Blended Learning in LIS Education: Implementation Strategies and Implications

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Abstract

As a result of the growing impact of information and communication technologies (ICT) on many parts of life, including education, library and information science (LIS) education has been forced to incorporate e-learning into its curriculum. Due to advancements in ICTs, the curriculum of LIS schools around the world has certainly changed drastically in the recent few years. Blended learning is becoming more popular as a result of advancements in and widespread use of information and communication technology (ICT) in education, as well as the present generation of technology-savvy students in higher education institutions. It has been found to be useful in boosting educational facilities' teaching and learning processes. The article looked at how to use technology to improve teaching and learning in LIS education and training, as well as questioning the purpose of current teaching and learning approaches. The solutions needed to make blended learning methodologies more accessible, particularly in LIS education, are also explored. In addition, the paper looked at practical approaches to ensuring a beneficial blended learning experience for students, as well as the roles academic librarians play in the ever-evolving sophisticated learning environment, pointing out that insufficient funds, unskilled manpower, and librarian resistance to change are some of the challenges that can stymie effective blended learning implementation. Finally, academic librarians should be intentional in their skill acquisition so that they can play significant and vital roles in the complex learning environment that is constantly growing.

Keywords: Academic libraries, Academic librarians, Blended Learning, Library and Information Science Education.

Introduction

Libraries have long been public institutions dedicated to educating and empowering their communities. The academic library's role in obtaining, organising, preserving, and disseminating information is well-known. The fundamental goal of an academic library is to support teaching, learning, and research in higher education. With the advancement of technology around the world, academic libraries are looking for new ways to better serve teachers and students. As a result, they are frequently asked to use digital technologies for service functions, and they are expected to provide instructional technology leadership and training, according to Spante, Hashemi, Lundin, and Algers (2018). The pervasiveness of the internet in our daily lives, as well as the wide range of technologies available, ranging from email to virtual worlds, has prompted both excitement and anxiety about the quality of online teaching and learning. Educators are moving away from the debate over face-to-face versus online instruction, according to Haythornthwaite, Kazmer, Robins, and Shoemaker (2000), and into a fertile period of new theories, techniques, and approaches. Some argue that due to student demand, online courses are unavoidable (Brooks, 2009).

In today's world, the type and style of teaching and learning environment is driven by the global marketplace and the digital age. Higher education around the world is today beset by a slew of problems. The diversity of the student body, cost efficiency, achieving measurable outcomes, and the ability of new and advanced technology to enable customized learning against traditional ideas of the purpose of education are only a few of the challenges, according to Neil and Wilkinson (2006). Offering high-quality online education while simultaneously training future professionals to work in hybrid workplaces are two further problems that LIS programs face.

According to MacDonald (2017), the term "blended" is now frequently used by practitioners in both the academic and commercial sectors, despite the fact that it is neither scientific nor academic, and sounds more like a recipe book entry. It does, however, have some useful common-sense value in highlighting the broad variety and depth of learning contexts. Because they are in charge of the educational process, educators and students both play a vital role. One strategy to improve the quality of higher education teaching and learning is to implement blended learning. Blended learning in the classroom encourages active participation

and collaborative learning while also exposing students to the skills required of blended librarians in librarianship, information technology, and instructional design. As a result, a global higher education community is forming in search of more effective teaching and learning in a diverse and technological environment (Rajkoomar, 2013).

Blended learning (BL) has been a popular delivery technique and approach to course design in Library and Information Science Education (LISE) and higher education in general. Blended learning, which embraces the potential of the Internet and information and communications technology (ICT), is centred on the need for more engaging learning experiences. Blended learning is gaining traction in the literature. In the literature, there are multiple definitions of blended learning, and different authors have defined it from distinct perspectives. To give a broad definition, it is a pedagogical technique for improving teaching and learning efficiency and effectiveness by combining a variety of learning methods and styles, notably with the use of ICT tools. Due to improvements in ICT, blended learning has progressed, resulting in e-learning systems that can successfully merge traditional face-to-face learning and e-learning (Adebayo, Iwu-James, Olawoyin, and Fagbohun, 2019). LISE has seen unprecedented changes as a result of the development and ubiquity of ICTs, as well as the opportunities they present. Library educators are now expected to employ instructional materials in their teaching and learning since the talk-chalkboard approach of teaching and learning has grown monotonous, and students are finding it difficult to retain a long lecture by a teacher. Blended learning emerged as a solution to this problem, combining traditional and instructional or e-learning methods (Ahaiuzu, Nyemezu, and Nsirim, 2020). Blended learning, according to Abrahams and Witbooi (2016), is not a new concept, but it is a recent addition to the educational language. They also discovered that as technological and pedagogic advancements progressed, many items that may be included in the blend became increasingly visible.

Based on the foregoing, blended learning has the ability to give impoverished countries with high-quality education while also breaking down learning barriers. The need for more engaging learning experiences while embracing the potential of the Internet and information and communications technology is at the heart of blended learning. In the subject of library and information science (LIS), information and communication technologies (ICTs) have had a significant impact. As the Library and Information Science (LIS) industry is so deeply

established in digital technology, its utilization necessitates careful and extensive integration. Changes in curricular material as well as teaching and learning methods result from this integration. Because the area of library and information science (LIS) is so enmeshed in digital technology, information and communication technologies (ICTs) have had a substantial impact.

The authors critically discussed what blended learning is, the need for blended learning, strategies for implementing it in library and information science education (LISE), its implications for libraries and strategies for academic libraries' adoption, challenges that may prevent academic libraries from implementing or intervening in a blended learning environment, and the paper concluded with recommendations.

Blended learning: What it is about.

Simply said, Blended Learning is a blend of offline (face-to-face) traditional learning and online (virtual) learning in which one complements the other, allowing learners to benefit from the best of both worlds. A student might, for example, take lessons in a traditional classroom setting and then complement the curriculum with online multi-media education. Blended learning, often known as "hybrid learning," can take many different forms in online learning settings. According to Chew, Jones, and Turner (2008) "blended learning requires the mixing of two realms of concern: education and educational technology". Blended learning is defined as a "learning system" that combines face-to-face and computer-mediated training, and is defined as the application of educational technologies in the teaching and learning process, or simply in education, in which both the teacher and the student are required to participate. It may bridge not only tempo but also time through recording, and it can personalize learning by allowing students to choose their own speed and path through the curriculum (Bryan and Volchenkova, 2016).

Blended learning improves learning outcomes, flexibility for both students and teachers, improves their independence, thinking, and study skills, lowers student withdrawal rates, fosters a professional learning environment, and reduces study time for students and teachers, according to Adebayo, et al (2019). These actions of blending, in many circumstances, result in improved student experiences and outcomes, as well as more efficient teaching and course management procedures. Blended learning allows for a greater variety of learning venues and opportunities. It is a symbiotic relationship between traditional teaching methods and online education. It entails combining the best of these two modalities of teaching and learning in such a way that they

complement and support one another. When virtual and face-to-face modalities are employed to their maximum potential for optimal engagement, blended learning becomes effective, and there is room for student-paced and student-directed learning. Blended learning nowadays simply refers to the incorporation of technology into course design and delivery. It allows for the delivery of learning to a large number of people, small groups of people, and even self-directed learning. "Personalized learning" is another term for blended learning. Blended learning is also an educational approach that combines online educational materials and opportunities for online interactions with other learners with traditional place-based (physical space) classroom methods that require the physical presence of both teacher and learner with some elements of student control over time, place, pace, or path with some elements of student control over time, place, pace, or path.

Scholars are of the view that because blended learning is very context-based, there is no widely recognized definition; therefore, blended learning is described as "a mix of online and in-person learning delivery when the online element effectively substitutes some of the face-to-face interaction time rather than complementing or enhancing it" (DeLacey and Leonard, 2002; Hanna, 2003; Bullock, Gable and Mohr, 2008; Rowe, Frantz and Bozalek, 2013 and Szeto and Cheng 2016). Furthermore, Rowe, Frantz and Bozalek, (2013) and Szeto and Cheng (2016) opined that a meta-analysis of evidence-based research studies on blended learning shows that there exists commonality in defining blended learning as "a combination of traditional face-to-face modes of instruction with online modes of learning, drawing on technology-mediated instruction where all participants in the learning process are separated by distance" (Bryan & Volchenkova, 2016). Evidence-based research also indicated that students' achievements were higher in blended learning experiences than in entirely online or totally face-to-face learning experiences, (Adebayo et al, 2019). Webcasting, Videoconferencing, Live Video-Recordings, and Synchronous Virtual Meetings using Zoom, WebEx, and other telecommunication platforms are some of the ways blended learning can be delivered online.

The Need for Blended Learning in LIS Education

In the 1960s, on mainframes and minicomputers, technology-based instruction became a viable alternative to instructor-led training (Hanna, 2003). Blended learning has a significant advantage in terms of scale, as one instructor can only teach so many people. Blended learning is

a collaborative learning platform that allows for the sharing of knowledge and the dissemination of ideas (Alonge, 2018). It enhances traditional learning methods by facilitating communication between educators and students, as well as student collaboration. Knowledge management, knowledge economy, and knowledge dissemination are all aspects of library and information science. LISE (Library and Information Science Education) is a term that encompasses both library and information science education. Library education is specialized formal training for aspiring librarians in order to acquire the skills and competencies required for both library services and knowledge transmission. Information Science Education is a branch of study that teaches learners how to gather, classify, store, analyse, interpret, and disseminate information, as well as how to convey information literacy abilities to other people. A person who studies library and information science gains approved skills for the most effective use and management of information resources (Okello-Obura and Kigongo-Bukenya, 2011).

Today's quickly evolving breakthroughs include technology for effective knowledge transfer, which gave rise to the concept of "blended learning." Because of significant obstacles in the use of developing information technology in both library service delivery and the teaching and learning process, library and information science teaching and learning in Nigeria has not evolved significantly over time (Okello-Obura & Kigongo-Bukenya, 2011). However, technological developments in library operations and service delivery have necessitated the adoption of a global initiative by educators to address curriculum and training difficulties in Nigerian library schools. The underlying guide to education is curriculum development and execution. It adapts and adopts new techniques as society progresses. Curriculum is defined by Omehia (2019) as "the planned and guided learning experiences and intended learning outcomes, formulated through the systematic reconstruction of knowledge and experiences under the auspices of school for the learner's continuous and wilful growth in personal and social competence," citing Mba (2003). It is the vehicle via which a program's objectives are turned into knowledge and skills through a sequence of lectures, evaluations, seminars, and tutorials. LISE's curriculum is tailored to meet the educational needs of its students and to provide them with the necessary skills and knowledge to adapt to societal changes.

Intellectual advancement, technological innovations, notably information and communication technology, have resulted in significant changes in the twenty-first century

(ICT). The LISE curriculum in Nigeria faces a significant difficulty as a result of this persistent development pattern. As a result, today's curriculum must include learning experiences that will enable students to thrive in an innovative world. This can be accomplished effectively through a well-thought-out blended learning process, as its implementation necessitates rigorous and thorough integration into a pedagogy that reflects well-defined instructional and learning outcomes. The LIS field is now strongly anchored in digital technology, which has resulted in changes in curriculum material as well as teaching and learning methodologies. Blended learning has recently received a lot of attention. The demand for more engaged learning experiences is driving interest in blended learning, which recognizes the potential of the Internet and ICTs, particularly in light of the recent Covid-19 pandemic (Graham, Woodfield and Harrison, 2013). Before the unpredictability of the Covid-19 era, the evolution of the blended learning approach of teaching and learning was inevitable. However, the epidemic quickly reconfigured the educational landscape, emphasizing the necessity and need for technology-assisted instruction.

The following are some of the reasons why blended learning is necessary:

i. Blended learning approaches allow students to study material or guidance online, which can be accessible at any time, and classroom, or face-to-face learning, aids in the development of better relationships between the teacher and the learner.
ii. Education entails not just academics but also learning. Students and teachers can learn at their own speed and schedule by using time management, discipline, and a combination of learning approaches.
iii. Extracurricular and other hands-on activities assist students in effectively developing their social-persona or interpersonal relationships, and online learning provides a greater range of content and knowledge for their total physical and psychological growth.
iv. Blended learning makes it easier for students to communicate about their assignments, announcements, test results, and other general information that needs to be passed quickly from teacher to student and from student to student, as well as making assessment and evaluation more personalized and effective. Students can keep track of their own development.
v. Education becomes more affordable and accessible to a wider group of students.

vi. Blended learning encourages students to experiment with technology and to make use of the various tools and strategies for learning that are available to them, such as PowerPoint, Virtual Classrooms, Video Lectures, and Video Conferencing.

vii. Blended learning increases educational quality and knowledge assimilation while increasing the efficiency and productivity of teaching.

viii. Blended learning cuts down the traditional barriers of classroom instruction, allowing for greater availability. To put it another way, blended learning allows students to access resources from any location, at any time, while still receiving face-to-face support and teaching.

ix. Provides the teacher with worldwide resources and materials that are appropriate for the students' level of knowledge and interest, as well as self-pacing for slow and fast learners, reducing stress for both the teacher and the students and increasing satisfaction and information retention.

x. Blended learning dismantles the old bricks-and-mortar approach to education, allowing for more cooperation, meaningful development, increased student data, time efficiency, and role distinction.

xi. Instant diagnostic information and student feedback are possible with blended learning: the capacity to quickly evaluate, review, and provide feedback on student work allows the teacher to personalize his teaching methods and feedback to each student while saving time.

xii. Blended learning prepares students for the future by providing a variety of real-world skills that translate directly to life skills such as research skills, self-learning, self-engagement, developing a "self-driving force," tactic decision making, computer literacy, and a general sense of responsibility.

The integration of technologies will substantially improve LIS education. Blended learning is beneficial to the learning process since it incorporates the advantages of the two approaches (Beyers, 2009 and Alonge, 2018). It has been shown to improve students' learning results, increase their motivation, and help them achieve their learning objectives.

Strategies and Approaches for the Implementation of Blended Learning in LIS Education

Blended learning enhances student engagement, active learning, and higher-order analytical thinking when it is used or implemented. Graham, Woodfield & Harrison (2013) opined that blended Learning in Higher Education is a popular strategy for reducing students' anxiety and fear of making mistakes by fostering a more collaborative and inviting learning atmosphere. The approach has become a popular and welcome notion, despite the fact that its implementation is often difficult, as many institutions struggle to break away from tradition and integrate digital technology tools and approaches into their courses. Implementing a new teaching technique might be intimidating.

For the successful implementation of a mixed learning process in LIS education, the following methods have been discovered to be necessary:

ICT Policy:

To get the most out of blended learning, the academic library should be involved in the creation of a clear and coherent policy on the use of ICTs in teaching and learning (Alonge, 2018). To avoid incidents of misuse, a policy statement is required to control the usage of digital media. Such policies, while obligatory, should also be adaptable.

Training:

Because the efficiency of any e-learning system, in this example, blended learning, is based on knowledge and competence in ICTs, there is an increasing global demand for ICT competency among students and faculty. The library can help by offering unique training programs for both instructors and students to raise awareness and provide them with the skills they'll need to succeed in the blended learning environment (Adebayo et al, 2019). In order to function effectively and keep up with the rapid technological revolutions that the blended learning environment demands, librarians and other educators must constantly gain new skills, information, and ideas through creative training courses.

Provision of Resources:

The library and Library School should work with University management to ensure the acquisition of digital learning resources such as eBooks, Online Journals, Online Databases, Online Repositories, and other digital learning resources that have been found to meet the needs

of teachers and learners for blended learning after careful consideration (Yukawa, 2010 and Clarin and Baluyos, 2022). These e-resources' links are then made available and accessible to them.

Collaboration with Faculty:

Academic librarians, faculty, and ICT personnel should work together to create programs that support and improve effective blended learning. Specialized tools, such as software and technology, should be available to facilitate the process (Clarin & Baluyos, 2022). This will result in an increase in library usage and, as a result, a favourable influence on learning outcomes.

Physical and Virtual Library Space:

Blended learning should be supported by library facilities and services. The physical environment should be adaptable to diverse learning styles (Beyers, 2009). Furniture that can be moved and altered easily should be used. The virtual environment should be welcoming, with easy and reliable access.

Interpersonal Skills:

Yukawa (2010) stated that it is vital to form partnerships and collaborate in order to ensure a seamless transition to and effective operation of the blended learning process. In order to effectively integrate web-based technology into coursework, academic librarians must collaborate with other specialists.

Web 2.0 Skills:

Web 2.0 tools as venues for conducting course-related instruction should be familiar to LIS educators. Educators can efficiently publish video lessons and use free applications to develop and share instructions and instructional materials, construct student projects, and so on, thanks to the visibility provided by Web 2.0. These platforms are dynamic, multi-purpose, and simple-to-use platforms that enable students to work together.

Information and Digital Literacy Skills:

To attain student learning outcomes, librarians should have the necessary skills to incorporate information literacy skills into course work. Librarians must aim to be proficient users of instructional technology themselves. According to studies, students in poor nations are

becoming more interested in technology and are increasingly using ICTs, particularly mobile devices. However, teaching these kids how to accept, use, and assess all types of digital resources/technologies is equally crucial (Çapuk and Kara, 2015). As technology advances, librarians will need to stay current and develop their digital literacy abilities.

Use multiple types of instructional materials:

When creating online content, you should think about a number of sources and media forms. An online course usually incorporates several information sources that are offered in a variety of media, including text, print, photographs, graphics, animations/simulations, sound, and video (Adebayo et al, 2019). To improve the effectiveness of blended learning, LIS instructors should use a variety of instructional materials in their classes.

Incorporate technology for reinforcement:

This is another technique that entails the use of technology to improve the learning experience of pupils. Since technology enables rapid access to information, the use of electronic devices in classrooms allows for the creation of relevant learning environments and experiences. Its importance in this digital era in classrooms cannot be overstated (Clarin & Baluyos, 2022).

Try new teaching techniques:

The classroom is a dynamic environment that brings kids from varied origins together with varying abilities, capabilities, and personalities. In order to satisfy students' particular requirements, being a good teacher necessitates the use of creative and novel teaching tactics. As a result, being open to incorporating novel teaching strategies into class plans is one of a teacher's strongest qualities. There are various compelling reasons to consider using evaluation methods other than the traditional quiz/test/exam. To manage advanced course work and eventually operate well in their chosen field, students must understand concepts profoundly rather than memorize material and duplicate it on an exam. To develop the abilities needed for job in their chosen sector, students must be able to apply their knowledge in authentic learning and evaluation activities.

Digital curriculum and ICT Policy:

Any digital medium utilized for teaching and learning is referred to as digital curriculum. As a result, for maximum benefit in a blended learning system, LIS departments should draft and

provide a clear, concise, and responsive ICT policy for the use of ICT in learning and teaching in order to increase use of the digital curriculum and prevent misuse when liberalized in the classroom, a policy statement is required. These policies should be more adaptable and responsive (Husain and Nazim, 2015).

Implications of Blended Learning for LIS Education

According to literature, blended learning offers numerous advantages, which includes but not limited to;

- allowing learning groups to use multimedia, e-mail, virtual libraries, and all internet data collaborative software; enhancing teachers' leadership and mentoring roles to their students in terms of their expertise in computers and networks of information in addition to being producers rather than importers of knowledge; and having the capacity to combine various opportunities (Kraemer and Lombardo, 2007).
- The teaching method known as blended learning focuses on a number of different factors. Success is the most important of these. Oweis (2018) found that the experimental group's improved performance might be attributed to the benefits of the computer's information-giving capabilities. The advantages of the computerized program may have helped the experimental group of students perform better because they were exposed to materials that were visually appealing, intellectually stimulating, and fun for them to learn from. These features far outweigh the stiff text in books and make learning more enjoyable. Computers help students make connections between abstract ideas and their surrounding environment. Students are more motivated to supervise their learning efforts when they are exposed to visual cues and controlled visual settings.
- When examining the effects of computer-based learning on student motivation, Mouza and Mubarak (2005) suggested that increased interactions in the classroom as a result of integrated learning approaches gave students the resources to enable successful participation. In addition to drawing clear connections between abstract ideas and the real world, BL promotes personalization. Students' motivation is increased when they are exposed to techniques that build on their strengths while improving their deficiencies. Students' productivity rises when they are introduced to technology that support

comprehension based on a variety of skills. Finding a student's strengths and shortcomings is made simpler via blended learning. Because blended learning equips teachers with the knowledge, they need to maximize each student's productivity in educational settings, this kind of intervention is essential.

Academic libraries' intervention in a blended learning setting faces a number of challenges.

i. Insufficient Fund:

The adoption of blended learning in LIS education is not unrelated to the difficulties that Nigerian higher education faces, particularly in the areas of funding shortages and the cost-effectiveness of supplying new and cutting-edge technologies to provide individualized learning as opposed to the conventional method. When it comes to sustaining a blended environment, such as acquiring the essential ICT facilities (hardware, software, and internet) for a successful integration of a LIS education mixed learning environment, insufficient finances are an issue for LIS departments.

ii. **Unskilled manpower:**

The implementation of blended learning may be hampered by certain instructors' lack of proficiency with information and communication technologies (ICT). It is impossible to overstate the benefits of blended learning in the educational system. To fully profit from blended learning, however, ICT skills are required. One of the issues inhibiting the implementation of blended learning in schools, according to Adebayo, Iwu-James, Olawoyin, and Fagbohun (2019), is a lack of ICT skills. According to Yamada (2015), graduates from developing countries lack the originality needed to compete in a scientific and technological environment that is rapidly evolving.

iii. **Unconducive/ Lack of physical environment**

A physical learning environment that is favourable to blended learning is lacking in several library and information science (LIS) departments.

iv. Resistance of staff to adopt blended learning in LIS Education

One of the issues is that some teachers are unwilling or resistant to abandon their conventional pedagogical views in favour of the more contemporary approach. When introducing something new, there is often some resistance. Teachers who feel they have a lot of

teaching experience may not be amenable to being persuaded to use technology in the classroom. In support of this claim, scholars (Alan, 2007; Alebaikan and Troudi, 2010; Adebayo et al, 2019 and Ahaiuzu, Nyemezu & Nsirim, 2020) noted that teachers and students alike find it difficult to grasp new technologies like chat rooms and discussion forms because blended learning is so novel to them. Integration may be seriously hampered by a lack of technological support for effectively using blended learning platforms.

v. Increased workload

Since lecturers must create modules, prepare materials for upload, give comments, and grade online tests, blended learning may be mentally and physically taxing for them. In higher education, it has emerged as a key delivery method and strategy for course development. The primary motivation for blended learning is the desire to offer more engaging educational opportunities while realizing the promise of the Internet and ICT (Ahaiuzu, Nyemezu & Nsirim, 2020). The organisation of the learning materials and the course's instructional design place an extra burden on the lecturers, which may cause them to approach the incorporation of blended learning with a lax attitude.

vi. Epileptic Power Supply

One of the main risks to blended learning has been identified as epileptic power supply. The insufficient electricity supply in Nigeria is proving to be a significant barrier to the use of ICT for education.

vii. Poor Internet Connectivity

Since online classes significantly rely on high-speed internet connections for teaching and learning, poor internet connectivity has reduced the quality of education for students. This has made it very difficult for teachers and students to engage in blended learning. This is true because lessons will be disrupted if instructors and students are unable to connect to the internet. Without connections from instructors and students, there can be no teaching or learning.

Recommendations

i. Teachers in library and information science (LIS) must be knowledgeable about and skilled in using information technology, as well as in the development and gathering of information online. They should strive to implement educational, research, and service

initiatives that address both the current and future demands for library information technology.

ii. Library and information science, especially in the current information-driven era, is an interdisciplinary discipline that is distinguished by ICT. It is imperative that LIS educators collaborate creatively and innovatively to find new strategies to influence knowledge.

iii. A policy that will encourage and direct the use of blended learning in LIS education should be developed by the Nigerian Library Association and the Librarians' Registration Council of Nigeria.

iv. The issue of epileptic power supply should be resolved using alternative power sources, such as solar energy.

v. Since the internet serves as the connection in the virtual classroom, universities should choose good internet connectivity.

Conclusion

The conventional methods of education are changing drastically. Higher education educators must develop a learning environment that welcomes new technologies. Intellectual staff can confront and possibly overcome the difficulties of having to teach pupils from various academic, social, and linguistic backgrounds thanks to the usage of technologies. Researchers have come to the conclusion that there is still no consensus on how face-to-face, virtual, or online training affects students' learning outcomes. The majority of teachers and students will, however, be interested in a variety of topics when offered as part of a well-planned blended learning approach, which will have an effect on their levels of information competence. By enabling knowledge generation, dissemination, and gathering utilizing new technology-based methods, blended learning is another cutting-edge option for libraries and librarians in developing nations to make a significant contribution to the field of knowledge.

With the proper training, librarians in developing nations can join their colleagues in other developed nations to play an important and key role in the complex and ever-changing learning environment. A comprehensive information literacy program should incorporate interaction between librarians and students in addition to blended learning as one of its many components. In response to external pressures to move to an online teaching environment, librarians can respond to multiple learning styles, engage students with cutting-edge technology, and respond

to external pressures to move to a hybrid instructional model while still maintaining the physical contact that is essential to students' learning.

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