

Effectiveness of Microsoft Teams: A Study of Perception among Tertiary Learners

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Abstract: The outbreak of the pandemic had resulted in numerous damages and issues in every part of people's life. In terms of Education, there is a sudden shift from face-to-face classes to online learning. Different types of Learning Managements Systems (LMS) were used by the schools. Microsoft Teams is one of it. The purpose of this study was to explore and determine the perceptions of the undergraduates of Western Mindanao State University on the use of Microsoft Teams. There are several studies that have been conducted about the effectiveness of Microsoft Teams, however, previous studies appear to have had a dearth of participants. A total of 419 respondents participated in the present study. Independent-samples T-test, descriptive statistics, and one-way ANOVA were used to code and analyze the data in this study. Results showed that Microsoft Teams was rated as "Average" in terms of its effectiveness compared to other online learning platform, and the respondents found its features as useful, simple and easy to use. However, it needs faster internet connection for the Microsoft Teams to work well.

Keywords: Learning Managements Systems (LMS), online learning, Microsoft Teams.

1. INTRODUCTION

The covid-19 has created major damages in everyone's lives. Particularly, in education. Despite of the pandemic, ways have been made by the authorities and those who are in higher position to make sure the learning still takes place (Wea & Kuki, 2021). Numerous ways have been done by the students and teachers for communication, which is the Learning Management System (LMS). LMS have become the most important and helpful tool in distance education (Zastrocky, et al., 2007). The Learning Management System are carried out on a large-scale, in school, institution and universities. And then adopted by the teachers and used this in different ways to support the learning of the students and the course management (McGill, et al., 2008). There are different kinds of LMS that the schools and universities are using, one of which is the Microsoft (MS) Teams. According to Microsoft (2018), MS Teams is a cloud-based application that puts together the apps, conversations, meetings and files in one LMS. In addition to this, the use of MS Teams has improved the process of teaching-learning, the ability of the teachers to grade and monitor the learners' activities and assignments, as well as the classroom organization and the teacher-student interaction (Alameri, et al. 2020). Even though there were already studies that have been conducted about the students' perceptions on the use of MS Teams, however, this study has not yet been performed to State University students in a non-metropolitan area, in our country, the Philippines. From Google Classroom and Google Meet as the main online learning tools in the past A.Y. 2020-2021, the instructors and students of Western Mindanao State University (WMSU) are now required to use the Microsoft Teams as the main LMS for the A.Y. 2021-2022. Therefore, the purpose of this study is to explore and determine the perceptions of the students of WMSU on the use of MS Teams as their online learning tool and its effectiveness. Additionally, to find out if the MS Teams is user-friendly.

Research Questions

1. What are the levels of efficacy of the Microsoft Teams as a Learning Management System in terms of the following areas?
 - a. Basic functions
 - b. Assessments
 - c. Features
 - d. General
2. Is there a significant difference on the perception of the students on the effectiveness of Microsoft Teams in terms of gender?
3. Is there a significant difference on the perception of the students on the effectiveness of Microsoft Teams as a LMS in the different year levels?
4. How do the students perceive in general the effectiveness of Microsoft Teams?

2. REVIEW OF RELATED LITERATURE**Online Learning**

Online learning consists of learning resources that are accessible through the use of a technological device (Carliner, 2004) and, it is an updated version of distance learning (Benson, 2002). Online learning can be used asynchronously and/or synchronously (Moore, Dickson-Deane, & Galyen, 2011). Ally, M (2008) listed some of the benefits of online learning for both students and the teachers. For students, they can access the online learning materials whenever and wherever. Also, students can gain current and new instructional resources via Internet. On the other hand, for the teachers, teaching can take place at all time, and wherever. It now takes a little effort for providing data that is suitable for students' needs (p.17). However, some authors have stated that the effectiveness of online learning differs from various academic institutions worldwide. And that it is not so much effective to those areas that are accustomed to traditional (face-to-face) type of learning compared to those areas that are technologically advanced. (Basilaia & Kvavadze, 2020; Salam et al., 2017; Wains & Mahmood, 2008). For the education to continue in this time of pandemic, institutions have shifted from traditional face-to-face learning to online learning. Wherein this type of learning environment, it has pros and cons to both the students and the teachers. However, students and teachers need to adapt in this kind of learning, today.

Microsoft Teams as a Learning Management System

Microsoft Teams is part of Microsoft 365 and Finnigan (2020) stated that this platform is a hub for "workplace conversations", "collaborative teamwork", "video chats" and sharing of document all in one Teams- a feature of Microsoft Teams. In addition to this, the Microsoft Teams platform can be utilized through online and/or offline. (Poston, et al., 2019). A great number of studies has been conducted about the perceptions of using Microsoft Teams. A study that was conducted by Juanis (2020), it was found out that for the students to have an enthusiasm in online learning, the online learning tool that they are using shall be familiar to them. And, the advantage of using Microsoft Teams helps to strengthen the relationship of its users. (Poston, Apostel, & Richardson, 2019). Besides that, the results of the other studies show that students have a positive outlook of using the said app (Wea & Kuki, 2021). And Gayathri, (2020) stated that Microsoft Teams is a helpful e-learning platform and the most chosen online learning tool that can be used for both online and mixed-mode learning. However there also drawbacks in using the Microsoft Team, it requires faster internet connection (Gayathri, 2020) and it is a bit costly (Purba, 2021). Microsoft Teams has good features, according to the studies it has benefits as well as its drawbacks. The results of the existing studies will help me throughout the present study. This study focuses on the perceptions of the students of Western Mindanao State University (WMSU) who are currently using the Microsoft Teams as their main online learning tool required by the University.

3. METHODOLOGY**Research Design**

This study adopted the quantitative research design. The present study aims to examine the students' perception on the use of Microsoft Teams; therefore, a descriptive approach was used. Furthermore, the present study also aims to evaluate the effectiveness of the Microsoft Teams as an online learning tool. For the data collection, an online survey was used.

Research Instrument

The present study adapted a structured questionnaire by Gayathri, (2020). The adapted questionnaire consists a total of 18 items which divided into 4 parts: *basic functions*, *assessment*, *features*, and *general*. A Five-point Likert Scale was used in items 1-17 in which, 5= strongly agree, 4= agree, 3= neither agree nor disagree, 2 = disagree, and 1 = strongly disagree. While for item 18, to determine the effectiveness of Microsoft Teams compared to other online platforms in general, a 6-point Likert Scale was used, which 6 = excellent; 5 = good; 4 = average; 3 = below average; 2 = poor; and 1 = not used any tools before.

The researcher conducted a pilot testing to determine the reliability of the instrument. The instrument was pilot tested to 100 students of Western Mindanao State University which they are no longer include in the final gathering. The majority of the respondents are female, composing 58% of the total participants and 42% of the respondents are male. Alpha Cronbach was used to analyze the reliability of the whole instrument and to its subscales. The reliability of the basic function subscale is ($\alpha = .778$), for the Assessment subscale is ($\alpha = .869$) for the Functions and General subscale is ($\alpha = .837$). Lastly, the reliability for the whole instrument is ($\alpha = .911$) which means that the adapted instrument is reliable.

Respondents

A total of 419 undergraduates of Western Mindanao State University participated in the present study. In terms of gender distribution, the majority are females (65.9% or 276). For the females, the youngest is age 18 and the oldest is age 26, for the males, the youngest is age 18 and the oldest is age 32. The respondents' age ranges from 18 to 32 with mean score of 20.10 (SD-1.66). Furthermore, 39.9% or 167 of the respondents are first year, 17.7% are second year, 19.8% are third year and 22.7% are fourth-year students.

4. RESULTS

Responses on the *Basic Functions*, *Assessment and Features* subscales were coded and analyzed. Descriptive statistics, mean (M) and Standard Deviation (SD) were used. Table 1.0 presents the analysis of the data. Included in the table are the participants' responses in each item of the questionnaire (frequencies and equivalent percentages), mean (M), standard deviation (SD), and Interpretation (Interp.); 1.0 – 1.79 (Strongly Disagree [SD]), 1.80 – 2.59 (Disagree [D]), 2.60 – 3.39 (neither agree nor disagree [NAND]), 3.40 – 4.19 (Agree [A]), and 4.20 – 5.00 – (Strongly Agree [SA]).

Perceived Effectiveness of Microsoft Teams based on its Basic Functions

Table 1.0 Respondents' Perception on the use of Microsoft Teams: Basic Functions

#	SD	D	NAND	SA	A	Mean	Interp.
1	Joining an existing TEAMS is simple and easy						
	32 7.6%	89 21.2%	129 30.8%	126 30.1%	43 10.3%	3.14	NAND
2	I am comfortable using Microsoft Teams						
	57 13.6%	112 26.7%	130 31%	95 22.7%	6 25%	2.80	NAND
3	Microsoft Teams works well even if the internet speed is low						
	263 62.8%	98 23.4%	34 8.1%	17 4.1%	7 1.7%	1.58	SD
4	CHAT (conversations) with FACULTY option is easy						
	18 4.3%	75 17.9%	157 37.5%	75 32%	35 8.4%	3.22	NAND
5	Voice Calling FACULTY or INDIVIDUAL registered member is simple and easy						
	23 5.5%	78 18.6%	168 40.1%	121 28.9%	29 6.9%	3.13	NAND
6	Using CHAT (conversation) option for discussion during class is easy						
	30 7.2%	68 16.2%	130 31%	149 35.6%	42 10%	3.25	NAND
Overall						2.86	NAND

N = 419

The data analysis given in the Table 1.0 reveals that the respondents are neutral on the effectiveness of MS Teams in terms of its Basic Functions (items 1-3) ($M = 3.14$, $SD = .70$). The result in item 1 revealed that 129 or 30.8% of the respondents felt neutral on the given statement, the result for the item 1 differs from the result of the study conducted by Gayathri, (2020) in VIT University, Vellore – campus, Tamilnadu, India where 23 or 92% of the respondents agreed with the stated statement and the study conducted by Arunraj, (2021) in VIT Campus in India, where most of the students also agreed to the statement. Result in item 2 revealed that majority of the respondents are neutral on the given statement, unsure if they're comfortable using MS Teams. Result in item 3 revealed that 263 or 62.8% of the respondents "Strongly Disagrees" that, "*MS Teams works well even if the internet speed is low*", this concurs to the findings in the study of Gayathri, (2020) and Arunraj, (2021) where majority of the respondents also disagreed to the aforementioned statement. This means that, for the students to be able to use the MS Teams, they need a better or fast internet connection. Results in items 4,5, & 6 revealed that in terms of Discussion, the results revealed the respondents are neutral with the given statements; *CHAT (conversations) with FACULTY option is easy*, *Voice Calling FACULTY or INDIVIDUAL registered member is simple and easy*, and *Using CHAT (conversation) option for discussion during class is easy*. The dissimilarity and similarities of the result of the current study and of the studies conducted by Gayathri, (2020) and Arunraj, (2021) can be explained by the difference on the population of the studies, where Gayathri's sample size consists of $n=25$ respondents only and Arunraj's population size consists of $n=28$ respondents only. While the current study's sample size consists a total of $n=419$ respondents.

Table 1.1 Respondents' Perception on the use of Microsoft Teams: Assessment subscale

#	SD	D	NAND	SA	A	Mean	Interp.
7	Submitting multiple choice in Quiz is simple and easy						
	15 3.6%	35 8.4%	97 23.2%	203 48.4%	43 10.3%	3.36	A
8	Submitting short and long answer in Quiz is simple and easy						
	25 6%	57 13.6%	126 30.1%	165 39.4%	46 11%	3.35	NAND
9	Submitting ASSIGNMENT is simple and easy						
	18 4.3%	52 12.4%	96 22.9%	184 43.9%	69 16.5%	3.55	A
10	Uploading ASSIGNMENT is simple and easy						
	28 6.7%	69 16.5%	121 28.9%	143 34.1%	58 13.8%	3.32	NAND
11	Viewing GRADES in quiz and assessment is simple and easy						
	14 3.3%	45 10.7%	110 26.3%	191 35.6%	59 14.1%	3.56	A
Overall						3.43	A

Table 1.1 presents the perceived effectiveness of MS Teams in terms of Assessment. The result shows that the respondents "agree" that submitting *multiple choice*, *short and long answer in Quiz*, *uploading and submitting Assignment* and *viewing Grades is simple and easy*. The result in item 7 revealed that the respondents agree that "*Submitting multiple choice in Quiz is simple and easy*" ($M=3.65$, $SD=1.040$) the results corroborate to the findings in the study of Gayathri's and Arunraj's where their respondents had a positive opinion about the statement in item 7. Result in item 8 shows that the respondents are neutral in the given statement, this result opposes in the findings of Gayathri's and Arunraj's, where their respondents disagreed to the statement. The result in item 8 revealed that the respondents agree to the stated statement, this result is in consonance to the findings of Gayathri's & Arunraj's. Result in item 10 shows that the respondents felt neutral, this result is different in the findings of Gayathri & Arunraj where, their respondents agreed on the statement in item 10. Results in item 11 shows that the respondents agreed that *viewing Grades in quiz and assessment is simple and easy*. This finding reflects the result of the study of Gayathri, (2020) and Arunraj, (2021).

Table 1.2 Respondents' Perception on Microsoft Teams' Features

#	SD	D	NAND	SA	A	Mean	Interp.
12	Recorded class is found useful when we absent during the class						
	32 7.6%	24 5.7%	95 22.7%	140 33.4%	142 33.9%	3.86	A
13	CLASS NOTEBOOK is found useful						
	35 8.4%	57 13.6%	155 37%	109 26%	63 15%	3.25	NAND
14	Giving ATTENDANCE during the class is simple and easy						
	11 2.6%	27 6.4%	118 28.2%	180 43%	83 19.8%	3.70	SA
15	Using FORMS for giving a quick response during class is simple and easy						
	21 5%	21 5%	111 26.5%	185 44.2%	60 14.3%	3.52	A
16	Uploading *.doc, *.pdf, *.jpeg as an attachment or in the FILE is easy						
	26 6.2%	57 13.6%	90 21.5%	182 43.4%	64 15.3%	3.47	A
17	Additional apps which are embedded in the Microsoft Teams will be useful						
	26 6.2%	56 13.4%	195 46.5%	106 25.3%	36 8.6%	3.16	NAND
Overall						3.50	A

Table 1.2 provide the descriptive analysis of the perceived effectiveness of MS Teams in terms of its Features. The results revealed that the respondents "agree" (M=3.50, SD=.718) the *Features* of MS Teams are found useful, simple and easy to use. Result in item 12 revealed that the students "agreed" on the aforementioned statement. This finding supports the result of the study of Gayathri and Arunraj. Result in item 13 shows that students are neutral on the given statement. This finding is different from the result of the study of Gayathri and Arunraj where their respondents had a positive opinion about the given statement. Result in item 14 revealed that the students are "strongly agree" in the given statement and the result in item 15 shows that the respondents "agree" in the aforementioned statement, this finding supports the result of the study of Gayathri and Arunraj. For item 16, the result shows that the students "agree" to the given statement, this also supports the finding of the study of Gayathri and Arunraj. For item 17, the result revealed that the respondents are neutral on the aforementioned statement, which is different from the findings of the study of Gayathri and Arunraj, where their respondents agreed on the given statement.

Perceived Effectiveness of Microsoft Teams in General

Responses on the Effectiveness of Microsoft Teams in *General* were coded and analyzed. Descriptive statistics, mean (M) and Standard Deviation (SD) were used. Table 2.0 presents the analysis of the data. Included in the table are the participants' responses in each item of the questionnaire (frequencies and equivalent percentages), mean (M), standard deviation (SD), and Interpretation (Interp.); 1.0-1.82 (Not used any tools before [N]), 1.83-2.65 (Poor [P]), 2.66-3.48 (Below Average [BA]), 3.49-4.31(Average [A]), 4.32-5.14 (Good [G]) and, 5.15-6.0 (Excellent [E]).

Table 2.0 Respondents' Perception on the use of Microsoft Teams in General

#	E	G	A	BA	P	A	Mean	Interp.
18	When compared to other platforms that you have used such as Zoom, Google Meet, Google Classroom, Schoology, Go to meeting for online discussions, how will you rate Microsoft Teams							
	14 1.7%	73 14.6%	158 25.3%	106 37.7%	61 17.4%	7 3.3%	3.65	A

Table 2.0 presents the descriptive analysis on how the students perceive in General the Microsoft Teams. The result revealed that the Microsoft Teams was rated as "Average" (M=3.65, SD=1.082) compared to other platforms or LMS. This finding is different from the result of the study of Gayathri (2020) where the respondents rate MS Teams as "good" and from the result of the study of Arunraj (2021) where the respondents rate MS Teams as "Excellent".

To determine if there's a significant difference on the Perceived Effectiveness of Microsoft Teams as LMS across gender (male and female), the data set was analyzed using inferential and parametric statistics known as T-test for independent samples.

Table 3.0 Perceived Effectiveness of Microsoft Teams as LMS across gender

Variables					
Dependent	Independent	N	Mean	SD	Sig. (2-tailed)
Basic Functions	Male	143	2.85	.71	.876
	Female	276	3.86	.72	
Assessment	Male	143	3.40	.86	.570
	Female	276	3.45	.83	
Features	Male	143	3.47	.69	.468
	Female	276	3.52	.73	
General	Male	143	3.71	1.06	.419
	Female	276	3.62	1.09	
Overall	Male	143	3.23	.640	.557
	Female	276	3.27	.651	

Based on the data presented in Table 3.0, there is no significant difference on the perception on the effectiveness of Microsoft Teams as a LMS across gender. (sig. value = .557 > α = 0.05). Gender has no significant influence on the current study, nor changes on the responses across gender.

Table 3.1 Gender difference on the Perceived Effectiveness of Microsoft Teams in General

Variables					
Dependent	Independent	N	Mean	SD	Sig. (2-tailed)
General	Male	143	3.71	1.06	.419
	Female	276	3.62	1.09	

The analysis presented in Table 3.1 revealed that there is no significant difference on the perceived effectiveness of Microsoft Teams in General across gender. (sig. value = .419 > α = 0.05). This means that the difference between male and female does not have any influence in this study, and it does not change the results of the current study.

To determine the difference in perception on the effectiveness of MS Teams as a LMS among different year levels, one-way analysis of variance (ANOVA) was performed.

Table 4.0 Result of One-way ANOVA for the Difference of Perception on the Effectiveness of MS Teams as a LMS in each subscale in terms of Year Levels

Subscale		Mean Square	Sig.
Basic Functions	Between Groups	1.012	.460
	Within Groups	1.173	
Assessment	Between Groups	.395	.502
	Within Groups	.502	
Feature	Between Groups	1.435	.107
	Within Groups	.701	
General	Between Groups	.847	.177
	Within Groups	.512	

Table 4.0 shows the results of the one-way ANOVA. As shown in the table there was not a statistically significant difference ($p > 0.5$) in the perceptions among different year levels in terms of the effectiveness of MS Teams as an LMS. The p-values are greater than 0.05 which implies that the perceptions on the effectiveness of Microsoft Teams among different year levels are statistically alike. Since the p-values are greater than 0.05, running post hoc is not anymore needed.

5. CONCLUSION

With the introduction of Microsoft Teams and the continuing impact of virtual learning platforms on learning, the current study provides a timely and much-needed space for reflection on the dynamics and outcomes of technological advances we observe in the world around us (Almodaires, et al., 2021). The current study looks on the perception of the undergraduates in terms of the effectiveness of Microsoft Teams as a Learning Management System, below are the key findings in the current study:

- 1.) Microsoft Teams rated as “Average” in term of its effectiveness compared to other online learning platform.
- 2.) In terms of its *features* and in *assessments* part, the MS Teams is found useful, simple and easy to use.
- 3.) MS Teams requires fast internet connection for the application to work well.
- 4.) There is no significant difference on the perception on the effectiveness of Microsoft Teams as a LMS across gender.
- 5.) There is no significant difference on the perceived effectiveness of Microsoft Teams in General across gender.
- 6.) There is no significant difference on the perceptions of the students on the effectiveness of Microsoft Teams across different year levels.

6. RECOMMENDATION

The current study is only limited to the students in a certain State University here in the Philippines, future research could focus on the teachers’ perceptions and also to the working class, who uses MS Teams for their meetings and as their means of communication. In addition to that, the current study only focuses on the quantitative result, future research could use mixed method or cross-sectional study to explore and determine the drawbacks and benefits of using MS Teams, as well as to find out other difficulties or challenges faced by the users.

REFERENCES

- [1] Abdullah A. Almodaires, Faisal M. Almutairi, & Tareq E. A. Almsaud. (2021). Pre-Service Teachers’ Perceptions of the Effectiveness of Microsoft. *International Education Studies*, 14, 108-121.
- [2] Ally, M. (2008). Foundations of educational theory for online learning. *Online and Distance Education*, 15-44.
- [3] Basilaia, G., & Kvavadze, D. (2020). Transition to Online Education in Schoola during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Geogia. *Pedagogical Research*, 5(4), 1-9.
- [4] Benson, A. (2002). Using online learning to meet workforce demand: A case study of Stakeholder Influence. *Quarterly Review of Distance Education*, 3(4), 443–452.
- [5] Cardenas, J., Castellanos, V., Gonzales., & Choco M. (2021). Teachers' Perception and Evaluation of the Success of Microsoft Teams Learning Management System at Walk Technical High School. *PCMIS@UB*, 4(1).
- [6] Carliner, S. (2004). An Overview of Online Learning. *VNU Business Media*.
- [7] Gayathri, R. (2020). Efficacy of Microsoft Teams During COVID-19-A Survey.
- [8] Juanis, A. A. (2020). Microsoft Teams As An Online Learning Tool : Exploring The Students. *International Conference on Multidisciplinary Approaches in Social Sciences*, 1-9.
- [9] Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). -learning, online learning, and distance learning environments: Are they the same? *The Internet and Higher Education*, 14(2), *The Internet and Higher Education*.
- [10] Namachivayam, A. (2021). An Appraisal of Microsoft Teams and Its Features. 462-478.
- [11] Olugbade, D., & Olurinola, O., (2021). Teachers' Perception of the Use of Microsoft Teams for Remote Learning in Southwestern Nigerian Schools. *African Journal of Teacher Education*, 10(1), 265-281.

- [12] Purba, L. (2021). Microsoft tams 365 and online learning: The student's perception. *Jurnal Pendidikan Kimia*, 13(2), 130-136.
- [13] Rojabi, A. (2020). Exploring EFL Students' Perception of Online Learning via Microsoft Teams: University Level in Indonesia. *English Language Teaching Educational Journal*, 3(2), 163-173.
- [14] Salam, S., Jianqiu, Z., Pathan, Z. H., & Lei, W. (2017). Strategic barriers in the effective integration of ICT in the Public Schools of Pakistan. *International Conference on Computer Science and Artificial Intelligence*, 169-172.
- [15] Wains, S. I., & Mahmood, W. (2008). Integrating m-learning with e-learning. *Proceedings of the 9th Conference on Information Technology Education*, 31-37.
- [16] Wea, K., & Kuki A., (n.d.). Students' Perception of Using Microsoft Teams Application in Online Learning During the Covid-19 Pandemic. *Journal of Physics: Conference Series*.