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EXAMINING STUDENT EXPERIENCES ON THE BLENDED LEARNING APPROACH OF CAGAYAN STATE UNIVERSITY

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Abstract

E-learning has come a long way as global electronic technology advances. Blended learning has evolved from the traditional classroom setting that includes a teacher-student relationship, practicum, immersion, demonstrations and return demonstrations, constructive criticism, supervision, and evaluation, problem-based learning, and modular learning. This study was limited to the assessment on the level of readiness and satisfaction of students on the use and quality blended learning approach that is utilized in Cagayan State University-Andrews Campus in the teaching of Comp11a (Introduction to Computers) with the purpose of designing a proposed blended learning model for Comp11a (Introduction to Computers) in this University. It was confined in getting responses from the students and did not include teachers. The one hundred (100) student-participants were taken only from two (2) classes of freshmen students, in the higher education level enrolled in Comp11a at the College of Business, Entrepreneurship and Accountancy, Cagayan State University, Caritan Centro, Tuguegarao City. The two classes were randomly chosen from the five (5) classes available during the semester. The research approach is non-experimental, qualitative and exploratory-descriptive. Data were treated using descriptive statistics such as frequency count, percentage and weighted mean. In this study, meanings were formulated from extracted statements and then clustered into themes to provide full meaning of the results. The participants were consulted to ensure or confirm the credibility of the description. The utilization of the blended learning approach has been welcomed by the students with positive experience. It has been proven to be an effective approach in the delivery of quality instruction since most of the students are satisfied with it.

Keywords: blended learning approach, students' experiences, technical support, learning environment, satisfaction, readiness

INTRODUCTION

E-learning has come a long way as global electronic technology advances. Blended learning has evolved from the traditional classroom setting that includes a teacher-student relationship, practicum, immersion, demonstrations and return demonstrations, constructive criticism, supervision, and evaluation, problem-based learning, and modular learning. Management must be properly and thoroughly taught to the nuances of the blended learning method in order to personalize it at Cagayan State University. Four success indicators—motivation, communication, course design, and course preparation—are at the core of said learning process.

Technology has been a key component of education over the years, if not the main one. Because of the schedule flexibility and capacity to fulfill the demands of a large number of students, blended learning is becoming a more and more common mode of material delivery in higher education, especially at the graduate level (Ho, Lu & Thurmaier, 2006). The aforementioned strategy has benefits and drawbacks. Lower dropout rates, more time flexibility, the ability to accommodate various requirements, and time for introspection are all benefits. Onerous

The Seybold Report
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expectations that meeting fewer requirements means less effort may be held by students in blended courses, who may also struggle with technology and lack motivation to finish their homework (Vaughan, 2007).

The expertise, abilities, and capabilities of the faculty members, together with their dedication to developing a thorough and in-depth course, are what make this blended learning strategy successful. The senior administration, instructors, staff, and most importantly, the students at Cagayan State University, have worked together to create a supportive environment for blended learning that will benefit everyone.

Concept of Blended Learning

As more cutting-edge information technologies are made available in higher education, blended learning is starting to gain popularity. However, it is impossible to deliver excellent teaching and effective learning solutions by combining face-to-face learning with digital technology. Blended learning needs to be based on sound pedagogical principles and learning theory in order to be effective. Additionally, a design-based research strategy is required to investigate blended learning through several cycles of experiments, wherein the drawbacks of each cycle are found, corrected, and then reevaluated. This essay presents findings from a study on a blended learning approach to teaching Java programming at the beginner level. It outlines the model's conception, execution, and assessment as well as its implications for teaching beginning computer programming (Informatics in Education, 2008).

In blended learning, students receive some of their teaching online and some in-person from a teacher in a classroom. With varied degrees of control over time, place, path, and pace, students can complete online learning in a classroom, a computer hub, or at home (Alison DeNisco, 2014). The benefits of both traditional and electronic learning methods are combined in a blended learning environment, including the benefits of face-to-face interaction. Blended learning combines aspects of traditional classroom instruction with online learning (Finn and Bucceri, 2004). According to Brown (2003), blended learning supports all of the advantages of e-learning, including financial savings, time savings, and geographical convenience for the learner or students, in addition to the crucial one-on-one personal understanding and motivation that face-to-face education offers.

By using the "right" personal learning technologies to match the "right" personal learning style to transfer the "right" skills to the "right" individual at the "right" time, blended learning is defined by Singh (2003) as "that which focuses on optimizing the attainment of learning objectives. According to Thorne (2003), blended learning is "a way to face the challenges of personalizing learning and development to individuals by merging the inventive and technological breakthroughs afforded by online learning with the interaction and involvement offered by conventional learning."

The best way to incorporate the positive qualities of both traditional and online learning methods is through integration. While a traditional learning strategy offers the social engagement or contact that is necessary for learning, an online learning approach ensures the flexibility, effectiveness, and efficiency that cannot be found in a traditional learning approach.

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

Blended learning is primarily a combination of face-to-face and online or web-based learning modalities, though definitions and descriptions differ from one author/institution to another. However, while building a blended learning approach, it is crucial to strike a balance between online learning and face-to-face approaches given the benefits of both.

The transcriptions produced a total of 69 initial concepts in Susan L. Greener's 2008 study "Self-aware and Self-directed: Student Conceptions of Blended Learning," all of which could be regarded as discrete. Following that, nine themes or combinations of experiences, impressions, and beliefs pertaining to students' perspectives of blended learning were created from these ideas.

1. **Blended learning is a positive conception.**

Positive notions included varied advantages relating to the blended teaching and learning approach, such as working at the student's own pace and access to the web while online for regular scheduled activity. This mode was also seen to present progress in learning: the new and different appeal of the technology and mix of learning methods.

2. **Blended learning involves barriers**.

This conception involved technology issues which caused student's difficulty such as ICT access problems, unfamiliarity with the technology, potential isolation during online weeks, lack of user friendliness and possible cost issues regarding internet connection time from a home computer.

3. **Blended learning involves competence**.

Conceptions of both worry and pleasure over difficulty or challenge of the blended mode were included here. Students were focused on the modes difference in approach from traditional learning methods and whether they felt it seemed to work or not.

4. **Blended learning requires confidence**.

This conception included expressing need for comfort and confidence in learning, choosing familiar ground, being prepared to be open in posting messages online and working together in a safe and supported situation with both face-to-face and online support.

5. **Blended learning is particularly good for certain subjects.**

This conception focuses on whether blended learning approaches are context dependent.

6. **Blended learning needs a learning community.**

Considerable references were made to the need for everyone's personal commitment to the delivery method to support the group's learning. Students in this mode were more interdependent for their learning, requiring interaction or commitment had been evident on this module. Social benefit and team belonging were important themes, and references were made to the group behaving like a "learning set" (Revans 1982).

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

7. The success of blended learning depends on the personal learning approach.

The largest group of references related to personal choice and preference being enabled with blended learning. The blended mode gave students the freedom to make time and quality decisions about learning, about how much to do, and whether a lazy, personal approach was made easier to sustain through blended learning. The conception also contained ideas of enjoyment, self-discipline and adaptation to personal learning style – in particular "reflector" or "activist" styles (Kolb, 1984).

8. Blended learning requires self-direction.

This group of categories showed evidence of a clear awareness of the need for self-directed learning with the blended approach. Such self-direction was not always achieved, in which case, there was an expressed need for something to make people take part – force or compulsion to make the effort, sustained by stimulation and interest through method and content or a strong commitment to finding their own way to meaningful understanding.

9. Blended learning requires a particular tutor role and structure.

This conception referred to a strongly expressed view that small groups were important part of effective blended learning. It included the idea that clear ground rules, whether imposed by the tutor or the student team, were essential and that on-going support from the tutor, and perhaps others, was part of the added value of the experience of blended learning.

The study has provided insights into how students initially perceived blended learning when it was a relatively new idea. The learning stages connected to various categories and conceptions gave teachers some suggestions for how to develop their part in blended learning, which must obviously be more prominent at the beginning of a module like this until student interaction reaches a critical mass and a learning community starts to take shape. Student motivation and learning techniques have been discussed in relation to the students' ideas, and this has resulted in suggestions for teaching design strategies pertaining to the various phases of the module. Group commitment has been suggested as another incentive since it is seen as a motivator for learning by students.

What can we infer about students' perceptions of blended learning from the study? Students who have received blended learning liked the adaptability and connectedness that promote frequent online ventures into more extensive resources and issues than those that are limited to the classroom. Low skill or technical access, as well as cost, tend to be related with early stages of research and were, for the most part, reasonably simple to overcome. The major components of a blended learning introduction should always be learning support and skill development. The interdependence of the student group and self-directed learning practices were important components of effective blended learning for students. Not every student will be prepared for this, and teaching strategies need to provide support for students whose self-directed learning skills are low, who are still at the earliest stages of learning, and who do not feel any commitment to the learning group.

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

The preference for small group size for online activities, such themed discussion, was evidently shared by the majority and was found to engage prospective lurkers and students who do not actively participate in class discussion. A teaching style that actively controlled online conversation while encouraging and supporting effective participation, especially in the beginning, went hand in hand with the small group size. It was also conceivable to state that worries about confidence and competence development were connected to the early phases of adopting a new learning technique, such as blended learning, but that these issues appeared to diminish over time.

Because this study involved a limited number of students, its results cannot be easily extrapolated to a larger population. Its goal was to identify students' views about blended learning who were unfamiliar with this delivery method in order to pave the way for future studies that would put these theories to the test and look further into the best ways to expose students to blended learning. The following set of inquiries into blended learning must look into the idea of learning communities and the related problem of "group commitment." What setting would this serve as a motivator for students participating in blended learning activities? How much preparation is possible for pupils to make the necessary group commitment? What preliminary evaluation might be suggested prior to such study, given the skills and attitudes that appear to be perceived by the students as necessary for blended learning, to enable individuals with skill needs or attitude mismatches to be supported through the blended learning process? Is it desirable and feasible to build an "instrument for assessing readiness for blended learning," perhaps in the style of the well-known "Self Directed Learning Readiness Scale" developed by Dr. L. Guglielmino (1978)?

Hands-on lab or plant-floor training

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Structured on-the-job training

Many organizations attempt to use informal on-the-job training programs as a "low-cost" means to train their employees. These programs generally involve teaming a new employee with a more experienced one to learn how to do their assigned tasks. Unfortunately, because of the lack of structure inherent in this informal approach, these programs rarely deliver the desired results in a timely fashion. The weaknesses in these informal OJT programs include:

Lack of standard job and task documentation

often these programs do not have documented procedures describing how to perform the tasks that the new employee is expected to learn.

Lack of training ability

Experienced employees might be great at doing a job, but not be effective at teaching others how to do it.

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Lack of objective evaluation criteria

Training of the new employee is considered complete based on the subjective opinion of the experienced employee rather than an objective evaluation of the new employee's skill and knowledge levels.

Web-based and mobile-based online training (often called e-learning or m-learning)

The content is what imparts information to the end-user, even though a solid and scalable e-learning architecture provides the basis for effective learning. A type of online distance learning, m-learning is defined as "learning across many settings, including social and content exchanges, using personal electronic devices." M-learners can use mobile device educational technologies in numerous locations at their convenience. M-learning focuses on the mobility of the learner, interacting with portable technologies, and using mobile tools for creating learning aids and materials becomes an important part of informal learning. M-learning technologies include handheld computers, MP3 players, notebooks, mobile phones, and tablets. M-learning is practical because it can be accessed from almost anywhere. Everyone using the same content shares almost instantly, which allows for the quick exchange of criticism and advice. It has been demonstrated that this highly active approach can raise exam results from the fifty to the seventieth percentile and reduce dropout rates in technical disciplines by 22%. By substituting small devices with customized learning materials for books and notes, m-learning also provides excellent portability.

Factors Contributing to Student Satisfaction in Blended Learning

The degree of student satisfaction is seen to be crucial in determining how effective blended learning is. It is the outcome of a confluence of elements including the teacher, technology, classroom management, interaction, and instruction. Regardless of comparisons made by researchers and developers, it was observed in this study review that those researching blended learning have come to the consensus that student happiness is a prerequisite for successful implementation. Student satisfaction in blended learning is crucial since it might affect motivation and, consequently, student performance and completion rates, claim Naaj et al. (2012). Institutions benefit from measuring satisfaction since it may be used to assess courses and programs and, to a certain extent, forecast attrition rates (Naaj et al., 2012).

Student satisfaction in a blended learning program or method is influenced by a variety of factors. Three important elements that are vital to student happiness have been identified by Bollinger and Martindale (2004): the instructor, technology, and interactivity. Williams and Ceci (1997) and Finaly-Neuman (1994) both claim that the instructor is the primary predictor of course satisfaction. The performance of the instructor, particularly in terms of availability and response time, is closely related to student happiness (DeBourgh, 1999; Hiltz, 1993). The teacher encourages and facilitates learning for the students. Finally, Neumann (1994) emphasized that student satisfaction with instruction is mostly influenced by the instructor's comments. The prompt delivery of feedback on assignments is necessary to keep students engaged and motivated (Smith and Dillon, 1999).

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

Technologies used in online and hybrid learning environments have the ability to improve learning and go beyond what is possible with face-to-face or other methods (Smart and Cappel, 2006). Students who have limited access to technology are at a significant disadvantage compared to learners who have full access, according to Belanger and Jordan (2000), who also argue that students must have access to dependable equipment (Wegerif, 1998). One of the most crucial elements affecting students' satisfaction is access (Bower and Kamata, 2000). Additionally, in order to succeed, online students must be conversant with the technology used in the course (Belanger and Jordan, 2000). Additionally, students who are annoyed by the course's technology report lower levels of satisfaction (Chong, 1998; Hara and Kling, 2003). Last but not least, students who lack proper technical assistance have shown high levels of discontent in the online setting (Hara and Kling, 2003).

In terms of interactivity, learning settings that permit and encourage social interaction and collaboration produce beneficial learning results (American Psychological Association, 1997). Collaborative learning technologies have been shown by Bonk & Cun-ningham (1998) and Gunawardena & Zittle (1998) to increase student satisfaction in the online learning environment. These tools enable collaborative work and quick feedback. In a virtual setting, learners or students can exchange ideas and have discussions with one another to develop new views. Social interaction is encouraged in this setting, which also produces engaging and active learning opportunities (Bonk and Cunningham, 1998).

Benefits of Using and Effectiveness of Flipped Classroom/Model

In a flipped model, the students see the lecture(s) online prior to class, so they are prepared to start discussions or work on related individual or group projects right away. This approach to education also makes use of a variety of technological tools, such as lecture capture, online podcasting, courseware, tutoring, language translation, content access, social networking, and collaboration (Center for Digital Education, 2012).

The flipped classroom is built on recorded lectures that are controlled with blended learning technology, such as lecture capture. Both live classroom sessions and webcasts of lectures and other course materials can be recorded easily (called personal capture or screencasts). Both audio alone and full audio and video presentations of lectures can be mixed with screen captures. Once the lecture has been recorded, students can easily access it whenever they want from any device with an Internet connection (Center for Digital Education, 2012). The flipped classroom experience maximizes the utilization of both teacher and student time, increases student access to the instructor's knowledge, and allows for greater scaling of instructional resources to meet the needs of large enrollments. With the ability for students to review lectures online, instructors can spend more time in class presenting content, discussing complex subjects with students, and working with them individually or in small groups. They can also use recorded lectures in multiple course sections year after year with simple tools for updating content, and they can quickly adapt to new technologies (Center for Digital Education, 2012). The flipped classroom is a tactical move that enhances teaching and classroom resources while assisting higher education in meeting the demands of today's students. The flipped classroom's blended learning strategy can be used for both individual courses and organizationally to

The Seybold Report
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optimize educational delivery, student achievement, and satisfaction (Center for Digital Education, 2012).

Both a formal research study and unofficial student surveys show that both students and faculty had a generally positive reaction to the flipped classroom experience. The official study, carried out by the University of Sussex, came to the following important conclusions: lectures and other recorded content boosted test performance for some students and deepened their grasp of the course subject. Videos and screen captures that clarify essential ideas and aid in test preparation received good ratings and viewing from students. They also loved having the choice of text- and video-based resources. Instructors recommended personal video capture equipment to their peers and needed little assistance while making their own recordings. Barriers to faculty adoption were reduced because they need not to think about video file formats or storage issues (Center for Digital Education, 2012)

STATEMENT OF THE PROBLEM

Generally, this study aimed to assess the level of readiness and satisfaction of students on the use and quality blended learning approach that is utilized in Cagayan State University-Andrews Campus in the teaching of Comp11a (Introduction to Computers). Specifically, it sought to provide answers to the following questions:

1. What is the students' level of readiness in using the blended learning approach in terms of?

a. Students' exposure to and experience on online teaching;
b. Years in using the computer and internet outside the university;
c. Years of using computers in school;
d. Uses of computer/internet not related to school work;
e. Uses of computer/internet related to school work;
f. Skills in using the computer and internet and its tools and application; and
g. Problems encountered by the students prior to the utilization of blended learning approach?

2. What is the students' level of satisfaction on the quality of blended learning in terms of the following factors?

a. Student-student interaction;
b. Student-teacher interaction;
c. Online environment;
d. Face-to-face environment;
e. Technical support; and
f. Downloadable materials

The Seybold Report
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RESEARCH METHODOLOGY

This study was limited to the assessment on the level of readiness and satisfaction of students on the use and quality blended learning approach that is utilized in Cagayan State University-Andrews Campus in the teaching of Comp11a (Introduction to Computers) with the purpose of designing a proposed blended learning model for Comp11a (Introduction to Computers) in this University. It was confined in getting responses from the students and did not include teachers. The one hundred (100) student-participants were taken only from two (2) classes of freshmen students, in the higher education level enrolled in Comp11a at the College of Business, Entrepreneurship and Accountancy, Cagayan State University, Caritan Centro, Tuguegarao City. The two classes were randomly chosen from the five (5) classes available during the semester. The research approach is non-experimental, qualitative and exploratory-descriptive. Non-experimental is suitable to the study because the type of research question would not be appropriate for an experimental research and qualitative studies do not interfere with the natural behavior of the participants being studied (Polit et al, 2001). In this study, data were gathered without introducing any treatment. For the purpose of this study, descriptive research was used to obtain students' extent of satisfaction on the use of the blended learning approach for Comp11a (Introduction to Computers) in Cagayan State University-Andrews Campus with a view of proposing a blended learning approach for Cagayan State University. Two-content validated survey instruments and evaluation checklist were the primary data collection instruments. The first survey instrument was used to gather data on the students' readiness at the Cagayan State University-Andrews Campus to deliver instruction via blended learning approach. It is composed of three parts namely: Exposure and Experience on Online Teaching, Skills in Using the Internet and its tools and applications and Problems encountered by students. The second survey instrument was administered to determine the level of satisfaction of the students or learners on the utilization of the blended learning approach as a measure of quality of the said blended learning approach. Data analysis means to organize, provide structure and elicit meaning. Analysis of qualitative data is an active and interactive process (Polit et al, 2001). Data analysis commenced after administering the first survey instruments and the result was used as basis in the development of the blended learning approach for Comp11a (Introduction to Computers) while the succeeding data analyses were performed after the administration and conduct of the second survey instrument and evaluation checklist, respectively. The researcher comprehended, synthesized, and theorized the data and information gathered. Significant statements that pertain to the subject of study were extracted. Statements which were used to formulate meanings were organized into clusters. The researcher also returned the description to the source for confirmation of validity. Data were treated using descriptive statistics such as frequency count, percentage and weighted mean. In this study, meanings were formulated from extracted statements and then clustered into themes to provide full meaning of the results. The participants were consulted to ensure or confirm the credibility of the description.

The following Likert Scale and descriptive interpretation were used as basis for the interpretation of the results and findings:

The Seybold Report
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Table 1: Likert Scale and Descriptive Interpretation for the student's level of readiness in using the Blended Learning Approach

Mean Range	Descriptive Interpretation
4.20-5.00	Very high extent
3.40-4.19	High extent
2.60-3.39	Moderate extent
1.80-2.59	Low extent
1.00-1.79	Very low extent

Table 2: Likert Scale and Descriptive Interpretation for the level of satisfaction of the students as a measure of quality of blended learning approach

Mean Range	Descriptive Interpretation
4.20-5.00	Very high extent
3.40-4.19	High extent
2.60-3.39	Moderate extent
1.80-2.59	Low extent
1.00-1.79	Very low extent

RESULTS AND DISCUSSIONS

1. Students' Level Of Readiness In Using The Blended Learning Approach

Table 3: Extent of Readiness of the Student Participants in Using the Blended Learning Approach in Terms of Computer Use and Online Exposures and Experiences in Other Locations Outside the Cagayan State University

Exposure and Experience	Frequency	Percentage	Verbal Interpretation
Mobile phone with internet access	84	84.00	Great Extent
Portable music or video player	82	82.00	Great Extent
Camcorder or Digital Camera	80	80.00	Great Extent
Mobile phone without internet access	79	79.00	Moderate Extent
Desktop computer with internet access	77	77.00	Moderate Extent
Video Gaming System (Xbox, Wii, Etc.)	72	72.00	Moderate Extent
Laptop, tablet PC, with Internet access	71	71.00	Moderate Extent
Laptop, tablet PC, without Internet access	70	70.00	Moderate Extent
Desktop computer without internet access	68	68.00	Limited Extent
Portable devices for reading e-books	68	68.00	Limited Extent
Handheld Games Console (PSP, Nintendo)	50	50.00	Very Limited Extent
Over-all Weighted Mean		**73.00**	**Moderate extent**

Table 3 shows the extent of exposure and experiences of student-participants on computer use and online learning outside the University. As shown on the table, among the gadgets available, the handheld games console was the least used as it was experienced only by half (50%) of the respondents. Only 68% of the students experienced using desktop computers without internet access and portable devices for reading e-books. Desktop computers, laptops and tablets with access to the internet are used to a moderate extent with percentages of 77% and 70%,

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respectively. Eighty-four percent (84%) of the respondents used the mobile phone with internet access. It is an indication that this gadget was the most accessible among the students. Generally, the online exposures and experiences of the student-participants is at a moderate extent as manifested by the over-all weighted mean of 73.00%. The ability to access these gadgets are dependent on one's ability to own them. Most of these students can access only these gadgets through computer shops. In this case, there is a need to boost the students' online exposure and experiences in order to level-up their readiness to blended learning approach. In the study of Adams, D., Tan, M. H. J., & Sumintono, B. (2020) and Adams, D., Chuah, K. M., Sumintono, B., & Mohamed, A. (2022), findings indicate that students were ready for blended learning. Further investigation revealed that students' levels of preparation for blended learning varied according to their gender, age, ethnicity, and field of study. To add to this conclusion, Callo, E., & Yazon, A. (2020) found that the following factors strongly influenced respondents' preparedness to conduct online teaching and learning: familiarity and capability, preparation, device and access connectivity, self-efficacy, and experience with the technology. It is found that competency, accessibility of ICT tools, readiness, confidence in one's capacity to use technology, and exposure to e-learning materials all contribute to faculty and student readiness for online teaching and learning. Comparatively, Chung, E., Noor, N. M., and Mathew, V. N. (2020) indicated that students' readiness was low for learner control, moderate for self-directed learning, and high for computer and internet self-efficacy.

Table 4. Number of Years the Students Are Exposed to Computer and Internet Use outside the Cagayan State University – Andrews Campus

Items	Frequency	Percentage	Mean	Qualitative Description
No Exposure	5	5.00	3.27	Moderate extent
less than a year	18	18.00		
1-3 years	29	29.00		
4-6 years	36	36.00		
More than 6 years	12	12.00		
Total	**100**	**100.00**		

As gleaned from the table, most of the students have experienced the use of the computer and internet in varied number of years. With the most number at 36% falling on the range of 4 years to 6 years' exposure, followed by 1 year to 3 years' exposure at 29%. A very small number 5% has no experience at all. With an overall weighted mean of 3.27, the students-participants have fairly enough number of years in using computers and internet. This result corroborates the findings in Table 3 where in terms of experience students also showed a moderate amount of exposure, hence, the Blended Learning Approach of the University may have to consider strategies to boost students' readiness on this aspect. Additionally, T. Oyedemi and S. Mogano (2018) noted in their study that the majority of rural students started using computers when they were 19 years old or older. At the university, many students had their first access to computers and the internet. As a result, they are less prepared digitally when they enroll in college. However, according to B Baran, E Kilic, A Bakar Corez, and K Cagiltay's (2010) research, only 38% of students have access to a personal computer with an Internet connection, while 64%, 53%, and 30% of students use the Internet for communication, newsgroups, and

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web searches, respectively. The results also indicate that students prefer to access the Internet from their homes or Internet cafes. The preferred learning environment for these pupils is blended learning.

Table 5: Number of Years the Student-Respondents Are Exposed to Computer and Internet Use before Entry to Cagayan State University – Andrews Campus

Items	Frequency	Percentage	Mean	Qualitative Description
No Exposure	5	5.00	2.79	Moderate extent
less than a year	41	41.00		
1-3 years	23	23.00		
4-6 years	27	27.00		
More than 6 years	4	4.00		
Total	**100**	**100.00**		

Table 5 measures the number of years the students were exposed to the use of computers before their enrollment to the University. As shown on the Table, a great number of them (95) were already using computers with varied ranges of years. Forty-one percent (41%) were falling within the range of less than one year, so far the highest in number. With a mean of 2.79, this indicates a moderate exposure of student-participants to computers and internet use before their entry into the University. Student-participants' exposure to computer and internet before their entry to the University is lower than when they were already enrolled as indicated in Table 4 Likewise, the same need for enhancement on this aspect has to be addressed using the blended learning approach of the University. Padmavathi, M. (2016) presented a similar finding and mentioned that there is a significant correlation between the years of computer experience, perceived control, and computer attitude was observed

Table 6: Students' Use of Computer and Internet Not Related to School Work

Items	Weighted Mean	Descriptive Interpretation
Searching different sources online for information and learning about a particular topic you're interested in.	3.82	High extent
Watching video clips, downloading music, games, software from the Internet.	3.73	High Extent
Searching online for practical information	3.70	High Extent
Keeping your own website, Facebook page, blog.	3.69	High Extent
Learning with educational software, games and quizzes.	3.58	High Extent
Browsing the Internet for fun.	3.50	High Extent
Chatting on social network sites.	3.45	High Extent
Reading or watching news online	3.32	Moderate extent
Reading an online dictionary or encyclopedia	3.27	Moderate extent
Sending and reading emails	3.25	Moderate extent
Taking part in online group discussions or forums	2.82	Moderate extent
Playing multi-player online games	2.51	Moderate extent
Playing one player games online.	2.48	Moderate extent
Over-all Weighted Mean	**3.32**	**Moderate extent**

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ISSN 1533-9211
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Table 6 shows the results of students' extent of internet use outside school work. The Item "Searching Different Sources Online for Information and Learning about a Particular Topic of Interest," was considered the most extensive practice as it gained the highest weighted mean of 3.82. On the other hand, the least practiced was "playing one player game on line," with a mean of only 2.48. Generally, with an over-all weighted mean of 3.32, student-respondents manifested a moderate use of computer/internet outside of school work. The 3.32 over-all weighted mean was positioned to be in the upper limit falling short at 0.07 points in a "high extent" range. The is because as shown on the Table, out of the 13 given statements to be measured, there are seven practices considered to have been practiced at a "high extent." With this result, it can be gleaned that the students-participants show high interest in the use of computers and internet. This result is a positive indicator in the acceptance of the blended learning approach of the University. These findings matched up favorably with those made by Dakhi, O., JAMA, & IRFAN in the year 2020, where technological integration is advancing quickly, the educational system has undergone significant transformation. Students and lecturers now have better digital abilities. Additionally, technology can affect how we think, learn, and communicate. In order to establish a dynamic learning environment, technological advancements urge educators to comprehend and use technology in learning and learning activities.

Table7: Students' Use of Computer and Internet Related to School Work

Items	**Mean**	**Descriptive Interpretation**
Doing homework	4.06	High Extent
Search the internet for information about homework	4.05	High Extent
Check the school website for announcements, dates etc.	3.74	High Extent
Searching different sources online for information and learning about a particular topic you're interested in	3.59	High Extent
Search online for learning opportunities/courses.	3.53	High Extent
Download, upload or browse learning material on your school's website.	3.27	Moderate Extent
Visit online forums related to field of study.	3.23	Moderate Extent
Use other online tools (Instant Messenger, Facebook, etc.) to contact teachers about schoolwork	3.14	Moderate Extent
Collect information online and organize it in files to be retrieved when I want	3.12	Moderate Extent
Participate actively in online communities or forums related to the subject	3.05	Moderate Extent
Participate in online learning programs	2.86	Moderate Extent
Email other students about schoolwork	2.82	Moderate Extent
Send school work by email or by upload it to the school virtual learning platform	2.77	Moderate Extent
Searching for Job Opportunities	2.68	Moderate Extent
Put your own profile and CV on job web sites	2.59	Limited Extent
Update regularly your profile on job web sites	2.48	Limited Extent
Email teachers	2.38	Limited Extent
Over-all Weighted Mean	**3.14**	**Moderate Extent**

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

On the other hand, participants' frequency of related to school work. As Table 7 shows the student-use of computer/internet that are shown, "searching online in doing homework" was the most practiced (high extent) activity of the students, with weighted means of 4.06 and 4.05. Other items that were done at a high extent were the practices on "searching online for learning opportunities/courses;" "searching on different sources on line for information and learning about a topic that interest them;" and," check the school website for announcements, etc." with a mean of 3.53, 3.59 and 3.74, respectively. Likewise, there are nine (9) items out of 17, where students indicated moderated level of practices. Items that were rated at a limited extent where means below 2.6., which are related to job opportunities and emailing teachers. These items indicated a low level of practice among students, hence, lowering the over-all weighted mean to 3.14. It is understandable because the students are still completing their degrees and are more focused on their schooling than searching for job opportunities. Chaw, L., Tang, C. (2013) research confirmed similar key findings from their study, according to which children were not hindered by the usage of technology in the classroom. Second, there was a positive correlation between student readiness for blended learning and blended learning adaptability, which was modelled as a second-order formative construct and formed by four first-order reflective constructs: attitude towards online learning, study management, online interaction, and learning flexibility.

Table8: Students' Level of Skills in Using the Tools and Applications in the Computer and Internet

Items	Mean	Descriptive Interpretation
Produce text using a word processing program.	3.58	High extent
Edit digital photographs or other graphic images.	3.55	High extent
Edit online text containing Internet links and images.	3.37	Moderate extent
Protect yourself against spam and junk mail.	3.29	Moderate extent
Create a presentation with animations.	3.21	Moderate extent
Install software on my computer	3.18	Moderate extent
File electronic documents in computer folders and subfolders	3.17	Moderate extent
Identify online sources of reliable information	3.14	Moderate extent
Use spreadsheet program	3.13	Moderate extent
Identify websites with relevant training opportunities	3.14	Moderate extent
Email a file to someone/another student or teacher	3.12	Moderate extent
Create multimedia presentation (text, graphics, videos)	3.09	Moderate extent
Participate in social networks and use most of their features	3.00	Moderate extent
Register and participate in online training program	3.00	Moderate extent
Find websites advertising jobs on offer	2.98	Moderate extent
Edit a questionnaire online	2.97	Moderate extent
Use a spreadsheet to plot a graph	2.96	Moderate extent
Participate in a discussion forum on the Internet.	2.94	Moderate extent
Judge the reliability of information found on the Internet.	2.94	Moderate extent
Create a database.	2.84	Moderate extent
Create blogs or web sites and maintain them.	2.82	Moderate extent
Post your own profile or CV on job website.	2.79	Moderate extent
Over-all Weighted Mean	**3.14**	**Moderate extent**

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

Table 8 presents the students level of skills in using the tools and applications in the computer and internet. There were two (2) items that were rated high in this category, these were "produce text using a word processing program" at 3.58 and "edit digital photographs or other graphic images", at 3.55. These findings indicate that these skills are the most prevalently used by the students. The other twenty (20) items were all rated moderately resulting to an over-all weighted mean of 3.14. Generally, it manifested that student-respondents' level of skills in the manipulation of the tools and applications in the computers and internet are at a moderate extent. With only two among 22 items rated at a "high extent "level of skills application while the rest were rated at a moderate level, it indicated that students –participants need to explore more learnings on these areas to be able to cope with the requirements of Blended Learning Approach. Poon, J. In his study, (2012) noted that blended learning offers students more freedom in terms of learning style and study pace. Blended learning may successfully boost students' experiences and engagement by implementing a variety of delivery techniques. Similar to how Ismail, SN Azizan, and T Gunasegaran (2016) presented some significant issues that highlight the significance of evaluating students' readiness for a successful implementation of mobile learning, taking into account that students are still only moderately ready and aware of its educational benefits.

Table 9: List Problems Encountered by Students Prior to the Implementation of the Blended Learning Approach

Items	**Mean**	**Descriptive Interpretation**
Insufficient number of laptops/notebooks.	3.15	Moderate extent
Download and install software on a computer.	3.07	Moderate extent
Using ICT in learning is not being a goal in our University	3.02	Moderate extent
Lack of content in national language	2.97	Moderate extent
University computers out of date and/or needing repair.	2.90	Moderate extent
Lack of adequate content/material for learning.	2.85	Moderate extent
Pressure to prepare for exams and tests	2.80	Moderate extent
University time organization (fixed lesson time, etc.).	2.78	Moderate extent
Lack of pedagogical models on how to use ICT for learning.	2.63	Moderate extent
Insufficient pedagogical support for students.	2.57	Little extent
Lack of interest of students.	2.45	Little extent
Insufficient technical support for students.	2.42	Little extent
No or unclear benefit to use ICT for learning.	2.37	Little extent
Insufficient Internet bandwidth or speed.	2.32	Little extent
Lack of adequate skills of instructors	2.23	Little extent
Insufficient number of computers.	2.20	Little extent
University space organization (classroom size and furniture, etc).	2.15	Little extent
Insufficient number of internet- connected computers.	1.90	Little extent
Most students not in favor of the use of ICT at University.	1.90	Little extent
Over-all Weighted Mean	**2.56**	**Little extent**

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

Table 9 presents the list of related problems and how often these were being encountered by the students prior to the implementation of Blended Learning Approach in the University. As shown, the most recurring problem being encountered was the insufficient number of laptops/notebooks to be used, revealing a mean of 3.15. The other two items that were considered as recurring were the following, a.) Downloading and installing of software on a computer and b.) The perception that using ICT in learning is not a goal of the University, with ratings of 3.07 and 3.02, respectively. However, considering others listed problems, the over-all weighted mean in this area of study is 2.56. Hence, with this over-all weighted mean, it manifests a general impression that the recurrence of problems encountered by students in the implementation of Blended Learning Approach in the University is of little extent. The above findings reveal that the student-participants experience minimal encounter of the identified problems in the implementation of blended learning approach. This is a very good indicator on the readiness of the University to pursue the implementation of the Approach. The outcomes of Kenney, J., & Newcombe's action research study in 2011 explored ways to encourage and support professors when funding, training, and support are scarce, as well as the problems and obstacles that can arise while implementing a new instructional technique. The authors Ma'arop, A. H., and Embi, M. A. (2016) study, among the difficulties instructors experience are higher effort and time commitment, a lack of pedagogical and technological expertise to run the program, and trouble establishing the ideal balance between in-person and online learning. The analysis also uncovered the value of staff development, assistance, and networking as tactics to assist instructors in resolving such difficulties. Similar to Sriwichai, C. (2020) outlined the main issues and difficulties that students faced when learning, including losing concentration in class due to large class sizes, having limited access to online lessons due to a severe Learning Management System (LMS) crash, finding it challenging to interact with teachers and classmates online, lacking experience and skills with digital tools, and managing time for two learning modes. Dahmash, N. B. (2020) findings, in addition, blended learning helped EFL students by enhancing their writing abilities and motivating them to conduct online searches, as well as by catering to their needs and being cost-effective. It also notes the difficulties EFL students encountered with technology, instructor performance issues, obstacles with online exams, attitudes toward online learning, a lack of resources, and university council decisions. The paper ends with suggestions for utilizing the advantages noted and overcoming the difficulties of blended learning when instructing English in an EFL context. Similar findings were made by Vaughan, N. (2007). The difficulties in creating such a course, according to him, include a lack of time, support, and resources for course development, the need to learn new teaching and technological skills, as well as the dangers of providing a course in a mixed style.

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

2. Students' Level Of Satisfaction On The Quality Of Blended Learning

Table 10: Students' Interaction among Themselves in the Implementation of the Blended Learning Approach (BLA)

Items	Weighted Mean	Descriptive Interpretation
It is easy to work together with other students involved in a group project.	4.40	Very high extent
I was supported by a positive attitude from my classmates.	4.30	Very high extent
I am regularly asked to evaluate each other's work.	4.21	Very high extent
I have freedom to ask other students what I do not understand.	3.91	High extent
I communicate with other students in this subject electronically (email, discussion, forums)	3.57	High extent
Other students respond promptly to my requests for help.	3.42	High extent
General Weighted Mean	**4.07**	**High extent**

Table 10 presents the degree of interaction of students among themselves relative to the Blended Learning Approach. "Working together in a group project" was the most frequent activity the students do with the highest rated mean of 4.40. Other items with same rating are "getting positive attitudes from classmates and "regular evaluation of each other's work" at means of 4.30 and 4.21, respectively. The remaining three items were rated at high extent with means of 3.91, 3.57 and 3.42 resulting to a general weighted mean of 4.07 (high extent). This is an indication of a very healthy interaction of students among themselves. It also manifested a positive indicator the continued implementation of the blended learning approach of the University. According to a 2017 article by C Goh, C Leong, K Kasmin, P Hii, and O, interacting with peers during learning situations had the greatest positive effects on learning outcomes and satisfaction. This study highlights how crucial it is for university administrators and instructors to provide e-learning courses that provide students with the best possible learning opportunities and overall satisfaction. Similar to this, Bernard, R. M., et al. (2014) noted in their study that the findings show that blended learning and the inclusion of one or more interaction treatments (such as student-student/teacher/content interaction) contribute to improve student accomplishment in terms of achievement outcomes. Additionally, Panigrahi, R., et al. (2022) discovered in their study that the engagement dimensions are favorably correlated with internet self-efficacy and interaction characteristics, which in turn positively influences perceived learning effectiveness.

Table 11: Student to Teacher Interaction in the Implementation of the Blended Learning Approach

Items	Weighted mean	Descriptive Interpretation
I have the freedom to ask my teacher what I do not understand.	**4.70**	Very high extent
My instructor was very eager to assist me when needed.	4.32	Very high extent
The teacher respects my individual way of learning	4.30	Very high extent
The teacher encouraged me to learn in different ways.	4.23	Very high extent
My instructor seemed to like teaching in this class.	4.20	Very high extent
Over-all Weighted Mean	**4.35**	**Very high extent**

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

Table 11 presents the rating of student-participants as to their interaction with the teachers in the Blended Learning Approach. As gleaned in this Table, all items were rated above 4, with the item on" freedom to ask the teacher what I do not know" as having the highest mean at 4.70. The general weighted mean of 4.35 is a manifestation that the general perception on the student-teacher interaction relative to Blended Learning Approach is very encouraging. Again, this is a good indicator in the success of the blended learning approach. This discovery is consistent with the research of M. Tayebinik, M. Puteh, et al (2013). Accordingly, blended learning is a successful method of remote learning in terms of the learning experience, student-student engagement, and student-teacher interaction. It is also anticipated to become the dominant educational model in the future. In a similar vein, Vaughan N. (2007) made the case that blended learning environments improve opportunities for teacher-student contact, boost student motivation for learning, offer flexibility to the teaching and learning process, and provide chances for ongoing development. Also, Taghizadeh, M., and F. Hajhosseini (2021), emphasized that the most common sort of interaction was learner-instructor contact. Multiple regression analysis results also showed that the contribution of teaching quality to satisfaction was larger than that of interaction and attitude, suggesting the importance of training online teachers to improve their knowledge, abilities, and techniques necessary for online teaching.

Table 12: Students' Experiences in Online Environment

Items	Weighted Mean	Descriptive Interpretation
The online activities improved my computer skills.	**4.52**	Very high extent
I am allowed to work at my own pace to achieve learning objectives.	**4.45**	Very high extent
I decide how much I want to learn in a given period.	**4.33**	Very high extent
The online environment held my interest throughout the semester	**4.24**	Very high extent
Online activities allow me to explore my own areas of interest.	**4.23**	Very high extent
Online activities enable me to interact with other students and the teacher asynchronously	**4.20**	Very high extent
I liked the online activities	**4.09**	High extent
I enjoy learning in the online environment.	**4.09**	High extent
I can access the online activities at my most convenient time.	**3.87**	High extent
Over-all Weighted Mean	**4.22**	**Very high extent**

Table 12 presents the list of experiences the students have in online environment. As shown, they have a strong perception that "online activities improved their computer skills" thus, giving this item the highest rated mean of 4.52. All other items were rated at above 4.0 indicating that online activities are very good learning intervention for them. "Accessing online activities at their most convenient time" was a little bit lower in rating as compared to other items with a mean of 3.89 but still fell within the range of "high" descriptive interpretation. Thus, giving this variable a general weighted mean of 4.22, described as at a "very high extent." The above findings showed an indication that online environment provided a very good experiences for the student-participants. The very positive result presented a good measure for the continued implementation of the blended learning approach of the University. This discovery is consistent with Algahtani, A. (2011) found that learners valued the chances provided by e-learning and the ways it helped them with their academics, facilitated

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

communication, and took into account their unique learning requirements and situations. They understood that it assisted in satisfying a growing demand for education. Online learning was considered as convenient since it allowed students to study at their own pace and time, according to Sit, J. W., and Chung (2005). Students claimed that independent learning and a higher level of personal accountability were made possible through online learning. I Mushtaque et al (2021)'s research also showed that students have a positive attitude toward using the online medium and would prefer to use online learning in the future or when the pandemic ends.

Table 13: Face to Face Method of Learning Environment

Items	Weighted mean	Descriptive Interpretation
I am able to meet my learning objectives through face to face environment.	**4.70**	Very high extent
The teacher is focused on our work during class time.	**4.56**	Very high extent
The teacher encouraged students to work together and help each other.	**4.40**	Very high extent
I felt a sense of satisfaction and achievement about this Face to face environment.	**4.20**	Very high extent
The teacher is prepared and available to answer my questions.	**4.12**	High extent
Face to face environment allows me to explore my own areas of interest.	**4.12**	High extent
The Face to face environment held my interest throughout the semester	**4.10**	High extent
I could learn more in this Face to face environment	**3.99**	High extent
I enjoy learning in the Face to face environment.	**3.95**	High extent
Face to face environment enables me to interact with other students and the teacher asynchronously.	**3.91**	High extent
Understanding my teacher's directions in the classroom was difficult.	**3.38**	Moderate extent
Over-all Weighted Mean	**3.79**	**High extent**

Table 13 presents the perception of student-participants' relative to their experiences on the face to face method of learning. From the results shown on this table, the students perceived that they were able to attain their learning objectives at a very high extent through the face to face method of learning as supported by the highest rating of 4.70. Equally rated at a very high extent were the perception on the teachers' well-focused attention on their lessons, at a rating of 4.56. Students' "difficulty in understanding teacher's direction in the classroom" was experiences at a moderate extent, thus given the lowest rating of 3.38. The over-all weighted mean is 3.79. It is an indication of a high extent of positive experiences of the students with the teachers in the face to face method learning in the University. Results of the study was aligned with Johnson, S. D., Aragon, S. R., & Shaik, N. (2000) revealed that the students in the face-to-face course held slightly more positive perceptions about the instructor and overall course quality where results of Serhan, D. (2020) indicated that students had a negative attitude toward the use of Zoom and perceived it as having a negative effect on their learning experience and their motivation to learn. Similar to this, A. Purwanto (2020) noted in his paper that the benefit that students experience from online learning is that they can listen at home, they are not restricted by the time or space, and they are not limited by the place, they can listen anytime, anywhere. Environment, how spare time is used, network instability, the lecturers' voices and

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

the teaching materials are not synchronized, students are unable to attend courses when the wifi is down, and concentration is affected

Table 14: Provision of Technical Support in the Blended Learning Approach

Items	Weighted Mean	Descriptive Interpretation
Getting technical support was easy.	3.74	High extent
I got technical support I needed during this course.	3.45	High extent
Over-all Weighted Mean	**3.60**	**High extent**

Table 14 presents the perception of the student-respondents provision of technical support they derive from the Blended Learning Approach of the University. As presented, they were able to easily get the necessary technical support from the program at a high extent, as indicated from the over-all weighted mean 3.60. The findings in the above table indicated that technical support to students in the blended learning approach is highly extended or well provided by the University. This is consistent with Bervell, B., & Arkorful's (2020) claim that the study revealed significant relationships among the facilitating conditions, voluntariness of use, and use behavior of LMS-enabled blended learning, whereby the facilitating conditions predicted voluntariness of use and actual use behavior, whereas voluntariness of use determined actual LMS use behavior for blended learning in distance education.

Table 15: Accessibility of Downloadable Materials in the Blended Learning Approach

Items	Weighted Mean	Descriptive Interpretation
The online materials are available at their locations at the appropriate time for me.	4.30	Very high extent
Download time is reasonable	4.21	Very high extent
Over-all Weighted Mean	**4.26**	**Very high extent**

Table 15 shows the perception of student-respondents pertaining to the accessibility of downloadable materials from the University's website. The link where these related materials were found and their downloading time were rated at a very high extent, in terms of promptness and accuracy, given a rating of 4.21 and 4.30, respectively. It resulted to an over-all weighted mean of 4.26, an indication of a very positive impression of students on the accessibility and availability of these learning materials onsite. These findings were in agreement with those of Dey, P., and Bandyopadhyay, S. (2019). In which the article introduces a web-enabled blended-learning platform that combines synchronous e-learning with traditional classroom interactions, supervised by qualified online instructors using digital audio-visual materials. The pilot study carried out utilizing the suggested blended learning platform shows it is possible to give poor school kids a quality education. The results show that blended learning platforms in classroom settings, along with high-quality digital content, qualified online teachers, and on-site teaching assistants serving as class coordinators, create a learning environment that can significantly boost students' academic success and general wellbeing, regardless of their socioeconomic status.

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

Summary of Findings

This research study presents the following findings in relation to its primary aim to assess the readiness of the Cagayan State University in using the blended learning approach.

Students' Level of Readiness in Using the Blended Learning Approach

1. The student-participants have moderate level of experiences and exposure in the use of technological gadgets.
2. The student-participants have reasonable number of years of exposure to the use of computers and internet outside the Cagayan State University.
3. Before their entry to the Cagayan State University, the student-participants were already moderately exposed to the use of computers and internet.
4. Aside from school work, student-participants are also using the computers and internet for various reasons. Foremost of which is the practice of searching different sources online for information and learning about a particular topic of interest.
5. Student-participants also used the computer and internet at a moderate extent in doing their school work. Using the computer and internet in doing homework is the most prevalent, while the least practiced is to send email to their teachers.
6. The student's level of skills in using the tools and applications in the computers and internet was rated at a moderate extent. The use of the "word processing program" and "editing digital photographs and other images" were the most utilized programs. These programs are the most basic tools in the computer.
7. There were various problems encountered by the student-participants prior to the implementation of the blended learning approach in the University but were not extensive as perceived.

The Level of Satisfaction of the Student-Participants to the Blended Learning Approach

The level of satisfaction of student-participants in this study was determined through the following quality measures:

1. The student-participants' interaction among themselves and other students relative to blended learning approach was rated positively at high extent.
2. The students' interaction with the teachers reveal an even more cordial and comfortable relationship as perceived by the participants. The resulting over-all weighted mean indicates a very high level of satisfaction.
3. The student-participants have very positive impression of the University's online activities.
4. The face to face method of learning with their teachers also revealed a highly positive indication of good quality measure of the University's blended learning approach.

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

5. The technical support provided to the students was perceived to have been attained at a high extent.
6. Accessibility of downloadable materials was also perceived to have been provided at a very high extent.

CONCLUSIONS

With the findings of this study, the Cagayan State University, a public higher education institution, is ready to implement the blended learning approach as a means of delivery of instruction. The utilization of the blended learning approach has been welcomed by the students with positive experience. It has been proven to be an effective approach in the delivery of quality instruction since most of the students are satisfied with it.

RECOMMENDATIONS

In view of the findings of the study, the following recommendations are offered:

1. Like many schools or universities, the Cagayan State University faces challenges as it takes steps to transform or enhance its delivery models to create greater access to quality education and deepen student learning, while integrating use of technology. The researcher believes that the University's plan for blended learning should be closely aligned with its technology infrastructure, other resources and its improvement planning process. As such, the researcher is proposing the model utilized in this study;
2. For Cagayan State University to adopt or institutionalize blended learning program or approach to maximize both human and technological resources available;
3. For Cagayan State University to encourage the faculty members to develop syllabus using the blended learning approach;
4. For Cagayan State University to constitute a committee to review or assess blended learning program or approach developed by the faculty members;
5. For Cagayan State University to develop a plan to boost the existing number of equipment and facilities to cope up with the demand of the increasing number of students.
6. A Rotation Model, particularly flipped classroom type is also recommended. In this model, the students rotate on a fixed schedule or the instructor's discretion between learning modalities, at least one of which is online learning. Further, students are encouraged to participate in online learning off site in place of traditional homework and attend the traditional learning environment.
7. A longitudinal study may be conducted to assess the effectiveness of the blended learning approach.

The Seybold Report
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References

1. Adams, D., Tan, M. H. J., & Sumintono, B. (2020). Students' readiness for blended learning in a leading Malaysian private higher education institution. Interactive Technology and Smart Education, 18(4), 515-534.
2. Adams, D., Chuah, K. M., Sumintono, B., & Mohamed, A. (2022) Students' readiness for e-learning during the COVID-19 pandemic in a South-East Asian university: a Rasch analysis. Asian Education and Development Studies, 11(2), 324-339.
3. Algahtani, A. (2011). Evaluating the effectiveness of the e-learning experience in some universities in Saudi Arabia from male students' perceptions (Doctoral dissertation, Durham University).
4. American Psychological Association. (1997). Learner-centered psychological principles: A framework for school redesign and reform. Washington, DC.
5. Belanger, F., & Jordan, D. H. (2000). Evaluation and implementation of distance learning: Technologies, tools and techniques. Hershey, PA: Idea Publishing Group.
6. Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. Journal of Computing in Higher Education, 26, 87-122.
7. B Baran, E Kilic, A Bakar Corez, K Cagiltay (2010) Turkish Online Journal of Educational Technology-TOJET eric.ed.gov
8. Bervell, B., & Arkorful, V. (2020). LMS-enabled blended learning utilization in distance tertiary education: establishing the relationships among facilitating conditions, voluntariness of use and use behaviour. International Journal of Educational Technology in Higher Education, 17(1), 1-16.
9. Bollinger, D. U. & Martindale, T. (2004). Key factors for determining student satisfaction in online cours-es. International Journal of E-Learning, (3)1, 61-67.
10. Bonk, C. J., & Cunningham, D. J. (1998). Searching for learner-centered, constructivist, and socio-cultural components of collaborative educational learning tools. In C. J. Bonk & K. S. King (Eds.), Electronic collaborators: Learner-centered technologies for literacy, apprenticeship, and discourse (pp. 25-50). Mahwah, NJ: Lawrence Erlbaum Associates.
11. Bower, B. L., & Kamata, A. (2000). Factors influencing student satisfaction with online courses. Academic Exchange Quarterly, 4(3), 52-56.
12. Callo, E., & Yazon, A. (2020). Exploring the factors influencing the readiness of faculty and students on online teaching and learning as an alternative delivery mode for the new normal. Universal Journal of Educational Research, 8(8), 3509-3318.
13. Chong, S. M. (1998). Models of asynchronous computer conferencing for collaborative learning in large college classes. In C. J. Bonk & K. S. King (Eds.), Electronic collaborators: Learner-centered technologies for literacy, apprenticeship, and discourse (pp. 157-182). Mahwah, NJ: Lawrence Erlbaum Associates.
14. Chung, E., Noor, N. M., & Mathew, V. N. (2020). Are you ready? An assessment of online learning readiness among university students. International Journal of Academic Research in Progressive Education and Development, 9(1), 301-317.
15. Dahmash, N. B. (2020). I couldn't join the session': Benefits and challenges of blended learning amid Covid-19 from EFL students. International Journal of English Linguistics, 10(5), 221-230.
16. Dakhi, O., JAMA, J., & IRFAN, D. (2020). Blended learning: a 21st century learning model at college. International Journal of Multi Science, 1(08), 50-65.

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

17. DeBourgh, G. A. (1999). Technology is the tool, teaching is the task: Student satisfaction in distance learning. Proceedings of Society for Information Technology & Teacher Education International Conference 1999, San Antonio, TX, (pp. 131-137).
18. DeNisco, Alison. "Different Faces of Blended Learning". District Administration. Retrieved 2014-11-25.
19. Dey, P., & Bandyopadhyay, S. (2019). Blended learning to improve quality of primary education among underprivileged school children in India. Education and Information Technologies, 24(3), 1995-2016.
20. DreamBox. "6 Models of Blended Learning". Retrieved 2014-11-25.
21. Finaly-Neumann, E. (1994). Course work characteristics and students' satisfaction with instructions. Journal of Instructional Psychology, 21(2), 14-19.
22. Friesen (2012) "Report: Defining Blended Learning"
23. Goh, C C Leong, K Kasmin, P Hii, O Tan, 2017) Journal of E-learning and Knowledge Society learntechlib.org
24. Gunawardena, C. N., & Zittle, R. H. (1998). Faculty development programmes in distance education in American higher education. In C. Latchem & F. Lockwood (Eds.), Staff development in open and flexible learning (pp. 105-114). New York: Routledge.
25. Greener, S. L., (2008). Self-aware and Self-directed: Student Conceptions of blended Learning. ERLOT Journal of Online Learning and Teaching Vol. 4, No. 2. University of Brighton. Brighton, East Sussex BN2 4AT, UK.
26. Hara, N., & Kling, R. (2003). Students' distress with a Web-based distance education course: An ethnographic study of participants' experiences. Turkish Online Journal of Distance Education-TOJDE, 4(1), 1-30.
27. Havelka, D. (2003). Top Six Benefits of the Current Implementation of IT. "Students Beliefs and Attitudes toward Information Technology".Information Systems Education Journal, vol. 1, no. 40 (2003), p. 3.
28. Hiltz, S. R. (1993). Correlates of learning in a virtual classroom. International Journal of Man-Machine Studies, 39, 71-98.
29. I Mushtaque, M Rizwan, RK Dasti, R Ahmad, M Mushtaq Performance Improvement - 2021
30. onlinelibrary.wiley.com
31. I Ismail, SN Azizan, T Gunasegaran (2016), International Journal of Interactive Mobile Technologies academia.edu
32. Informatics in Education. 2008. Vol. 7, No. 2, 181–210.
33. Johnson, S. D., Aragon, S. R., & Shaik, N. (2000). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. Journal of interactive learning research, 11(1), 29-49.
34. Keney, J. and Newcombe E. (2011). Adopting a Blended Learning Approach: Challenges Encountered and Lessons Learned in an Action Research Study. Journal of Asynchronous Learning Networks, Volume 15: Issue 1. West Chester University of Pennsylvania.
35. Ma'arop, A. H., & Embi, M. A. (2016) Implementation of blended learning in higher learning institutions: A review of the literature. International Education Studies, 9(3), 41-52.
36. Oliver M, Trigwell K (2005) "Can 'Blended Learning' Be Redeemed?"' E-Learning, Volume 2, Number1

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

37. Opina, A.S (2014). The Development and Validation of Online Learning Modules for College English. International Journal of Contemporary Research Vol. 4 No. 2. Centro Escolar University, Makati Campus, Philippines.
38. Oyedemi, T., & Mogano, S. (2018). The digitally disadvantaged: Access to digital communication technologies among first year students at a rural South African University. Africa Education Review, 15(1), 175-191.
39. Padmavathi, M. (2016). A Study of Student-Teachers' Readiness to Use Computers in Teaching: An Empirical Study. Journal on School Educational Technology, 11(3), 29-39.
40. Panigrahi, R., Srivastava, P. R., Panigrahi, P. K., & Dwivedi, Y. K. (2022). Role of internet self-efficacy and interactions on blended learning effectiveness. Journal of Computer Information Systems, 62(6), 1239-1252.
41. Poon, J. (2012). Use of blended learning to enhance the student learning experience and engagement in property education. Property management, 30(2), 129-156.
42. Purwanto, A. (2020). University student's online learning system during Covid-19 pandemic: Advantages, constraints and solutions. Sys Rev Pharm, 11(7), 570-576.
43. Smart, K. L., & Cappel, J. J. (2006). Students' perceptions of online learning: A comparative study. Journal of Information Technology Education, 5, 201-219. Retrieved from http://www.jite.org/documents/Vol5/v5p201-219Smart54.pdf
44. Serhan, D. (2020). Transitioning from Face-to-Face to Remote Learning: Students' Attitudes and Perceptions of Using Zoom during COVID-19 Pandemic. International Journal of Technology in Education and Science, 4(4), 335-342.
45. Sit, J. W., Chung, J. W., Chow, M. C., & Wong, T. K. (2005). Experiences of online learning: students' perspective. Nurse education today, 25(2), 140-147.
46. Shandy Putra Medan. Britain International of Linguistics Arts and Education (BIoLAE) Journal, 2(2), 688-699.
47. Sriwichai, C. (2020). Students' Readiness and Problems in Learning English through Blended Learning Environment. Asian Journal of Education and Training, 6(1), 23-34.
48. Taghizadeh, M., & Hajhosseini, F. (2021). Investigating a blended learning environment: Contribution of attitude, interaction, and quality of teaching to satisfaction of graduate students of TEFL. The Asia-Pacific Education Researcher, 30, 459-469.
49. Tang, C., & Chaw, L. (2013). Readiness for blended learning: Understanding attitude of university students. International journal of cyber society and education, 6(2), 79-100.
50. Tayebinik, M., & Puteh, M. (2013). Blended Learning or E-learning?. arXiv preprint arXiv:1306.4085.
51. Vaughan, N. (2007). Perspectives on blended learning in higher education. International Journal on E-learning, 6(1), 81-94.
52. Wegerif, R. (1998). The social dimensions of asynchronous learning networks. Journal of Asynchronous Learning Networks, 2(1), 34-39.

Internet Sources

1. Definition and scope of blended learning, http://contentdevelopment.gpstrategies.com/philBlended.aspx
2. Models of Blended Learning, http://en.wikipedia.org/wiki/Blended_learning#Models
3. Towards a Design Theory of Blended Learning Curriculum,

The Seybold Report
ISSN 1533-9211
DOI 10.17605/OSF.IO/CSR2J

4. http://www.researchgate.net/profile/Ronghuai_Huang/publication/221116755_Towards_a_Design_Theory_of_Blended_Learning_C urriculum/file/3deec52189652da877.pdf
5. Blended Learning Environments in Higher Education: A Case Study of How Professors Make it Happen, http://www.mwera.org/MWER/volumes/v25/issue1-2/v25n1-2-King-Arnold-GRADUATE-STUDENT-SECTION.pdf
6. A Blended Learning Model In Higher Education: A Comparative Study of Blended Learning in UK and Malaysia, http://dspace1.isd.glam.ac.uk/dspace/bitstream/10265/592/1/ chewphd.pdf
7. Research focus and methodological choices in studies into students' experiences of blended learning in higher education, http://www.researchgate.net/profile/Peter_Goodyear/publicat ion/222822123_Research_focus_and_methodological_choices_in_studies_into_students%27_experiences_of_blended_learning_in _higher education/file/5046351e094db7125e.pdf
8. A Study of Student's Perceptions in a Blended Learning Environment Based on Different Learning Styles, http://www.ifets.info/journals/11_1/13.pdf
9. The Influence of Blended Learning Model on Developing Leadership Skills of School Administrators, http://ubicc.org/files/pdf/1_355.pdf
10. Teacher, Principal, and Leader Evaluation in Online and Blended Learning, http://www.centeril.org/reports/resources/teacher_principal _leader_evaluation_4-3-13.pdf
11. Blended learning in higher education: How students perceive integration of face-to-face and online learning experiences in a foreign policy course, http://www.herdsa.org.au/wp content/uploads/conference/2010/papers/HERDSA2010_Bliuc_A.pdf
12. Student Engagement in Blended Learning Environments with Lecture-Based and Problem-Based Instructional Approaches, http://www.ifets.info/journals/15_3/24.pdf
13. Blended-Learning Model Employed in Higher Education Institutes, http://www2.ctu.edu.tw/learn/publish/journal/2504/02%E5%BC%B5%E6%9C%9D%E6%97%AD.pdf
14. Is-K-12-blended-learning-disruptive?, http://www.christenseninstitute.org/wpcontent/uploads/2014/06/Is-K-12-blended-learning-disruptive.pdf
15. The Importance of Graphics on a Website, http://www.elespacioweb.com/the-importance-of-graphics-on-a-website.php