained to work with special-needs kids, and little separation between one's personal and professional life" (Kane, 2016, para 18).

To study the problems facing educators in northern Canada, Kitchenham & Chasteauneuf (2010) selected five different categories like "subject area-needs, outside one's expertise, teacher recruitment process, reasons for staying and professional development opportunities" (p. 881). They further found that the school districts in northern Canada "struggled to provide qualified teachers in high-demand subject areas such as high school mathematics and science and Elementary Special Education; however, many schools coped with the need by requesting teachers to teach outside their expertise" (p. 890). The other concern is that although teachers are getting slightly higher salaries and few incentives in remote and rural areas (Burleigh, 2016; Kitchenham & Chasteauneuf, 2010; Mueller et al., 2011; Pucci, 2018), which is not enough due to the high cost of living in this region.

How Blended Learning Addresses this Issue

As discussed in the literature and from the author's experiences, the blended learning approach has brought considerable changes in students' learning. Furthermore, it is evident that students use technology that helps them to be able to work on computers using different applications and websites. By focusing on elementary classrooms, Bodden-White (2015) insists that blended learning is a "possible approach for increasing student achievement" (p. 61); therefore, I think this learning approach becomes beneficial for Northern schools. It is clear that there is a problem of isolation in teachers in rural schools; blended learning will help teachers stay in urban areas and ensure learning happens to students correctly. They visit their school; however, students can work off-site to minimize students' and teachers' frequent visits to the school. In terms of the effectiveness of blended learning, Bodden-White (2015), in her doctoral thesis, argues that "leadership support for blended learning increased teachers' use of blended learning, and the use of blended learning increased student engagement" (p. 65).

Applying blended learning in the classroom is taken as a "move from teacher-led instruction to a student-driven environment" (The Mathletics Team, 2018). It is said that "this teaching method incorporates digital learning with traditional teaching methods, creating a blend between teacher-led and student-driven learning" (The Mathletics Team, 2018, para 1). The Mathletics Team (2018) offers three different learning models in blended

learning like the "station rotation model, flipped classroom model and flex model" (The Mathletics Team, 2018). Blended Learning website (2021) reports that station rotation model "allows students to rotate through stations on a fixed schedule, where at least one of the stations is an online learning station". However, in the flex blended learning model, "students may have historically had access to library resources and educational equipment as well as teaching staff, but they were under no obligation to attend formal lectures, practical demonstrations, or lessons" (ViewSonic Library, 2021, para 5). In terms of the availability of teachers on-site, the "flipped classroom model" (The Mathletics Team, 2018) is effective, while the station rotation model focuses on students' interaction with peers and instructors. In flipped classroom model, "students are first introduced to concepts at home through online coursework and then practice in class with teacher assistance" (The Mathletics Team, 2018, para 7).

Researchers have recommended various models in blended learning that have been in use all over the world. Staker and Horn (2012) present four models of blended learning this way, "rotation, flex, self-blend and enriched-virtual" (p. 2). Among these four modules, they divide the rotation model into four categories like station-rotation, lab-rotation, flipped-classroom, and individual-rotation modules. In today's context in northern Canada, the lab-rotation model becomes useful for rural and remote schools. In the lab-rotation model, teachers teach courses entirely online, but students are in the physical classroom supervised by adults (Giarla, 2021; Staker & Horn, 2012). The school districts can hire some adults in rural and remote schools and apply the lab rotation model to teach from cities. It helps northern communities get their schools running in their own community.

Conclusion and Recommendation

The benefits presented here can be encouraging factors for administrators and researchers and can be applied to some strategies and models in the classroom. A critical aspect of the blended learning approach is the necessity of skills for teachers in blended classrooms. Blended learning is a hybrid form of the online and traditional learning style from kindergarten to post-secondary level that this may be new learning approach for many teachers who have not practiced it in their career. Based on a study by Graham et al. (2019), they argue that there was "a gap between teachers' self-efficacy and their actual readiness for blending" (p. 244). Therefore, it is strongly recommended that training should be provided to the stakeholders before starting this program. The most important consideration we need to have in blended learning is collaborative learning environments where "students can more easily collaborate and station rotation models take a more balanced approach to the learner–content, learner-learner, and learner–instructor interactions" (Graham et al., 2019, p. 243). Some institutions have been using the lab rotation model in the blended learning approach for a long time and are getting positive feedback from the stakeholders. Therefore, the school districts in the northern region of Canada can adopt this model instead of closing schools because of teacher shortages.

As discussed above, there are several models of blended learning that school boards can try in their schools. It is also found that students can enhance their learning capabilities in blended learning where technology and collaboration play crucial roles in making it successful. Therefore, this research strongly suggests that those

school districts that have schools in rural and remote areas should start blended learning in those communities where it is hard to find certified teachers.

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