Research Article

Evaluation of Freshmen Students' Readiness by Computer-Assisted Integration (C-AI) in the Tertiary Levels in New Normal Setting

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ARTICLE INFO	ABSTRACT
	The purpose of this study was to assess how ready Filipino first-year students taking up Bachelor of Secondary Education were to use technology in the classroom where it captured global attention in its emerged new technology. A descriptive methodology was employed to gather data from one hundred (100) students using a random sampling technique for survey questionnaires and informal interviews with respondents. Using the theoretical framework of self-efficacy, the study looks at the following main questions: 1) what challenges do students face when learning using computer-assisted integration? 2) How do students perceived about the effectiveness of computer-based tools in integrating learning in terms of skills, techniques, course materials, and facilities/equipment that are available? and 3) In reaction to the new normal setting, what coping strategies and modifications have been put in place? The results show that some student problems were student-related, such as having no interest in studies, not performing the given tasks, and having no money to complete computer-related projects. Facilities were lack of supplies sought teacher-associated problems such as lack of time to prepare and repetitive learning activities. Regarding students' perceptions, the study reveals a prevailing sentiment of insufficiency in instructional methodologies and techniques, as well as inadequacies in accommodation facilities. It is evident that the encountered problems in computer-assisted integration are multifaceted, necessitating prompt remedial action to the awareness of students' learning and prepare them to thrive in an increasingly technological society. Therefore, it is a need to enhance students' technological literacy by providing new and adequate facilities for individual use of equipment in the emerging global competitiveness of technologies. **Keywords:** Computer-Assisted, Coping Mechanism, Learning Readiness Perceptions, Tertiary

INTRODUCTION

In today's educational setting, students compete to learn how to adapt to emerging trends in the contemporary world of technology. A key component of contemporary learning to its field of engineering, mathematics, and scientific research is computer-assisted integration, which uses computational tools to build out complexity of learning that are difficult or impossible to answer analytically. Teachers build learning that facilitates students' involvement inside the classroom. To teach effectively, it could have a full complement of supplemental resources to assist students in every facet of teaching, from preparing the class to conducting a lecture unit and assessing students. In the last ten years, small computers have revolutionized education. However, a problem arises when students need to go with the new trends in learning. Undergraduate students entering colleges or universities with computer literacy are at great advantage.

However, such continuous learning requires an adaptation in its definition to incorporate the technological component, since digital technology plays a central role in all aspects of life in contemporary society. Therefore, the most appropriate concept is "digital lifelong learning," because success in today's society requires individuals to constantly adapt to the technological changes that influence and are influenced by all social spheres [1].

[2] From the study, it states that the introduction of computer vision into the teaching classroom allows teachers to have real-time access to student performance and also helps teachers to adjust its teaching strategies at any time to ensure that it can reach all students, so that it can adjust the teaching content and methods in a timely manner to alert students who have wander off, and students can also see their respective learning performance for the whole class after the lesson in a timely manner.

The K-12 level reflected technology competencies in the National Educational Technology Standards for Students [3]. Computers inside the classrooms are essentials, museums libraries are rapidly becoming as necessary to the learning process as books, papers, and pens; computers in school, the student can develop special projects and prepare reports using the new technology, which is computer. In the library, students can search a computer database for articles about their fields of interest. Learners must be able to integrate fruitful knowledge of technical skills, visual literacy, analytical skills, and critical thinking skills to solve complex problems [4].

Computer-mediated communication has come a long way since computers were introduced to the institutions in teaching-learning inside or outside the classroom set up. Most youths felt that computers increased efficiency, gave them more control, made informed people and materials more accessible, and were practical in sharing ideas. Through youth's web pages, communication notes, and writing ideas, youth viewed using computers as effective means to communicate with community members. Information that helps teach or encourages interaction has been a multi-modal way of communication on computers in text or multimedia formats, including photographs, videos, animation, speech, and music. The guided drill is a computer program that poses questions to students, returns feedback, and selects additional questions based on the student's responses [5]. The computer elevates and refers to the global classroom; basic computer skills start with simple abilities such as holding the mouse correctly, understanding the "enter key," or realizing that has to turn on or off the monitor. As stated [5] that in Computer-Aided Instruction, computers also can help students visualize objects that are difficult or impossible to view. Many obstacles prevent new users from wanting to increase their computer knowledge, such as how computers should be used to serve a more genuine purpose in community development and how they can affect youth. These issues also have something to do with the development of computer skills and can help non-users become more familiar with the fundamentals of using a computer. At this point, the researcher is motivated to investigate this issue to enhance the quality of training, and better comprehend students submitting work utilizing computers to convey that students can utilize them effectively.

The problems encountered in using the computer when submitting and completing work with students have advantages and disadvantages. Many students benefit from the immediate responsiveness of computer interactions and appreciate the self-paced and private learning environment, motivation to learn, and increasing independence to personal responsibility for education. Some students' failures are attributed to teachers' insufficient computer-aided system training. Computer technology instruction for students could also be necessary, detracting from the primary educational process [5].

Readiness can be achieved through the efforts of students and teachers and can be derived from significant planning of its resources. It would mean that the schools should develop multi-year plans that directly address its thrust to satisfy every individual to be considered "ready." It is easy to say that one is ready to face a particular task. However, along the way, problems arise that would lead to worse scenarios, hence, the miscalculations of readiness [6].

It was stated in the study that innovations assume a significant part in preparing project of instructors. Students' get to information and data through TV, advanced media, link organization, web and web-based media for example Facebook, Twitter, Whatsapp, Linkedinn, Igo, Line, Wechat and so forth ICT is vital for Pre-administration instructor learning program in the 21st Century [7].

Integration can be a form of courses as well as learning modules and learning to access the computer with the ability to do it in a particular time. The results of the study [8] "Exploring the role of e-learning readiness on student satisfaction and motivation in a flipped classroom" indicated that students' e-learning readiness was a significant predictor of their satisfaction and motivation in the FC model of instruction.

In e-learning, the teacher-centered has changed to a student-centered approach. It also provides great flexibility in teaching methodology, content management, a synchronous and asynchronous interaction between teachers and students, organizing and structure of courses, educational projects and finally student assessment [9].

Various dimensions of e-readiness such as the network elements as well as the human and organizational readiness should be clearly assessed for e-learning to be accomplished [10]. Therefore, e-learning is an innovative approach to fully equip the individual with its varied assessment in teaching-learning in education.

Some studies presented "Assessing the readiness of art and non-art students to use virtual training" that a type of training requires skills that depend on the characteristics of e-learning, and not just a particular discipline but a questionnaire used to evaluate the different majors in a university [9]. Several studies on e-learning readiness have been conducted in Iran and outside Iran. Those studies can be parts into three groups; some are looking to provide a helpful model for e-learning readiness assessment [11]. Although many universities across the world have incorporated Internet-based learning systems, the success of their implementation requires an extensive understanding of the end-user acceptance process [12].

As a facilitator of learning activities, there is no doubt that a teacher exerts a strong influence over the students. First is the personality, which can manifest in the verbal-communicative behavior. Another factor is that integrative behavior is likely to compensate for better learning on the student's part and the student's achievements. Instructional materials and facilities for the pupils and teachers would surely help make a difference in making teaching and learning meaningful and lively. The result of the study [13] is that teacher-student communication and support through ability, and teachers describe the ability to use that information to work with students to address misunderstandings or provide more instruction.

This study therefore set out to examine and analyze the impact of inadequate of expert teachers, availability of equipment and facilities during teaching and learning inside the classrooms with the use of computers in integrating the content based for the different subject areas in tertiary level in Cebu City, Philippines.

Statement of the Problem

Stated in the modern world on affecting the teaching and learning of literary in education for 21st century learners may come up with the unavailability and unconnected use of equipment, facilities and the needs training for educators. The objective of this study is to;

a. gathered the problems encountered by the students in computer integration;

b. sought the perceptions of the students as to the status of computer instruction like competencies, methods and techniques, instructional materials and available equipment/facilities to measure the participants' learning readiness; and

c. seen initiatives to the new normal settings in school.

Research Questions:

1) what were the difficulties encountered by the students in computer instruction?

2) what are the students' perceptions as to the status of computer instruction as to competencies, methods and techniques, Instructional materials, and available equipment/facilities?

3) what coping strategies and modifications have seen?

METHODS AND METHODOLOGY

This study used a descriptive correlation research approach that described the students' problems and perceptions of their actual conditions encountered in readiness using a computer for communication with the use of given survey questionnaires and informal interviews. This study was conducted in public tertiary students in Cebu City, Philippines that offers technological and academic program. The researcher works as instructors who handle classes in the research context, language and teaching, and pedagogy. A convenient sampling strategy was adopted and 100 students were included as the participants of the study. The survey questionnaires will be given to the respondents; informal interviews will be made to clarify some answers in the questionnaire and actual observations were included purposely. The data were collected through questionnaire consisting of three (3) parts: (a) items to gather the problems encountered by the students in computer instruction and (b) items aimed to the perceptions of the students as to the status of computer instruction like competencies, methods and techniques, instructional materials and available equipment/facilities to measure the participants' learning readiness adopted from [14] Online Learning

Readiness Scale (OLRS). Ranking will be used to determine the extent of the problems encountered as perceived by the respondents in connection with computers. Lastly, (c) strategies in coping the new set up in new normal. The problem with the lowest sum was ranked last, and the problem with the highest was ranked first.

Some procedures will be followed during the instrument's administration, including administering the survey questionnaires after some initial planning to ask for respondents. In addition to conducting informal discussions with respondents to clarify some written responses, the researcher personally distributed copies of the survey questionnaires to the respondents. Survey questionnaire retrieval came last. The survey respondents provided 100 questionnaires. The respondents were given plenty of time before it was retrieved. The responses were counted, processed, and evaluated when the questionnaire was retrieved. They were informed that participating was entirely voluntary, and special precautions were taken to guarantee that participants' identity was upheld. The respondents were not required to provide any identification or personal data to ensure privacy data.

RESULTS AND DISCUSSION

This study's findings are presented in two parts, first on the problems encountered by the students in computer instruction, and second on the students' perceptions as to the status of competencies, methods and techniques, instructional materials and availability of equipment/facilities in the classroom.

Learning encountered by the students

Based on the findings, Table 1 displays the students' issues ran into while studying and the needs that need to be evaluated.

The following showed administration-related problems, teacher-related problems, equipment and facilities, student-related problems, and parent-related problems with each sub-problem. Five (5) main problems with sub-problems were met by the students in their readiness for computer-aided use in the class.

Table 1. Encountered by the Students

Problems encountered	Sum of Rank	Final Rank
equipment and facilities - not functioning keyboards, mouse, units, and printer, less electric fan/ air conditioning units, and lack of supplies	89	**2**
problems related - oversized classes, lack of time in supervision, poor ventilation and lighting, insufficient number of hours for computer instruction, and lack of instructional aid	84	**4**
teacher-related problems - not master on his/her lesson, lack of time to prepare, and repetitive learning activities, not technically ready	87	**3**
student-related problems - lack of interest in studies, does not perform the task, lack of money for computer projects and no access/time or available computers at home	95	**1**
parent-related problems - lack of money to support computer projects, complaints about computer fees, and follow-up to their children's progress	85	**5**

The first ranking problem was the "students-related" sum of ranks for every item, such as "lack of interest in studies, does not perform the task, and lack of money for computer projects" and accessibility /availability of computers at home were included. The second-ranking problem shows "equipment and facilities." Under this problem were "not functioning keyboards, mouse, units and printer, less electric fan/ air conditioning units, lack of supplies." In the third ranking were "teacher-related problems," such as not master on his/her lesson, lack of time to prepare, and repetitive learning activities. Next, the fourth-ranking problem was related to management. Finally, the students ranked "parent-related problems" as the fifth, citing issues like a lack of funding for computer projects, complaints about computer fees, and a lack of follow-up regarding their children's progress as problems met. Under this problem were "oversized classes, lack of time in supervision, poor ventilation and lighting, short hours for computer instruction, and lack of instructional aide. This study supports [16] recommendations for enhancing access, creating new learning opportunities, and eliminating obstacles.

Competencies acquired by the students

Competency is an ability to do efficiently, demonstrate in a specific area and respond in a society. It is difficult for students if they also lack knowledge since most students are first years. It is necessary to assist the students in learning inside-outside the classroom. Table 2 shows the competencies acquired by the students. The respondent's competencies acquired were: access to a computer was rated as less acquired with a weighted submitting outputs via email was rated as less acquired with a weighted mean of 2.64; holding down and dragging was rated as acquired with a weighted mean of 2.67; finding the suit icon was rated as acquired with a weighted mean of 1.13; selecting simple text was rated as acquired with a weighted mean of 2.77; and quitting the application was rated as acquired with a weighted mean of 1.79. The average weighted mean of the competencies acquired by the students as to the challenges encountered in computer instruction was 1.67, described as acquired. This study supported [16] stated that university students encounter wide levels of computer competency and must address these concerns to the management. The study's findings showed that acquired competencies are less, demonstrating that the student's learning will be ready in extensive classroom assignments during the entire semester for learning.

Table 2. Competencies acquired by the freshmen students

Competencies	WM	Indicators
1. switching on the computer	2.0	Acquired
2. starting navigation/using icons	2.93	Acquired
3. accessing icons on the computer	1.13	Less Acquired
4. selecting/encoding simple text	2.77	Acquired
5. submitting output using e-mails	2.64	Less Acquired
6. holding down and dragging	2.67	Less Acquired
7. finding the suit Icons	1.75	Acquired
9. quitting the application	1.79	Acquired
10. using the apps	1.36	Less Acquired
AVERAGE	**1.90**	**Acquired**

Legend: 2.34 – 3.0 - Fully Delivered / Acquired, 1.67 – 2.33 -Partially Delivered / Acquired; 1.0 – 1.66 -Less Delivered / Acquired

Computer simulations enable students to examine and interact with representations of natural events, which aids in the development of valid scientific interpretations for such occurrences. Computer simulations encourage students through challenges and immediate feedback [17].

It is a great help for teachers if students may have prior knowledge in engaging the new technology like computer tools in learning.

To synthesize, some students had very minimal technical skills and were not ready for technological activities because of the perceived lack of preparation for learning. With technology, students will be less reliant on the instructor and more capable of supporting one another in their academic endeavors. The researcher believes that the study presented above contributes some results to learning development in line with the readiness of computer instructions.

Perceptions by the students

Involved with the use of computers as perceived by the students were come to understand what is to deliver in the teaching and learning process, along with the new sets of student generation and the emergence of a new virtual versus traditional classroom lectures.

As reflected in the analyzed data of the student's perception of learning-assisted integration, table 3 shows that the assisted areas like accommodation are not sufficient for students' learning, which were rated as insufficient, as shown in its weighted mean of 1.46. These accommodation facilities were the following: computer area and teachers' table rated insufficient by the teachers, lecture area, ventilation, and lightning. On the other hand, students perceived the instructional material as sufficient by its weighted mean of 1.97: computer units, keyboards, printers, inks, and hand-outs available. Moreover, the said method and techniques were sufficient for the students, with a weighted mean of

1.55. During the lecture discussion, the teachers provided demonstrations, projects, observation, and hands-on activities for the individual student's learning.

Table 3. Perceptions by the Students learning computer-assisted integration areas

Learning assisted areas	Mean	Indicators
Accomodation Facilities		
Computer area, lecture area, ventilation and lighting, chairs and tables availability	1.46	**Not Sufficient**
Instructional Materials		
Computer units, keyboards, printers, books, hand-outs, Inks and reference materials	1.97	**Sufficient**
Methods and Techniques		
Lecture-discussion, demonstration, project observation and hands-on activity	1.55	**Sufficient**
Average	**1.66**	**Not Sufficient**

Legend: 2.34 – 3.0 VS-Very Sufficient, 1.67 – 2.33 S-Sufficient, 1.0 – 1.66 N-Not Sufficient

The findings showed that learning inside the classroom is not only by itself but with the help of the teachers, prepared content, and administration goals. This study supported [18] claimed that the use of a computer at home is related to enhanced computer skills and respondents with a computer at home had increased self-efficacy.

Easier for students who have access to computers at home when exposed to higher levels of technological proficiency. These findings are discussed [19] in the context of prior research on the variables influencing how well students perform in introductory information systems courses. Previous research on the influences of prior computer experience on learning revealed that higher levels of perceived computer experience positively impacted lecture and lab homework and exam performance. In addition, higher levels of positive class behaviors (attendance and extra-credit participation) positively affected both lecture and lab exam performance. It stated in the study's findings that the level of students' IT self-efficacy is relatively high, while computer competence indicates a rather low level of perceived ability in using computers. Students were competent in using email, Facebook, and the internet for personal purposes [20].

Perceptions of the students were in favor of computer-assisted instruction. From the results of the present study, it may be inferred that students perceive the use of the computer room, computer in general, as a necessary instrument in facilitating the study, but as a supplement; the interface provided by computer software influences the students learning process and satisfaction [21].

Table 4. Coping Mechanism/ adjustment as to new normal setting

Strategies/Adjustments	f	Rank
Competence is too personal and acceptance to others	85	**2**
Exposure to technological overload	83	**3**
Self – resiliency	86	**1**
Self – confidence		
Peer pressure avoidance and focus	80	**5**
Problem solving	81	**4**

It shown in the table 4 that some students frequently deal with a range of adjustments, such as competence to personal and acceptance, overload exposure to new technology, peer pressure and other problems met. Students who have effective coping strategies can better control its stress, preserve their mental health, and feel better overall as to self-resiliency and self-confidence.

This study can be used as evidence to conclude that students learning real-world scenarios in the classroom requires extensive preparation in all areas. The teacher on this matter should address the situation and communicate with their respective administration about the necessity of computer rooms, equipment, and facilities so that they expect a good output of instructions can be achievable. Future qualitative studies are recommended to see a deeper understanding of this result. From the study, the data result indicates that each of the dimensions of active coping mechanism is positively and significantly related to the students' intrinsic and extrinsic academic motivation. In contrast, the dimensions of passive coping mechanisms are not all positively and significantly associated with the students' intrinsic and extrinsic academic motivation [22]. It shows that distancing and accepting responsibility are

the only indicators significant to students' academic motivation in preparation to advancement of learning in the academe.

CONCLUSION

After careful analysis, the student's encounters and perceptions of readiness in computer-assisted instructions were attributed that can help improve their classroom tasks as a behavior to perform technologically proficiently. The student's literacy in using the technology is their way of continuing the course, providing them with enough facilities to use the equipment individually.

Learning in terms of readiness could be attributed to their lack of self-confidence, interest, and experience in using the computer. Prepared academically and equipped students means have the skills to excel in the field. This study only described the concepts of the readiness on computer related that need to review the unforeseen scenarios to students in tertiary level. The use of visual learning (pictures, written text, animations, and videos) and verbal learning (spoken narration) as discrete channels for delivering content is different from the traditional classroom practice of lecturing to students or having students read silently [23].

Moreover, feedback and inputs from the students' problems encountered, and perceptions towards the learning in computer-assisted instructions could be ways to make plans for reforms and more relevant outcomes. Revisit also multimedia learning platforms that uses for delivery of learning and lecturing to students.

Based on the conclusions, these are the following recommendations:

The students in higher education could attend seminar workshops with topics related to computer technology usage in order to improve skills in terms of new technology.

Support students' learning and progress in order to prepare its learning for a short course on blended computer literacy. Even though it can be challenging to the new trends about learning the technology in order to stay on so many updates, stay with the rapidly changing technological landscape is crucial for survival.

Considering the issues and preparedness of the students, an action plan can be developed with an emphasis on enhancing computer literacy with its integration and producing high-quality work when submitting outputs.

FUNDING STATEMENT

DATA AVAILABILITY

Tha data that supports the finding of the study is available for data sharing if formal request will be made.

CONFLICT OF INTEREST

The author declares of no conflict of interest.

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