Study of Blended Learning on iPad at Rangsit University

Paweena Sujaritthanarak

Academic Services Center, Rangsit University, Pathum Thani, Thailand
*Corresponding author, E-mail: paveena.s@rsu.ac.th

Abstract

The aim of this research is to investigate the implementation of iPad technology in teaching and learning at Rangsit University. The objectives of this study include: 1) exploring the use of iPad in managing courses, 2) examining the challenges and recommendations from the lecturers' perspective, and 3) investigating the issues and recommendations related to iPad use from the students' perspective. The research was conducted with a sample size of 615 teachers from 33 colleges, faculties, institutions, as well as 1,446 students from 29 colleges, faculties, institutions. Stratified random sampling was employed to select the sample size at the 95% confidence interval. The data was analyzed using the average and the standard deviation. This research tool was an online questionnaire designed to explore blended learning on iPad at Rangsit University.

The research finding shows that 1) The Faculty of Science was the primary faculty where lecturers taught and managed blended learning on iPad at Rangsit University. The most commonly utilized activities were online teaching and learning through video conference systems such as Zoom, Google Meet or Microsoft Team 2) Group of Faculties that use iPad the most for blended learning was Science-Health group. 3) The overall satisfaction survey found that the high level of the iPad utilization in online teaching and learning at was for editing content of the course and convenient providing students with homework in any time, anywhere and designing blended learning environment that facilitated students to manage learning and group work in the classroom for research and brainstorming 4) The overall satisfaction survey of the majority of students who responded to the survey was the College of Medicine which accounted for 27.20%. Students perceived iPad technology as an effective tool for blended learning, particularly through the used Google Classroom, Google Site and other Google applications. It was able to replace the paper, search information and access various resources rapidly and improve the learning experience. The average satisfaction rating was 4.54 and standard deviation of 0.79.

Keywords: *m-Learning, Blended Learning, Flipped Classroom, Online Learning, iPad*

1. Introduction

According to The National education plan B.E. 2560-2579 (2017-2036). Strategy 2, manpower production and development, research and innovation to build the country's competitiveness. points out that in the current situation in Thailand, the production and development of human resources in the education sector still depends on the potential and readiness of each educational institution. Most learners and graduates lack essential skills, such as English language skills and digital skills, and lack of competency in working according to the profession resulting in inability to develop own potential and improve the productivity of work for the development of the country. Therefore, it is urgent to develop an education curriculum with various skills that can enhance essential skills in the 21st century, including English, Science, and Digital Skills.

Rangsit University policy, which has distributed iPads to new students since 2014, supports online teaching and learning through iPad devices. This policy includes blended learning and teaching via mobile devices through an application which RSU Cyber University supports. Lecturers create online courses and use technology to manage their teaching and support blended learning for lecturers and students to interact well. Traditional learning styles such as books or non-animated learning media don't respond to learners in the new generation. As technology is more involved in teaching and learning through instructional media, including text, pictures, and animations, learning must be possible anytime and anywhere.

Teaching and learning through blended learning using mobile devices for instructional media, consisting of sound, images, animations, and communication between learners and lecturers, is a two-way

distance education (Nilsook, 2008). m-Learning is a part of e-Learning that uses instructional media to support distance learning. It is a new approach to education that supports learners' goals, allowing learners to study through mobile devices (Thienthong, 2004 cited in Nilsook, 2008). However, m-Learning has many limitations, such as learners' characteristics, place, time, and tools (Martin, Andueza, and Carro, 2006 cited in Nilsook, 2008).

Blended learning combines the advantages of learning in the classroom and online learning technology for efficient learning management. Learning in this form will present course content by combining online and onsite learning, with 30-79% of content presented via the internet, such as forums and presented in class (Bonk and Graham, 2006 cited in Khlaisang and Koraneekij, 2009). Blended learning draws the unique qualities of classroom and online learning by taking the suitability and qualifications of the learners into account (Sloan Consortium Foundation, 2005, cited in Khlaisang and Koraneekij, 2009).

2. Objectives

1) To explore courses that use iPad to manage teaching and learning at Rangsit University.

2) To examine the problems, obstacles, and suggestions of using the iPad in teaching and learning from the Rangsit University lecturers' perspective.

3) To investigate the problems, obstacles and suggestions of using the iPad in teaching and learning from Rangsit University students' perspective.

3. Materials and Methods

Study of Blended Learning on iPad at Rangsit University. It is survey research. Focusing on studying information by interviewing students and lecturers at Rangsit University in using iPad to manage classroom and learning. Including studying problems, obstacles, and suggestions for using iPad in online learning. An online questionnaire was used to collect this data.

Population and sample

The population used to study of Instruction Based on iPad at Rangsit University are lecturers from 33 colleges/faculties/institutions and students from 29 colleges/faculties as follows: lecturers of Rangsit University 1,081 people and students of Rangsit University 17,075 people (Personnel Office of Rangsit University).

The sample group used to study of Instruction Based on iPad at Rangsit University are lecturers from 33 colleges/ faculties/ institutions and students from 29 colleges/ faculties which the sample size was determined by stratified random sampling (Kanjanawasee, 2004) at a confidence level of 95% as follows; lecturers of Rangsit University 615 people and students of Rangsit University 1,446 people.

To select a representative sample by stratified random sampling was used as follows: 1) According to study the total of lecturers at Rangsit University, the population was divided into hierarchical divisions by stratification from 33 colleges/faculties to be a member of the sample proportional allocation study (Proportional Allocation), totaling 615 people from 33 colleges/faculties/institutions details as shown in the Table 1.

To study the total of student population at Rangsit University, the university is divided into two hierarchical classes, namely College/Faculty/Institute and 4-year classes. A total of 29 Colleges/ Faculties/Institutes were identified in the first hierarchy, and the second hierarchy was classified into 4-year classes, which are tabulated in Table 2. In order to select a representative sample, a proportional allocation method was used. This involved randomly selecting students from both hierarchical classes to form a sampling group. The total number of students in the sampling group was 1,446, which included students from all 29 Colleges/Faculties/Institutes and all 4 years of study. The details of the sampling group are presented in Table 3.

Table 1 Random sampling from each college/faculty/institution into hierarchical divisions to become a member of the sample

No.	colleges/faculties/institutions	Population Number of lecturers (people)	Sample Number of lecturers (people)
1	College of Pharmacy	92	52
2	Faculty of Physical Therapy and Sport Medicine	30	17
3	Faculty of Medical Technology	38	22
4	College of Medicine	9	5
5	College of Biomedical Engineering	20	11
6	Faculty of Science	71	40
7	College of Oriental Medicine	45	26
8	College of Dental Medicine	77	43
9	Faculty of Radiological Technology	7	4
10	Faculty of Optometry	15	9
11	School of Nursing	53	30
12	Faculty of Agricultural innovation	5	3
13	Faculty of Biotech	5	3
14	Faculty of Food Technology	9	5
15	College of Engineering	86	49
16	College of Digital Innovation Technology	42	24
17	Aviation Institute	6	3
18	College of Liberal Arts	65	37
19	Faculty of Law	22	13
20	College of Communication Arts	60	34
21	College of Social Innovation	23	13
22	Rangsit English Language Institute	24	14
23	Faculty of Political Science	8	5
24	Faculty of Criminology and Justice Administration	8	5
25	Faculty of Economics	12	7
26	Faculty of Business Administration	42	24
27	College of Tourism, Hospitality and Sports	27	15
28	Faculty of Accountancy	13	7
29	College of Design	56	32
30	Faculty of Architecture	44	25
31	Rangsit University Conservatory of Music	31	18
32	Faculty of Digital Art	25	14
33	International College	11	6
	Total	**1,081**	**615**

Table 2 Population of students from 29 colleges/faculties/institutions for all 4 years

No.	colleges/faculties/institutions	Population of student in each year				Total of students for
		1	**2**	**3**	**4**	**4 years**
1	College of Pharmacy	259	190	187	168	804
2	Faculty of Physical Therapy and Sport Medicine	36	28	40	67	171
3	Faculty of Medical Technology	124	88	106	129	447
4	College of Medicine	157	136	133	124	550
5	College of Biomedical Engineering	61	62	64	45	232

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No.	colleges/faculties/institutions	Population of student in each year				Total of students for
		1	2	3	4	4 years
6	College of Oriental Medicine	41	43	56	67	207
7	College of Dental Medicine	112	117	104	98	431
8	Faculty of Radiological Technology	59	63	67	54	243
9	Faculty of Optometry	56	59	66	76	257
10	School of Nursing	179	91	93	131	494
11	Faculty of Agricultural innovation	69	35	27	23	154
12	Faculty of Food Technology	24	32	38	44	138
13	College of Engineering	316	409	305	323	1353
14	College of Digital Innovation Technology	135	108	103	129	475
15	Aviation Institute	40	52	67	80	239
16	College of Liberal Arts	385	432	368	390	1575
17	Faculty of Law	56	43	36	37	172
18	College of Communication Arts	403	411	484	649	1947
19	College of Social Innovation	27	48	64	99	238
20	Faculty of Political Science	77	90	109	120	396
21	Faculty of Economics	13	11	15	30	69
22	Faculty of Business Administration	451	444	489	572	1956
23	College of Tourism, Hospitality and Sports	332	310	370	410	1422
24	Faculty of Accountancy	61	98	104	115	378
25	College of Design	195	213	239	251	898
26	Faculty of Architecture	124	101	161	195	581
27	Rangsit University Conservatory of Music	62	61	61	60	244
28	Faculty of Digital Art	165	156	138	155	614
29	International College	31	159	107	93	390
	Total	**4,050**	**4,090**	**4,201**	**4,734**	**17,075**

Table 3 Random sampling of students all 4 years from 29 College/Faculty/Institute

No.	colleges/faculties/institutions	Population of student in each year				Total of students for
		1	2	3	4	4 years
1	College of Pharmacy	22	16	16	14	68
2	Faculty of Physical Therapy and Sport Medicine	3	2	3	6	14
3	Faculty of Medical Technology	11	7	9	11	38
4	College of Medicine	13	12	11	11	47
5	College of Biomedical Engineering	5	5	5	4	19
6	College of Oriental Medicine	3	4	5	6	18
7	College of Dental Medicine	9	10	9	8	36
8	Faculty of Radiological Technology	5	5	6	5	21
9	Faculty of Optometry	5	5	6	6	22
10	School of Nursing	15	8	8	11	42
11	Faculty of Agricultural innovation	6	3	2	2	13
12	Faculty of Food Technology	2	3	3	4	12
13	College of Engineering	27	35	26	27	115
14	College of Digital Innovation Technology	11	9	9	11	40
15	Aviation Institute	3	4	6	7	20

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No.	colleges/faculties/institutions	Population of student in each year				Total of students for
		1	2	3	4	4 years
16	College of Liberal Arts	33	37	31	33	134
17	Faculty of Law	5	4	3	3	15
18	College of Communication Arts	34	35	41	55	165
19	College of Social Innovation	2	4	5	8	19
20	Faculty of Political Science	7	8	9	10	34
21	Faculty of Economics	1	1	1	3	6
22	Faculty of Business Administration	38	38	40	48	164
23	College of Tourism, Hospitality and Sports	28	26	31	35	120
24	Faculty of Accountancy	5	8	9	10	32
25	College of Design	17	18	20	21	76
26	Faculty of Architecture	11	9	14	17	51
27	Rangsit University Conservatory of Music	5	5	5	5	20
28	Faculty of Digital Art	14	13	12	13	52
29	International College	3	13	9	8	33
	Total	**343**	**347**	**354**	**402**	**1,446**

The research instrument is an online questionnaire about online learning of lecturers and students at Rangsit University including problems, obstacles and suggestions for iPad utilisation in authentic of teaching and learning that's checking content validity by 3 qualified persons.

The data collection process involved three steps. Firstly, we investigated the opinions of lecturers on the use of iPads to manage their classrooms. Secondly, we gathered the opinions of students on the use of iPads in their classrooms. Finally, report the information on the utilization of iPads for instructional management to both lecturers and students, and develop an action plan for increasing online learning at Rangsit University.

For data analysis, the researcher used the mean (x) and standard deviation (S.D.) to evaluate the data. The results were then rated on a scale of five levels: very high, high, moderate, low, and very low (adapted from Brown, 2010).

4. Results and Discussion
4.1 Results
4.1.1 Lecturers
The purpose of this research was to assess the authenticity of instructional based on online teaching of lecturers at Rangsit University. Survey of subjects using iPad in teaching and learning at Rangsit University and studying problems, obstacles and suggestions from the perspectives of lecturers and students of Rangsit University by online questionnaire. The sample of this research was 615 lecturers from 33 colleges/faculties/institutions who received 340 questionnaires, representing 55.28 percent and 1,446 students from 29 colleges/faculties/institutions who received 794 questionnaires, representing 54.91 percent from the questionnaire. The online questionnaire was not completed by all of the samples of lecturers and students. This is because it was a voluntary online questionnaire. For the purposes of the research, the researcher analyzed and presented data using tables divided into 2 parts for lecturers and students.

Online learning management on iPad of lecturers from the number of respondents 340 people at Rangsit University The results are shown in Table 4.

Table 4 Number and percentage of online learning management of lecturers (n=340)

Online learning management	Number	Percentage
Online learning management	332	97.65
Face to Face	8	2.35

From Table 4, most of Rangsit University lecturers who responded to the questionnaire based on online learning management 97.65 percent and Face to Face 2.35 percent, respectively.

The results of the survey on instructional practices based on online learning among the 340 lecturers who responded at Rangsit University are shown in Table 5

Table 5 Instructional based on online learning of lecturer at Rangsit University (n=340)

Instructional based on online learning	Number	Percentage
Create online course on Rangsit LMS: lms.rsu.ac.th	94	5.41
Create online course on Cyber U LMS: rsucyber.rsu.ac.th	128	7.37
Create online course and send assignment via Google Classroom or Google Site	277	15.96
Send assignment and doing homework by students via Google Application (YouTube, Google Document, Google Sheet, Google Slide, Google Drive and Google Form)	294	16.94
Student learning via Application related to the field of study	6	0.35
Create online course via social media (Facebook Group, Line Group)	136	7.83
Online learning by Video Conferencing (Zoom, Google Meet, Microsoft Team)	422	24.31
Online Exam and Online Test (Google Form, Secretive, Quizziz)	317	18.26
Search Engine and doing homework (Google Search)	42	2.42
Application for game based learning (Kahoot, Bingo)	20	1.15

From Table 5, most of Rangsit University lecturers who responded to the questionnaire based on online instructional by live through the Video Conference such as Zoom, Google Meet or Microsoft Team, etc., representing 24.31 percent and allowing students to take the exam and take online quizzes such as Google Form, Socrative or Quizziz, etc., representing 18.26 percent, respectively.

The satisfaction of 340 lecturers with instructional practices based on online teaching and learning at Rangsit University is presented in Table 6.

Table 6 Mean and Standard Deviation of satisfaction with instructional based on online teaching and learning of lecturers at Rangsit University (n=340)

Satisfaction of instructional based on online learning	$\bar{x}$	S.D.	Level
Create online course on Rangsit LMS: lms.rsu.ac.th easily	2.88	1.23	Moderate
Create online course on Cyber U LMS: rsucyber.rsu.ac.th easily	2.82	1.14	Moderate
Create online classroom via Google Classroom, iTunes U, Microsoft Team or other Application easily by RSU Cyber U Training	4.19	1.17	High
Create Online Exam or Online Test via online exam Application (Socrative, Google Form, Exam Pod/Exam Plus, Quizziz) easily by RSU Cyber U Training	4.34	1.14	High
Online teaching easily via Video Conference Application (Zoom, Google Meet, WebEx, Microsoft team) by RSU Cyber U Training	4.31	1.05	High
Editing content in the course and give students homework at anytime and anywhere that has the Internet	4.39	0.71	High
Create online course via Applications by RSU Cyber U Training, insert various media for interesting course	3.92	0.86	High
Able to check homework or work of students in time In the event that the lecturer has a necessary cause must be absent from teaching or attend a meeting	4.36	0.75	High
Using the iPad in teaching and learning helps to improve the classroom environment.	3.61	0.77	High

Satisfaction of instructional based on online learning	$\bar{x}$	S.D.	Level
Using iPad for create content and send information or course content for students more conveniently	4.3	0.83	High
Apply Gamification in online course for stimulate students	2.73	0.88	Moderate
Total	**3.8**	**0.96**	**High**

From Table 6, it was found that satisfaction in instructional based on online teaching and learning the overall satisfaction with online teaching and learning is at a high level. When considering each aspect, it was found that most is at a high level, in particular, able to editing content in the course and give students homework at anytime and anywhere that has the Internet ($\bar{X}$=4.39), followed by being able to check homework or work of students in time In the event that the lecturer has a necessary cause must be absent from teaching or attend a meeting ($\bar{X}$=4.36) create online exam or online test via online exam application (Socrative, Google Form, Exam Pod/Exam Plus, Quizziz) easily by RSU Cyber U Training ($\bar{X}$=4.34), respectively.

Organizing the environment for using iPads for teaching and learning in the classroom of lecturers 340 respondents at Rangsit University. The results are shown in Table 7.

Table 7 Organizing the environment for bringing iPad to teaching and learning in the classroom of lecturers at Rangsit University (n=340)

Organizing the environment for bringing iPad to teaching and learning in the classroom	Number	Percentage
To work as a group to help each other in researching information and comment	322	49.85
Use problem-based learning by creating topics and join to find information for discuss, share opinions and find solutions together.	274	42.41
Use case studies and create questions for share opinions and discuss together.	26	4.02
Learn more from free online courses or from MOOCs	0	0
Learn more from Rangsit LMS or Cyber U LMS.	12	1.86
Study from simulations or role-plays online then make a point to share opinions and discuss together.	8	1.24
Never used an iPad for teaching and learning, because don't have tool.	4	0.62

Table 7 shows that among the Rangsit University lecturers who responded to the questionnaire on organizing the use of iPads for teaching and learning in the classroom, 49.85% reported working as a group to help each other in researching information and providing feedback, while 42.41% reported using problem-based learning by creating topics and collaborating to discuss, share opinions, and find solutions.

4.1.2 Students
Table 8 shows the preliminary status of the 794 students at Rangsit University, classified based on whether they received iPads from the university or not.

Table 8 Number and percentage of Preliminary status of students who receiving iPads from university (n=794)

Receiving iPads from university	Number	Percentage
Get an iPad	120	15.11
Not get an iPad	674	84.89

From Table 8, Rangsit University students who answered the questionnaire most of them did not get an iPad, accounting for 84.89 percent and get an iPad for 15.11 percent, respectively.

The results of the survey on iPad usage for learning among the 794 students who responded at Rangsit University are presented in Table 9.

Table 9 Students at Rangsit University use iPad for learning (n=794)

iPad for learning	Number	Percentage
Use iPad for learning	708	89.17
Don't use iPad for learning	86	10.83

Table 9 shows that among the students who responded to the questionnaire, 89.17% reported using iPads for learning, while 10.83% reported not using iPads for learning.

Table 10 presents the activities for which the 794 respondents at Rangsit University reported using iPads for learning.

Table 10 Number and percentage of Students's activities at Rangsit University use iPad for learning (n=5098)

Activities	Number	Percentage
Study in Rangsit LMS: lms.rsu.ac.th	442	8.67
Study in Cyber U LMS: rsucyber.rsu.ac.th	446	8.75
Study and submit assignments through Google Classroom or Google Sites	632	12.4
Use Google application to do homework and submit assignment (YouTube, Google Document, Google Sheet, Google Slide, Google Drive, Google Form)	620	12.16
Use application related to the field of study	432	8.47
Study in the group of subjects via social media (Facebook group, Line group)	616	12.08
Editing video clips for assignment.	354	6.94
Study through video conference (Zoom, Google Meet, Microsoft Team, WebEx)	576	11.3
For online exam and online test (Google Form, Secretive, Exam Pod, Kahoot, Quizziz)	434	8.51
Searching data resources for learning and to do homework	546	10.71

Table 10 shows that among the Rangsit University students who responded to the questionnaire, 12.40% reported using iPads to study and submit assignments through Google Classroom or Google Sites, while 12.16% reported using Google applications such as YouTube, Google Docs, Google Sheets, Google Slides, Google Drive, and Google Forms to do homework and submit assignments.

Table 11 presents the devices used by the 794 respondents at Rangsit University who reported not using iPads for learning.

Table 11 Number and percentage of device that student used instead of iPad for learning (n=794)

Devices	Number	Percentage
Don't use any devices	228	28.72
Android Tablet	8	1.01
Mobile Phone (iOS/Android)	340	42.82
Laptop Computer	191	24.06
Desktop Computer	27	3.4

Table 11 shows that among the Rangsit University students who responded to the questionnaire, 42.82% reported using a mobile phone (iOS/Android) as a substitute for iPads in learning, while 28.72% reported not using any devices.

The satisfaction levels of the 794 students at Rangsit University with using iPads for learning are shown in Table 12.

Table 12 Mean and Standard Deviation of student's satisfaction for learning with iPad at Rangsit University (n=794)

Satisfaction for learning with iPad	$\bar{X}$	S.D.	Level
Access to online course on Rangsit LMS: lms.rsu.ac.th easily	3.87	1	High
Access to online course on Cyber U LMS: rsucyber.rsu.ac.th easily	3.86	1	High
Convenient for online learning through Google Classroom, iTunes U applications or other applications	4.42	0.82	High
Convenient for taking online exams or online test (Socrative, Google Form, Quizziz, Exam Pod, Kahoot)	4.38	0.83	High
Convenient and easily to learn through video conference applications (Zoom, Google Meet, WebEx, Microsoft Teams)	4.42	0.79	High
Lecturers are ready to manage instructional based on online learning	4.19	0.81	High
Able to review lessons in the course anywhere and anytime with internet	4.41	0.8	High
The online course have multimedia (images, videos) which made the lesson more interesting.	4.37	0.81	High
Teachers create interesting online lessons. and easily to understand	4.06	0.85	High
Searching and access in various resources quickly	4.48	0.77	High
Able to follow up lessons or homework on time when student necessity to absent from class or lecturers unable to teach	4.42	0.8	High
Receive feedback from lecturer for submitting assignments and homework or asking about course content quickly	4.23	0.84	High
Lecturers are very good to manage online classes.	4.18	0.83	High
Online learning by using iPad is easily to access into the lessons	4.45	0.81	High
University distributed iPad that it convenient for students to have devices for online learning.	4.34	1.04	High
Students apply the application for learning into daily life	4.45	0.77	High
Using iPad for learning, submit homework, take notes and instead of paper.	4.54	0.79	Very High
Total	**4.3**	**0.84**	**High**

Table 12 shows that overall satisfaction with using iPads for learning among the respondents was high. When considering specific aspects, the highest levels of satisfaction were reported for using iPads for learning, submitting homework, taking notes, and reducing paper usage ($\bar{X}$=4.54); searching and quickly accessing various resources ($\bar{X}$=4.48); easily accessing online lessons using iPads ($\bar{X}$=4.45); and applying learning applications in daily life ($\bar{X}$=4.45).

The applications most commonly used for online learning among the 782 respondents at Rangsit University who answered this question are shown in Table 13.

Table 13 Number and percentage of the most application used in online learning of the students 794 people at Rangsit University (n=5339)

Application	Number	Percentage
Moodle (lms.rsu.ac.th, rsucyber.rsu.ac.th)	202	3.78
Google Classroom	748	14.01
Zoom Meeting	730	13.67
WebEx	100	1.87
Microsoft Team	202	3.78
Google Meet	942	17.64

Application	Number	Percentage
Line Group	614	11.5
Facebook Group	224	4.2
Google Form	785	14.7
Socrative	146	2.73
Exam Pod	54	1.01
Quizziz	247	4.63
Kahoot	325	6.09
Google Workspace	2	0.04
Canva	4	0.07
Padlet	2	0.04
Goodnote	4	0.07
VooV Meeting	4	0.07
Microsoft Office	2	0.04
Inshot	2	0.04

From Table 13, students at Rangsit University answered the questionnaire about the most application used in online learning is Google Meet for 17.64 percent and Google Form for 14.70 percent, respectively.

4.2 Discussion

This survey research focuses on instruction based on iPads at Rangsit University. The study involves gathering information from students and lecturers who use iPads to manage online teaching and learning. The research investigates the problems, obstacles, and recommendations related to using iPads for teaching and learning purposes. The findings of this study will help to develop strategies to support online learning with iPads at Rangsit University.

The result can be discussed as follows.

1. The instruction based on iPads at Rangsit University questionnaire for both lecturers and students were examined for content validity by three experts in educational technology using the Index of Item Objective Congruence (IOC) (Tuntavanitch and Jindasri, 2018). All items in both sets were found to be accurate.

2. In the authentic assessment of online teaching and learning at Rangsit University, it was observed that most lecturers in the science-health group utilized iPads for online teaching and learning through video conference systems such as Zoom, Google Meet, or Microsoft Teams. Other activities that are used include online exams and tests for students through platforms such as Google Forms, Socrative, or Quizziz. According to Phramahasayan Pemasilo's research in 2021, Google Meet is a video conferencing program capable of facilitating easy presentations or conferences. Zoom is a cloud-based video conferencing program that allows for video calls to communicate and screen sharing to enhance comprehension of the work style. Microsoft Teams is a group chat service that integrates with Office 365 for enterprises, similar to Slack.

3. The Science-Health group were the most commonly taught and learned using iPads, followed by subjects in the Economics-Business group.

4. From the overall satisfaction survey, it was found that the instruction based on the iPad at Rangsit University received high levels of satisfaction from lecturers, particularly in the use of the iPad to edit course content, give students homework anytime and anywhere they have an internet connection, and check students' homework or assignments in real-time. The iPad was also used to create a classroom environment where students could engage in workgroup activities such as searching and sharing opinions. Consistent with the research of Ruth Diko Wario, Bonface Ngari Ireri, and Lizette De Wet (2016), lecturers intending to use mobile learning need to build students' confidence, attention, and provide user guides on the use of instructional technology to achieve learning outcomes. Finally, the lecturer must be in control of the class by providing learning activities that engage students with their mobile devices.

5. The overall satisfaction survey of most students in the Faculty of Science-Health group was found at a high level of satisfaction with instruction based on the iPad at Rangsit University. The iPad was especially useful in attending and submitting assignments through Google Classroom or Google Sites, and using Google applications such as Google Meet, YouTube, Google Document, Google Sheet, Google Slide, Google Drive,

Google Forms, and others for homework. Additionally, students found it convenient to take notes on the iPad instead of using paper, and to quickly search for information and access resources. However, some students did not use iPads for learning due to various reasons, including budget constraints and the convenience of using a mobile phone or laptop computer.

This finding was in consistent with the research of Ruth Diko Wario, Bonface Ngari Ireri, and Lizette De Wet (2016), which revealed that students perceived the iPad as a good learning tool, which enabled them to engage in learning activities, connect with classmates, and explore new ideas. The research also highlighted that the iPad easy to use and gained confidence and attention while learning. Most students indicated that they would purchase an iPad after the end of the semester. The results also showed that ease of use, confidence, and attention were critical predictors of students' perception of the iPad as a learning tool. This research recommends the inclusion of the iPad as an instructional mobile device for higher learning institutions in rural catchment areas.

5. Conclusion

1. From the overall satisfaction survey, it was found that the instruction Based on iPad at Rangsit University of the lecturers at a high level, especially using iPad to editing content in the course and giving students homework at anytime and anywhere that has the Internet and able to check students' homework or assignments in real-time, in the event that the lecturer has a necessary reason must be absent from teaching or attending a meeting and can design environment in the classroom environment for students to use iPad for workgroup such as searching and sharing the opinions.

2. According to the overall satisfaction survey of students who participated in the study, mainly from the Faculty of Science-Health group, the instruction based on iPads at Rangsit University was perceived positively. The students found the iPad to be useful in attending and submitting assignments through Google Classroom or Google Site, as well as for using various Google applications, such as Google Meet, YouTube, Google Document, Google Sheet, Google Slide, Google Drive, and Google Form, among others. The iPad was also used to take notes and replace paper, while providing quick access to information and resources. However, some students did not use iPads as a learning device and instead used mobile phones (iOS/Android) or laptop computers due to various reasons. These included budget constraints, convenience, and some tasks being unable to be performed on an iPad, or the University not providing them. Carrying an iPad was also found to be inconvenient for some students.

3. Using online questionnaires to survey the entire university may not achieve the desired sample size for the research due to the limitations of email communication. A memorandum is required to request permission to enter classes and ask the lecturers who teach the subjects to have their students complete the survey. The lecturers must then request support from the faculty to help publicize the survey.

4. To assess the instruction based on iPads at Rangsit University, the researcher has to observe the classroom in order to obtain information in an authentic situation, identify the obstacles, problems, and suggestions from the sample group, which provides real data.

6. Acknowledgements

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