Towards the Design and Implementation of a Blended Learning Framework for Student-Centredness

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Abstract

In the 21st century, the use of the internet and technology become essential in every facet of a life. The outbreaks of the Covid-19 pandemic, prevent direct human contact but increase the usage of digital technology for numerous services. Traditional teaching methods called also face-to-face in educational environments have changed in order to conform to a new norm that incorporates technology into all curricula, including how faculty plan and perform tuition. The use of learning management systems (LMSs), which offer technological tools for learning and teaching, is widespread among higher education institutions (HEIs) worldwide, particularly in South Africa (SA). The design and implementation of a blended learning framework for student-centeredness (BL4SC) by one of the South African rural universities are presented in this study. The design and implementation of the BL4SC by one of South Africa's rural universities are presented in this study. The paper describes integrating online learning components with other delivery techniques already in use at the university. The goal was to expand the flexible learning mode already in place, develop a learning environment that is more student-centered, and increase both staff and student participation. Furthermore, it examines some of the possible benefits of integrating online components into flexible delivery methods that heavily utilize a technologically infused strategy. These include opportunities to create students' educational experiences and foster their collaboration as they develop and increase their independence, self-reliance, and other skills they need for lifelong learning that they may use in a variety of academic fields and across various disciplines.

Keywords: Blended-Learning, E-learning, Student-Centered Approach, Educational Technology, Higher Education

Introduction

The Covid-19 pandemic outbreaks prevent direct human contact while increasing the use of digital technology for a variety of services (Monaghesh & Hajizadeh, 2020). Traditional teaching strategies, also known as face-to-face instruction, have evolved to fit into a new norm that integrates technology into all curricula, including how faculty plan and deliver tuition. Higher education institutions (HEIs) all over the world, but especially in South Africa (SA), use learning management systems (LMSs), which provide technological tools for teaching and learning. Technology has advanced significantly over the last decades (El-Khalili & El-Ghalayini, 2014). The explosion of technology has an impact on almost every aspect of daily life. The effects these technological advancements have on education, however, appear to be more recent. Schools all over the world are gaining access to technology, and this availability has come a shift toward integrating that technology into education (Singh et al., 2021). One of the biggest changes brought about by technology access in the classroom has been a shift away from traditional learning and toward blended learning, which (Schaber et al., 2010) describe as being disruptive to learning as it has previously been known. In the majority of cases, the term "traditional learning" refers to in-person instruction that takes place in a setting with four walls, where both teachers and students are present in the same location at the same time (Ndebele & Mbodila, 2022). Contrarily, online learning is most often defined as instruction delivered entirely through web-based platforms, regardless of the student's preferred location, time of day, or rate of learning (Ndebele & Mbodila, 2022). Therefore, a combination of traditional and online learning is the most straightforward way to define blended learning (Singh et al., 2021) (Songca et al., 2021; Alijani et al., 2014; Dangwal, 2017). By extending this definition of blended learning, (dan Dangwal, 2017) include indirect instruction and collaborative teaching in addition to face-to-face instruction and online learning.

In order to create a learning environment that combines the most beneficial elements of (Singh et al., 2021) in-person and online learning, (Al Musawi, 2011) expands on this definition by stating that blended learning combines three key factors: student needs, access to technology, and preference for traditional instruction. According to (Haijian et al., 2011), blended learning combines the best elements of traditional and online as well as incorporates a variety of learning theories to increase the effectiveness of instruction. In order to create a more student-centered learning environment and increase both staff and student participation, this paper will examine the flexible learning mode already in use at one of the South African rural Universities. Additionally, it looks at some of the potential advantages of incorporating online components into adaptable delivery techniques that heavily depend on the technological-infused approach to teaching.

The following section of this paper will review the literature from the historical perspective underlying the theoretical framework of blended learning to better understand how and why these changes occurred. Furthermore, it will explain the concept of students-centredness environment, the benefits of integrating online components into teaching, as well as the WSU blended learning framework for student-centredness (BL4SC) is presented. Finally, the components of WSU blended learning framework for student-centredness and the BL4SC implementation Framework is presented.

Literature Review

Blended Learning Historical Perceptive

Over the past few decades, the education system worldwide had undergone significant changes due to the quick advancement in technological developments. Traditional learning known as face-to-face was the most common classroom structure up until very recently (Schaber et al., 2010; Mbodila et al., 2019; Nortvig et al., 2018), traditional learning refers to a classroom structure where teaching and learning take place in a physical space with both teachers and students present. Online learning first became popular in the 1990s (Schaber et al., 2010). Online learning, in a contrast to traditional learning, refers to a curse that is entirely conducted online; there is no physical classroom present, and both teachers and students can participate synchronously or asynchronously (Nortvig et al., 2018; Songca et al., 2021; Ndebele & Mbodila, 2022). When online learning first became available, it was widely believed that it could support an indefinite number of students and was therefore the most cost-effective option for education (Schaber et al., 2010). Administrators across the country started pursuing teachers to turn their courses into online platforms as early as the mid-1990s due to the economic viability of online learning (Schaber et al., 2010). Shortly after, it started become a common misconception that online learning would completely replace traditional learning (Haijian et al., 2011) . Although lecturers were now available online, learning was still largely a passive activity, which is why this push to online learning did not prove as successful as anticipated (Schaber et al., 2010). Consequently, despite offering various learning and teaching flexibility and being cost-effective, the implementation and adoption of online learning have had many challenges (Mbodila & Leendertz, 2020).

Blended Learning Overview

A third method of teaching emerged and is known as blended learning as a result of combining traditional and online learning practices. The benefits of various technologies and applications were thus combined to create blended learning (Haijian et al., 2011). According to the literature, blended learning is the blending of various pedagogical or instructional approaches, such as self-paces, collaborative, tutor-supported learning, or traditional classroom instruction. When we talk about blended learning, we frequently mean the use of or access to materials that combine e-learning with other educational resources (Songca et al., 2021). Since blended learning became popular, there has been a lot of debate and research comparing traditional, online, and blended learning to see which is the most efficient method.

The idea of the researchers was to determine which of these approaches will produce the best learning outcomes, the highest level of student satisfaction, and the highest level of credit completion (Alijani et al., 2014; Anthony et al., 2022; Al Musawi, 2011). However, once the data is combined, it tends to show that there are a variety of factors that affect how effective a program of study is, one of these is the proportion of coursework that is completed online as opposed to in a traditional classroom. Even though it may seem that using both online and offline activities at once is preferable to using only one or the other, developments in blended learning over the past years have resulted in an increase in students' participation, a change in the way that learning is structured, and a change in the way that students are motivated (Haijian et al., 2011). As it has been observed over the past few years, blended learning has the potential to be a tool for this restructuring because it does not only naturally increase the number of opportunities for students to receive individualized, one-on-one instruction on a regular basis but it expands the number of opportunities for Student-Centredness.

Students-Centredness Environment

The concept of student-centredness is used to describe curricula and instructional settings that put a heavy emphasis on students' learning activities. There are various variations of environments that are student centered. Even though the structures and objectives of a student-centered learning environment vary, they also have some interesting similarities. Learners are presented with an authentic task in most so-called student-centered learning environments in order to foster relevant learning experiences (Grabinger, 1996). According to the literature, authentic learning requires students to make use of various technological skills, which enable them to learn by doing and visualize teaching which influences their learning outcomes (Mbodila et al., 2020). For instance, if students are asked to write a report on the energy consumption in their own area rather than receiving information about energy usage in a texture-based format. Most student-centered learning environments make an effort to replace a test culture with an assessment culture. By contrasting them with other forms of instruction, different authors have tried to systematically describe the characteristics of student-centered learning environments.

A student-centered learning environment is designed specifically to encourage students to engage in active and collaborative learning that involves various learning approaches which allow students to engage and be active. student-centered is an approach that creates an active learning environment and gives students a stimulus to reflect on the activity. in this approach, the teacher serves as coaches and scaffolders, stepping in, when necessary, without interfering, responding to any questions that students may have while working on a task, and comparing the results of the various groups after each activity. This approach can be practical when implementing blended learning into learning and teaching. However, the flexibility that blended learning naturally offers, makes it clear that catering to the unique needs of each student is no longer an impossible task. (Béres et al., 2012) outline several models that have been created to improve the practice of e-learning in addition to the numerous theoretical frameworks for learning styles and preferences that have been linked to blended learning. One such model is Anderson's Online Learning Model (Béres et al., 2012), which combines community-based learning, inquiry, and collaboration. Another model created for the implementation of blended learning is (Bidder et al., 2016) Flexible Learning Approach, which is described by (Béres et al., 2012). This model links the various aspects of flexibility, such as time, course content, entry requirements, instructional approaches/resources, and delivery/logistics, to the two fundamental categories of acquisition and contribution.

Benefits of Integrating Online Components Into Teaching

For the development of a successful blended learning strategy, it is crucial to combine traditional ways of teaching and learning with online resources. There are many different online teaching and learning resources available. Nearly every component of classroom instruction can be improved upon by integrating some situations with online technology. According to the literature, the classroom environment can be divided into four components: administration, assessment, content distribution, and community (Schmidt, 2004). Many internet resources and web applications technology are available to assist in integrating these components in the classroom. However, the right choice of these online resources will depend on the quality of those that are offered, the technical proficiency of teaching and students, as well as the educational content (Schmidt, 2004). According to research, using online teaching and learning platforms increases student interest and participation. Online tools enable students to use the knowledge in a way that is suitable and adequate for them because their learning abilities and

styles differ from one another. This also improves the learning process and experience of students and equip them with a variety of skills (Pappas, 2018; Mbodila et al., 2019). In order to meet the demands of more students accessing higher education that we are currently unable to provide in face-to-face modality, governments and HEIs around the world, and in South Africa in particular, are anticipating to develop more online courses (Department of Higher Education and Training, 2013, Department of Education, 2007). Additionally, the use of online components in learning and teaching encourages students' retention and allow synchronous and asynchronous interaction between students and lecturers via their computers, mobiles devices, and the Internet (Bates, 2005; Mbodila et al., 2020; Songca et al., 2021). Flexibility is the most frequently mentioned advantage of online learning as it allows students to communicate at anytime and anywhere by improving their communication skills and enhancing their learning experiences (Mbodila et al., 2019; Bates, 2005; Mbodila et al., 2020; Songca et al., 2021). Many of the above- mentioned benefits offered by some online components were identified as some of the features in achieving the BL4SC at WSU.

The Setting of the Study

In the South African context, geographically, and history some universities are "previously disadvantaged" and is still underfunded. Most of these institutions physical located in rural area, and this has an impact on their capacity to recruit and retain academic staff, which in turn has an impact on the quality of teaching (Songca et al., 2021). The university under the case study is located in a rural area and offers an opportunity to use online formats for teaching and learning to make up for geographic isolation as well as the challenge of finding technical and professional support for the efficient operation of online platforms (Ndebele et al., 2016; Mollenkopf, 2009). The institution has four campuses spread across four dispersed locations in the Eastern Cape province of South Africa, namely in Mthatha, Butterworth, Buffalo City, and Komani formerly Queenstown (Songca et al., 2021). The university established its new strategic plan for 2020 – 2030 which is in line with its value-driven to become a technologically-infused African university (Songca et al., 2021). Considering this, the university developed its position statement on blended learning (BL) that aims to provide an institutional understanding of blended learning and to encourage institutional relevance and adoption.

WSU Blended Learning Framework for Student-Centredness (BL4SC)

According to the institutional teaching and learning Policy, blended learning (BL) is defined as the transformation of the student learning experience through the integration of educational technologies with face-to-face instruction (WSU Teaching and Learning policy, 2020). This definition is in line with a study done by the U.S. Department of Education in 2008, which defines BL as "a combination of online and in-class instruction (Parsad et al., 2008). Following the above definitions, the aim of the BL4SC is to promote the use of various emerging technologies in learning and teaching as a supplement to traditional face-to-face to improve student learning experiences. The accepted teaching philosophy at the university under this case study is student-centeredness. Hence, blended learning for student-centeredness, or BL4SC, is how it refers to it. To achieve student-centeredness, BL4SC at WSU aims to (WSU Statement on Blended Learning, 2021):
- Increase the flexibility of access and participation in all formal and non-formal educational offerings.)
- Promote inclusiveness and self-directed learning.

- Encourage student collaboration, interaction, engagement, and communication with both the lecturer and other students.
- Promoting the use of digital technologies in all programs and incorporating emerging technologies into the planning and creation of curricula.

The Components of WSU Blended Learning Framework for Student-Centredness

Depending on the need of the students, the learning objectives, the discipline, and the makeup of knowledge construction and application in that field, need different educational technologies to be incorporated into the program and course. According to the institution's Teaching and Learning Policy (2020), this strategy is appropriate. However, the incorporation of face-to-face teaching and learning within this framework is to expand the flexible learning mode of teaching and learning already in place and increase both staff and student participation. The WSU BL4SC uses various traditional teaching and learning practices in the curriculum. However, it infuses technology to enhance these existing approaches and their delivery space. Figure 1 below displays the components of the WSU Technology Infused BL4SC.
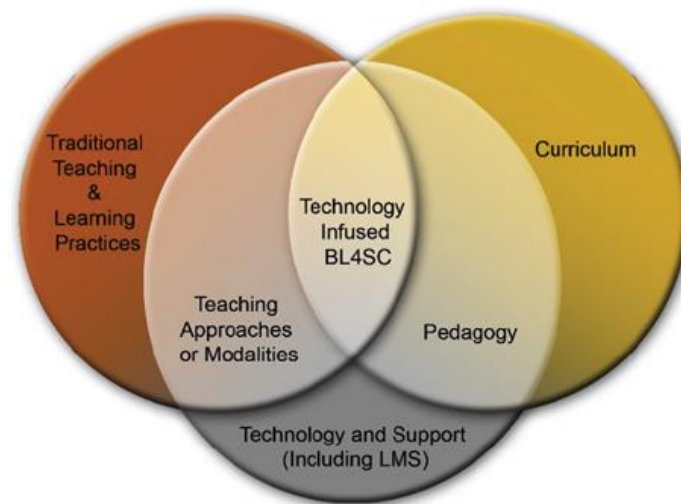
Figure 1: WSU Technology Infused BL4SC (WSU Statement on Blended Learning, 2021)

Following the above, the WSU Technology Infused BL4SC comprised of components such as: the curriculum, pedagogy, traditional teaching and learning practices, teaching approached or modalities, technology infused and technology support which include the LMS. These components, interact with each other's. However, the infusion of technology makes the framework to be more authentic in implementation and application because it introduces a portion of digital technology that changes the curriculum, the pedagogy, the teaching delivery, as well as the teaching and learning platform. The BL4SC provides students with various opportunities such as effective learning design, online communication, effective knowledge construction, and a platform to engage with other students in a synchronous and asynchronous. Being inspired by the University of the Sunshine Coast Blended Learning Continuum (2012), Figure 2, explains and describes the WSU BL4SC framework in detail.

1... to provide effective learning design

information transfer]

BL tools convey administrative and academic information. The online information includes module outline, assessment information, lecture notes, websites with relevant discipline information, and library resources. Assessment outcomes are communicated using the LMS. Students also utilize online materials or resources to upplement the face-to-face learning experience.

HIS IS MINIMUM STANDARD FOR ALL COURSES.

WSU Blended Learning Continuum...

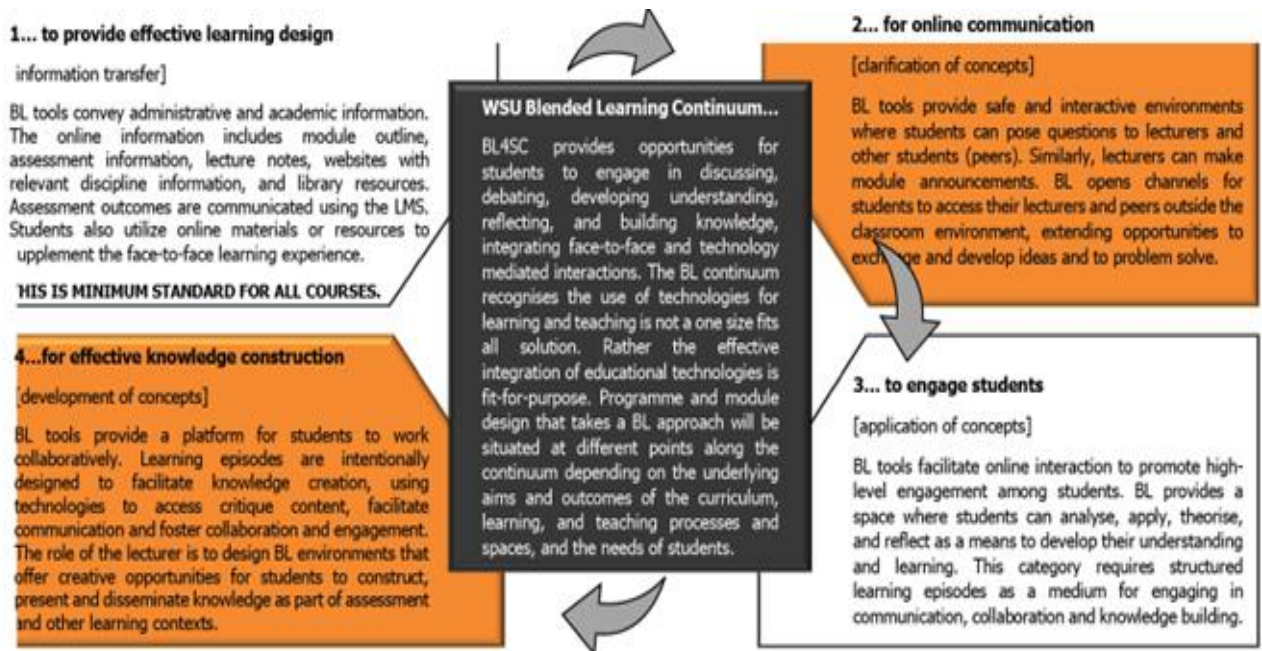BL4SC provides opportunities for students to engage in discussing, debating, developing understanding, reflecting, and building knowledge, integrating face-to-face and technology mediated interactions. The BL continuum recognises the use of technologies for learning and teaching is not a one size fits all solution. Rather the effective integration of educational technologies is fit-for-purpose. Programme and module design that takes a BL approach will be situated at different points along the continuum depending on the underlying aims and outcomes of the curriculum, learning, and teaching processes and spaces, and the needs of students.

2... for online communication

[clarification of concepts]

BL tools provide safe and interactive environments where students can pose questions to lecturers and other students (peers). Similarly, lecturers can make module announcements. BL opens channels for students to access their lecturers and peers outside the classroom environment, extending opportunities to exchange and develop ideas and to problem solve.

4...for effective knowledge construction

[development of concepts]

BL tools provide a platform for students to work collaboratively. Learning episodes are intentionally designed to facilitate knowledge creation, using technologies to access critique content, facilitate communication and foster collaboration and engagement. The role of the lecturer is to design BL environments that offer creative opportunities for students to construct, present and disseminate knowledge as part of assessment and other learning contexts.

3... to engage students

[application of concepts]

BL tools facilitate online interaction to promote high-level engagement among students. BL provides a space where students can analyse, apply, theorise, and reflect as a means to develop their understanding and learning. This category requires structured learning episodes as a medium for engaging in communication, collaboration and knowledge building.

Figure 2: WSU BL4SL Framework Description (WSU Statement on Blended Learning, 2021)

BL4SC Implementation Framework

In learner-centredness-approach put students in center of learning activities as opposed to the teacher. This approach promotes active learning whereby the student is treated as a partner and the teacher as a coach to assist in the learning process. These approaches allow students to be involved and make a meaningful contribution to teaching and learning. In the student-centeredness learning environment, active learning approach is one of the approaches that is expected to promote students' collaboration in an online platform. Through the integration of face-to-face and technology-infused, BL4SC offers students the opportunity to share teaching and learning content and facilitate inquiry-based learning (IBL). Using various approaches students can construct knowledge and be given feedback from various assessments and learning activities timeously. These sequences of activity can be tracked and monitored in order to put interventions in place for students and modules underperformance. The illustration in figure 3, explain in detail the BL4SC implementation framework process, that need to be taken into consideration when blending during face-to-face sessions and well as online session being synchronous or asynchronous.
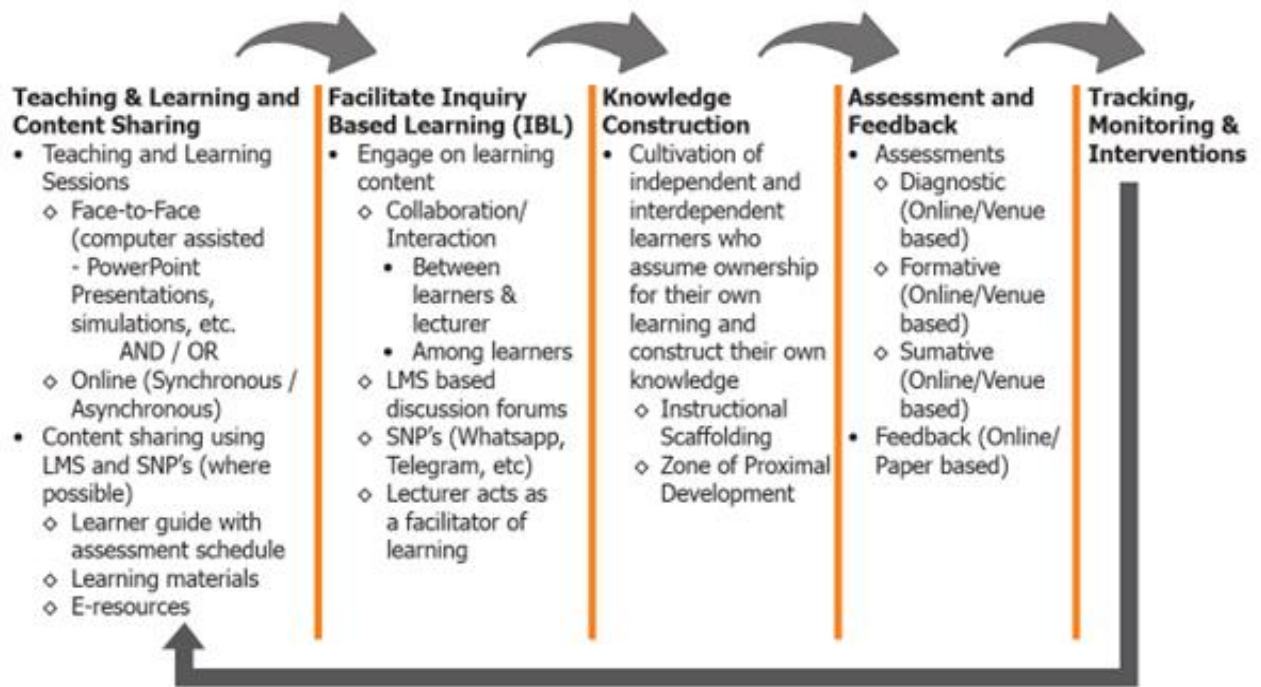
Teaching & Learning and Content Sharing
- Teaching and Learning Sessions
  ◇ Face-to-Face (computer assisted - PowerPoint Presentations, simulations, etc. AND / OR
  ◇ Online (Synchronous / Asynchronous)
- Content sharing using LMS and SNP's (where possible)
  ◇ Learner guide with assessment schedule
  ◇ Learning materials
  ◇ E-resources

Facilitate Inquiry Based Learning (IBL)
- Engage on learning content
  ◇ Collaboration/ Interaction
    • Between learners & lecturer
    • Among learners
  ◇ LMS based discussion forums
  ◇ SNP's (Whatsapp, Telegram, etc)
  ◇ Lecturer acts as a facilitator of learning

Knowledge Construction
- Cultivation of independent and interdependent learners who assume ownership for their own learning and construct their own knowledge
  ◇ Instructional Scaffolding
  ◇ Zone of Proximal Development

Assessment and Feedback
- Assessments
  ◇ Diagnostic (Online/Venue based)
  ◇ Formative (Online/Venue based)
  ◇ Sumative (Online/Venue based)
- Feedback (Online/ Paper based)

Tracking, Monitoring & Interventions

Figure 3: BL4SC Implementation Framework Process (WSU Statement on Blended Learning, 2021)

Discussion

Blended learning combines traditional face-to-face instruction with online learning components, aiming to provide a flexible and personalized learning experience for students. The design and implementation of a blended learning framework for student-centredness incorporate face-to-face teaching and learning components to expand flexibility and increase both staff and student participation. The framework focuses on using infusing technologies in various teaching approaches, pedagogies, teaching practices, and modalities that place students at the center of the learning process, tailoring instruction to their individual needs, and promoting active engagement. One of the key advantages of this framework is its ability to cater for diverse learning styles and preferences by infusing technology into the curriculum and incorporating online components. Such online can be pedagogies, multimedia resources, and various teaching modalities using the LMS to create interactive environments and activities for students to be able to engage with the material in a variety of ways and enhancing their understanding and retention. This flexibility allows students to take ownership of their learning, as they can choose the pace, time, and place that works best for them. In addition, it gives students the opportunity to share teaching and learning content and facilitate inquiry-based learning (IBL). Using various approaches students can construct knowledge and be given feedback from various assessments and learning activities timeously. It also encourages self-directed learning skills and fosters a sense of responsibility and independence. Another important aspect of this framework is the integration of technology. The use of online platforms, learning management systems, and educational tools provides opportunities for collaborative learning, real-time feedback, and assessment. Students can actively participate in discussions, collaborate on projects, and receive immediate feedback on their progress if the BL4SC is properly used. This does not only enhances their learning experience but It also prepares them for the digital age and develops their digital literacy skills, which are increasingly important in today's society. Additionally, using the BL4SC process in the student-centered approach fosters a supportive and inclusive learning environment. By considering students' interests, abilities,

and prior knowledge, using BL4SC educators can design learning experiences that are relevant and meaningful. They can incorporate real-world examples, authentic tasks, and problem-solving activities that promote critical thinking and application of knowledge. Furthermore, the framework encourages peer interaction and collaboration, as students can engage in online discussions, group projects, and peer feedback. This collaborative aspect enhances social learning and helps students develop communication and teamwork skills.

However, there are difficulties in implementing a framework for blended learning that is student-centered. For implementation to be successful, there must be a sufficient level of technological infrastructure, as well as access to devices and the Internet. The learning process could be uneven since not all students may have equal access to these resources. Institutions and educators must take these differences into account and work to close the digital divide. However, there are challenges in implementing BL4C that vary from person to resource. For a successful implementation of BL4C, there must be a sufficient level of technological infrastructure, academic adoption, skills as well as access to devices and the internet. The learning process could be uneven since not all students may have equal access to these resources. Institutions and educators must take these differences into account and work to close the digital divide.

Conclusion

In conclusion, the design and implementation of BL4SC offer many advantages to both teachers and students. This paradigm encourages flexibility, customization, and active engagement by including both face-to-face training and online components. It supports a variety of learning preferences and types while encouraging digital literacy and self-directed learning techniques. Technology integration offers real-time feedback, assessment, and collaboration learning. Additionally, the student-centered approach fosters social interaction, critical thinking, and application of the information in a welcoming and inclusive learning environment. Despite difficulties like technical inequalities, these barriers can be addressed with the right preparation and assistance. To guarantee that all students have fair access to resources and opportunities, the institution, educators, administrations, and policymakers must work together to enforce full implementation of the blended learning framework for student centered. By embracing this framework, educational institutions can enhance the learning experience, empower students, and prepare them for success in the digital age.

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