

Students' Evaluation of Language Teaching and Learning Using Microsoft Teams

Fazlinda Hamzah, Suzzana Othman^{*}, Mohd Azlan Shah Sharifudin, Soo Yew Phong

Academy of Language Studies, Universiti Teknologi MARA, UiTM Melaka Campus, 78000 Alor Gajah, Melaka, Malaysia

*Corresponding Author

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ABSTRACT

This study sets out to investigate students' language learning experiences, interactions, and assessment achievements in using Microsoft Teams, and to discern potential correlations among these components. The study was conducted using mixed-method approach via the use of a survey and focus group discussion. The survey was administered to 168 students from a university in Malaysia, the items of which comprise demographic information, learning experiences, interaction patterns, and assessment achievements. Additionally, to validate the results of the survey, a focus group discussion was conducted. Findings indicate that students have a positive outlook of their language learning experiences, interactions and assessment achievements on Microsoft Teams, and that there were correlations identified among students' interactions, assessments, and learning dimensions. This study highlights the importance of educators' understanding of Microsoft Teams' capabilities and limitations to enhance language learning outcomes and students' learning experiences. Furthermore, to enrich user experience, teaching and learning should be tailored to leverage Microsoft Teams effectively and this includes fostering meaningful interactions, designing engaging assessments, and utilizing the platform's features. Though the study focuses on Microsoft Teams, it still offers valuable insights into optimizing other online classroom platforms for language education.

Keywords: Language learning, Microsoft Team, Online learning, Online classroom, Students' perceptions,

INTRODUCTION

The rapid growth of technology in recent years has revolutionized the way we learn, including language learning. Online classroom platforms provide flexible and accessible learning settings which are progressively supplementing, and in some cases, replacing traditional classroom-based language training (Xie et al., 2020). One platform that has emerged as a significant tool in offering instructors and students with a full digital environment for remote education is Microsoft Teams. Educational institutions throughout the world were forced to shift to remote learning due to COVID-19 epidemic(Pokhrel & Chhetri, 2021). This transition has resulted in a greater dependence on technology, ultimately hastening the growth of virtual classroom platforms such as Microsoft Teams to support language learning. Given the scenario, an in-depth investigation of students' perspectives on online language training using Microsoft Teams is in order for the purpose of understanding students' opinions, experiences, and issues with online language learning as they are critical for educators, administrators, and developers seeking to improve the efficacy and efficiency of language education delivery in the digital arena. Researchers may acquire useful insights into the strengths, limits, and opportunities for development of this online learning medium by evaluating the experiences of students who use Microsoft Teams as a learning platform.

Due to its unique linguistic terrain, Malaysia, a thriving multicultural nation, places a high value on language instruction. With diverse population and languages, language acquisition is critical in developing efficient communication, national unity, and cultural understanding. The COVID-19 outbreak and following lockdown measures compelled Malaysian educational institutions to quickly switch to online learning, making platforms



like Microsoft Teams indispensable to the language learning experience. Language acquisition includes not only language proficiency but also cultural awareness and efficient communication in various social circumstances and this rendersresearch on Malaysian students' perspectives on online classrooms such as Microsoft Teams as crucial, though it might add to the continuing debate on educational technology uptake and policymaking. Malaysia, like many other nations, is grappling with the challenges of incorporating technology into its educational system (Muhamad Khairul Ahmad et al., 2019). Policymakers may use insights obtained from students' experiences to develop guidelines and programs that can effectively employ digital platforms for language learning while addressing possible problems and guaranteeing fair access for all students.

Statement of Problem

In recent years, online language learning has grown in popularity, accessibility, and necessity. Online educational platforms such as the likes of Microsoft Teams and Google Classroom have been developed to meet that growing demand and they offer features which are otherwise non-existent or lacking in a traditional classroom setting to be utilized by learners (Yanuar Rizka Wijayanto et al., 2021).

For example, Microsoft Teams offers an all-in-one platform for live video lessons, screen sharing, collaboration, and discussion channels. The recording capability allows for class replay, and mobile accessibility allows for onthe-go study. Integration with other Microsoft applications allows easy access to new resources, and its security features prioritize students' privacy. Moreover, because of its scalability, Microsoft Teams is a strong and convenient platform for successful online language learning. Furthermore, it allows everyone, regardless of location, to access language courses and resources (Riadh Jeljeli et al., 2022). Learners may connect with teachers, materials, and communities from all around the world, removing distance and travel obstacles.

However, the efficiency of online language learning depends on a variety of elements, including students' motivation, dedication, learning style, and the quality of the online materials or courses used. Students' perception of the platform also directly impacts their motivation and engagement in the learning process. Students are more likely to actively participate and put effort in their language learning activities if they believe online platforms such as Microsoft Teams to be user-friendly, dynamic, and successful.

In other words, students' positive view on online web assisted learning will aid their learning and yield in successful results (Paris, 2004). Students' motivation and engagement may diminish if they have unfavorable opinions of the platform, such as finding it incomprehensible or encountering technical issues (Gillett-Swan, 2017; Xia et al. 2022). Therefore, by considering and addressing students' perception of language learning via Microsoft Teams, instructors and course developers can create a positive and effective learning environment that maximizes student engagement, satisfaction, and language learning outcomes.

Objective of the Study and Research Questions

- 1. This study is done to investigate perception of learners on language teaching and learning with Microsoft Teams. Specifically, this study is done to answer the following questions:
- 2. How do students assess their language learning experience in online learning using Microsoft Teams?
- 3. How do students perceive their interactions in online language learning using Microsoft Teams?
- 4. How do students view their assessment achievement in online language learning using Microsoft teams?
- 5. Is there a link between learning, interaction, and assessment elements online language learnin using Microsoft Teams?

RELATED LITERATURE

Online Learning

Online learning, also termed web-based or digital learning, is a form of distance education that utilizes internet resources and activities (Philip, 2018) has surged in popularity due to technological advancements and internet accessibility. Today, individuals of all ages and backgrounds have access to a wide range of online learning



opportunities that transcend geographical boundaries. Ahmad Ridho Rojabi (2020) highlighted challenges in higher education online learning, including limited internet access and concerns about effectiveness. Conversely, Laquindanum (2022) emphasized its value, suggesting educators should receive training in technology and stay updated on e-learning advancements to engage effectively in virtual classrooms.

Past Studies on Online Teaching and Learning via Microsoft Teams

Kristiana Nathalia Wea and Agustina Dua Kiki (2021) conducted a qualitative study at the Faculty of Teacher Training and Education (FKIP) Nusa Nipa University (UNIPA) involving 176 students spreading over five programs. The results showed that the students had a positive perception of using Microsoft Teams and they hope that this application would continue to be used during online learning with some improvements, so that learning using this application can take place more effectively and efficiently. Ahmad Ridho Rojabi (2020) also conducted a survey using questionnaire with twenty-eight sixth semester students at Indonesian Open University to explore their perception of online English language learning via Microsoft Teams.

The findings revealed that while online English language learning via Microsoft Teams was initially novel, it motivated participation and facilitated comprehension. In addition, Laquindanum (2022) in his study has determined the perception of the undergraduates of Western Mindanao State University on the use of Microsoft Teams. A total of 419 respondents participated, using independent-sample T-test, descriptive statistics, and one-way ANOVA to code and analyse the data in the study. Results showed that Microsoft Teams was rated as "average" in effectiveness compared to other platforms, highlighting its utility but emphasizing the need for stable internet connectivity.

Furthermore, a study by Muhammad Izuan Abd Gani, et al. (2020) explored students' acceptance of Microsoft Teams for Arabic learning, identifying an intermediate level of acceptance and suggesting improvements balancing technology and human factors. Meanwhile, Khairul Izwan Abdul Wahab and Zulkurnain Hassan (2021) explored the perception of seventy Kota Marudu Community College students in Sabah related to the learning experience and the obstacles faced in the use of the Microsoft Teams application in teaching and learning. The results showed the level of perception of the learning experience of the Microsoft Teams application is high. The main obstacles faced is the technological, situational barriers, learning style barriers, and instruction barriers.

However, there is no significant relationship between the learning experience and the obstacles faced by students. Lastly, Rofizah Mohammad (2020) did a study to measure the level of students' satisfaction of the Department of Mathematical Sciences, University Kebangsaan Malaysia (UKM) in using Microsoft Teams as a synchronous online learning platform. A survey was conducted on 142 people students via an online survey. The results showed the level of students' satisfaction was at a moderate level. There was no difference in mean satisfaction for students living in the city or in the countryside, but this satisfaction mean is found to be varied according to the level of internet access speed. Only about 25% of students enjoyed good internet access speed. Therefore, most students chose the method of face-to-face learning in a lecture room other than online learning.

Recent literature reveals that studies on the use of Microsoft Teams as a language instruction tool is rather common, but they primarily centred on students' satisfaction with the overall use of Microsoft Teams, overlooking crucial aspects that constitute the holistic perception of students. Therefore, this study attempts to understand students' perception in a more comprehensive manner as it involves both qualitative and quantitative approach. Moreover, to add to its depth, this study dissects perception into three different dimensions namely, language learning experience, interaction, and achievement in assessment.

Research Model

After reviewing the aspects that can influence students' perception of language teaching and learning via Microsoft Teams (Amani Nawi & Umi Hamidaton, 2022;Amel AlAdwani, & Anam AlFadley, 2022;Nur Shuhadak Ismail et al. 2022; Kristiana Nathalia Wea & Agustina Dua Kuki, 2021; Ha& Ngo, 2021;Ahmad Ridho Rojabi, 2020; Buchal & Songsore, 2019; Tam & Nhi, 2021) a research model is presented in Figure 1.



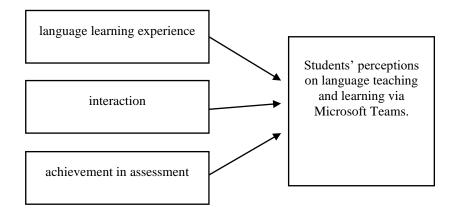


Fig. 1: Research model

METHODOLOGY

Data collection

To gather data, a mixed-method design was employed. For quantitative design, a survey questionnaire was created. The questionnaire's development began by reviewing relevant literature on Microsoft Teams usage, resulting in the identification of over 50 items. After eliminating redundant items, a final selection of 31 items was made. These items were then categorized using an item-sorting method to match them with their respective aspects. A pilot test was conducted to test the internal consistency and reliability of the survey instrument. Results of the Cronbach's Alpha Reliability Test are presented in Table 1:

Table 1: reliability coefficient of survey

Instrument	No. of Items	Cronbach's Alpha
Students' language learning experience	10	0.847
Student's interaction	10	0.876
Student's assessment achievement	11	0.873

All the Cronbach's alpha values for the instruments are greater than 0.80, therefore the scale of all the items can be said as having good reliability since they are all greater than 0.75. The 31 items were measured using a five-point Likert scale. A random sampling technique was used to select 168 students from a public university to participate in the questionnaire. The sample consisted of 39 males and 129 females, ranging in age from 18 to 22 years old and representing various courses. The study plan of all these students dictates compulsory enrolment in English class and one elective in either Arabic or Mandarin class.

For qualitative design, a focus group discussion was employed. The focus group consisted of nine students from several faculties such as hotel and tourism management, business and management, art and design, and academy of language studies. The students were interviewed to gain a deeper understanding of their usage of Microsoft teams in language learning.

Data analysis

The collected data in the study were analyzed using the software Statistical Package for Social Scientists (SPSS-v-17). Descriptive statistics, including mean, standard deviation, and significance tests, were chosen to determine the levels of students' perceptions measured on the Likert scale. Thematic content analysis was performed on the focus group discussion data. Based on the discussion, students' replies were divided into multiple categories, such as their preferred online language learning platform and the reasons for it, their difficulties in using the platform, as well as ideas for improving the language learning experience via Microsoft Teams.



RESULTS AND DISCUSSION

Questionnaire

1. How do students assess their language learning experience in online learning using the Microsoft Teams?

Table 2: Survey results 1

Item No.	Statements	Mean (M)	Standard Deviation (SD)
6A	Course resources (videos, PowerPoint files, articles, and assignments) supplied online via Microsoft Teams assist me in better understanding the course subject.	4.08	0.653
6B	Online language learning with Microsoft Teams inspires me to study more effectively.	3.89	0.777
6C	Online language learning using Microsoft Teams saves time, effort, and money.	4.07	0.671
6D	My language abilities are improving as a result of online learning with Microsoft Teams.	3.8	0.736
6E	My vocabulary grows thanks to online language learning with Microsoft Teams.	3.83	0.698
6F	Online language learning with Microsoft Teams enhances the course contents (videos, PowerPoint files, articles, and assignments).	4.11	0.675
6G	My language learning is more successful when I learn online with Microsoft Teams.	3.95	0.668
6H	As far as classroom reading materials go, I prefer hard copy to soft copy.	3.8	0.904
6I	I believe that using Microsoft Teams as a mobile learning application is tough.	3.2	0.958
6J	In the future, I would like to continue with online language learning using Microsoft Teams.	3.8	0.768

Table 2 shows mean and standard deviation for all items in the first aspect related to students' language learning experience. Mean for item 6F with the statement 'Online language learning with Microsoft Teams which enhances the course contents (videos, PowerPoint files, articles, and assignments)' is statistically the highest mean which is 4.11. Previous research has shown that numerous benefits can be gained by incorporating multimedia-enhanced content in educational environments such as enlivening lessons and enhancing their ability to illustrate and explain complex concepts that may otherwise be challenging to be conveyed through text alone (Shahrul Nizam Mohammad, 2023).

Hence, Microsoft Teams emerges as the ideal tool to utilize, as students themselves believe it has the potential to enrich the course material. On the other hand, item 6I with the statement 'I believe that using Microsoft Teams as a mobile learning application is tough' scored the lowest mean which is 3.20. This shows that in terms of language learning via Microsoft Teams, the students have had encouraging experiences. This may bedue to the fact that experiencing online language learning is more intriguing for the students compared to that of traditional classroom. In addition, the mean for item 6A 'Course resources (videos, PowerPoint files, articles, and assignments) supplied online via Microsoft Teams assist me in better understanding the course subject' scored



the second highest. As stated by Ahmad Ridho Rajabi (2020) in his study, students are enthusiastic in understanding the contents in the online environment because of the great resources, videos, and enjoyable collaborative activities in an online class.

2. How do students perceive their interactions in online language learning using the Microsoft teams?

Table 3: Survey results 2

Item No.	Statements	Mean (M)	Standard Deviation (SD)
7A	The use of Microsoft Teams for online language learning facilitates engagement and communication between instructors and students.	3.73	0.772
7B	Online language learning using Microsoft Teams is simple to utilize, especially when it comes to completing homework and tasks.	3.95	0.668
7C	It is more comfortable to express learning issues to instructors via Microsoft Teams than it is to do so face-to-face.	3.5	0.833
7D	Online language learning using Microsoft Teams results in greater misunderstanding between professors and students than traditional face-to-face instruction.	3.52	0.833
7E	Online language learning with Microsoft Teams facilitates student interactions.	3.65	0.797
7F	Students' interactions and alliances are strengthened as a result of online language learning with Microsoft Teams.	3.54	0.818
7G	Online language learning using Microsoft Teams results in greater misunderstanding among students than traditional face-to-face instruction.	3.48	0.833
7H	Online language learning with Microsoft Teams resolves student interaction difficulties.	3.52	0.789
7I	Online language learning using Microsoft Teams has helped me improve my grades in terms of engagement and involvement in class more than traditional face-to-face instruction.	3.52	0.717
7J	In the future, I would like to continue attending online language classes with Microsoft Teams.	3.7	0.81
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Table 3 shows mean and standard deviation for all items in the second aspect related to students' interaction in online language learning via Microsoft Teams. Based on the results, item 7B scored the highest mean 3.95 with the statement 'Online language learning using Microsoft Teams is simple to utilize, especially when it comes to completing homework and tasks.' Furthermore, item 7A scored the second highest mean (3.73), the statement of which is 'The use of Microsoft Teams for online language learning facilitates engagement and communication between instructors and students.' This supplements the findings by Abu Elnasr E. Sobaih (2021) as they reported that students showed preference on using Microsoft Teams over other online platforms because they seemed to highly value private communication feature in Microsoft Teams when it comes to providing feedback.

Next, Tran and Nguyen (2021) discovered that students were found to be more engaged in online conversations regarding class topics using the chat box in Microsoft Teams, which is seen to be appropriate for timid students.



This report is corroborated by item 7G which refers to 'Online language learning using Microsoft Teams results in greater misunderstanding among students than traditional face-to-face instruction' as it scored the lowest mean, which is at 3.48. As Microsoft Teams allows users to share ideas, answer questions, and raise questions through ongoing conversations it leads to reduced miscommunication, and this seems to be an important feature for its users.

3. How do students view their assessment achievement in online language learning using the Microsoft Teams?

 Table 4: Survey Results 3

Item No.	Statements	Mean (M)	Standard Deviation (SD)
8A	Assessments (tests and quizzes) are easier for me to do online (via Microsoft Teams) than on paper.	3.74	0.835
8B	Completing online assessments (tests and quizzes) using Microsoft Teams tends to shorten test length.	3.82	0.68
8C	Completing online assessments (tests and quizzes) using Microsoft Teams increases the difficulty and the demands of the examinations.	3.44	0.853
8D	Completing online assessments (tests and quizzes) using Microsoft Teams has an impact on my performance since it adds tension and worry.	3.28	0.947
8E	During online assessments (tests and quizzes) via Microsoft Teams, I use printed reference materials (hard copies of books, notes, and handouts).	3.41	0.931
8F	During online assessments (tests and quizzes) via Microsoft Teams, I use electronic reference materials (soft copies of books, notes, and handouts).	3.46	0.94
8G	During online assessments (tests and quizzes) via Microsoft Teams, I use internet search engines (Google, Yahoo, Microsoft Bing, and so on).	3.46	0.96
8H	During online assessments (tests and quizzes), I frequently request help from others using Microsoft Teams.	3.27	0.982
8I	During online assessments (tests and quizzes) using Microsoft Teams, I frequently encounter technical issues.	3.4	0.884
8J	In the future, I would want to continue completing assessments (tests and quizzes) online with Microsoft Teams.	3.7	0.778
8K	Completing online exams (tests and quizzes) with Microsoft Teams raises my GPA (total grades).	3.69	0.773
40 mini			

Table 4 shows the mean and standard deviation for all items that fall under the third dimension- students' view of their assessment achievement in online language learning using the Microsoft Teams. The results show that item 8B scored the highest mean with the statement 'Completing online assessments (tests and quizzes) using Microsoft Teams tends to shorten test length'. The reason behind this is maybe because the assessments conducted via Microsoft Teams are mostly open-book assessments. This means students have access to their class notes, textbooks, primary or secondary materials, and internet resources while completing the assessments. This could be the reason why respondents claimed that assessment duration on Microsoft Teams seemed to be



shorter because there is a possibility that they did not pay much attention to the time as they were completing their assignments. This result is in line with the findings by Amel AlAdwani and Anam AlFadley(2022) where they mentioned that when compared to traditional examinations, students perceived that the time given for quizzes and tests is shorter. Conversely, the lowest mean score recorded is 3.27 which refers to item 8H - 'During online assessments (tests and quizzes), I frequently request help from others using Microsoft Teams.' It is evident that since they have access to alternative resources, they do not feel the necessity to engage in communication or seek assistance from their peers during examinations.

4. Is there a link between the learning, interaction, and assessment elements of online language learning via Microsoft Teams?

Dimension	Learning	Interaction	Assessment
Learning	-	0.661* (0.000)	0.394* (0.000)
Interaction	0.661* (0.000)	-	0.686* (0.000)
Assessment	0.394* (0.000)	0.686* (0.000)	-

Table 5: Correlations among learning, interaction, and assessment

The fourth research question which 'Is there a relationship between the learning, interaction, and assessment elements of online language learning using Microsoft Teams? is addressed in the paragraphs that follow. The following guidelines were taken into consideration while determining the relationship's strength using the Spearman Correlation coefficient (Schober & Schwarte, 2018):

Dimension	Learning	Interaction	Assessment
Learning	-	0.661* (0.000)	0.394* (0.000)
Interaction	0.661* (0.000)	-	0.686* (0.000)
Assessment	0.394* (0.000)	0.686* (0.000)	-

Based on the table, it is evident that there is a weak positive correlation at the significance level (0.01) between Learning and Assessment (r = 0.394) though the relationship is not highly pronounced. Furthermore, there is a moderate positive correlation between Interaction and Learning (r = 0.661) which suggests that there is a more noticeable relationship between students' interaction and their learning. A moderate positive relationship is also observed between Assessment and Interaction (r = 0.686).

Focus Group Discussion

The findings from the focus group discussion indicate that for language learning experience, students, in general, have a positive outlook on language learning experience via Microsoft Teams. They stated that the language learning experience was relatively pleasant without any setback. In addition, where user interaction is concerned, the students mentioned that not only did they find it very convenient to submit any assignments via Microsoft Teams, but they also appreciated the detailed and immediate feedback that they could receive on their assignments from their instructors in Microsoft Teams. Therefore, any misunderstanding or vague instructions can be easily avoided. They also reported that they did not face much difficulty when it comes to interacting with their classmates or instructors via Microsoft Teams. For assessments achievement's aspect, they mostly agreed that it did not affect them in the slightest. In terms of assessments such as quizzes and tests, they found that they performed rather similar to when the assessments were conducted in traditional classroom. However, despite the generally positive feedback, students also provided constructive criticism regarding Microsoft Teams' interface as they claimed that much is left to be desired in with regard to its user-interface.



CONCLUSION

In conclusion, this study has uncovered fresh insights into students' evaluations of language teaching and learning through Microsoft Teams. Initially, students positively rated their learning experience, expressing satisfaction with the diverse resources and class materials available on the platform. These resources play a crucial role in facilitating effective language acquisition by enabling verbal interaction and cultural exchanges between teachers and students (Khany & Kamalvand, 2022). Furthermore, effective communication facilitated by Microsoft Teams enhances language teaching and learning, with students valuing interaction, particularly feedback from instructors. This finding aligns with Northrup et al. (2002), who noted that promoting cooperation and discourse online is valued by students and contributes to building a community of learners and receiving valuable feedback. However, challenges arise in assessment achievement, with students noting shorter test durations as a potential obstacle in the language learning process through Microsoft Teams. Nevertheless, students perceive online examinations as simpler to complete compared to traditional paper-based assessments.

Pedagogical Implications and Suggestions for Future Research

One distinguishing factor of this study is its specific focus on the use of Microsoft Teams among university students in Malaysia, underscoring its importance in comprehending the nuances of online language instructions and learning within this unique cultural and educational setting. While online language learning is a global phenomenon, its effectiveness may vary depending on the online tools involved, along withcultural, linguistic, and educational factors. Thus, the findings of this research hold significant pedagogical implications, particularly in Malaysia. Firstly, students' attitudes towards Microsoft Teams can significantly influence their engagement and motivation in language learning. Enhancing the platform's user-friendliness and ensuring seamless navigation can improve students' learning experiences. Additionally, the quality, relevance, and usefulness of learning materials impact students' engagement and knowledge acquisition, emphasizing the need for relevant multimedia content tailored to students' interests and objectives.

Moreover, students' perception of their ability to engage in meaningful interactions via Microsoft Teams affects language development. Encouraging collaborative tasks and authentic communication through various platform tools fosters language skills. Feedback provided via Microsoft Teams influences student motivation and comprehension, highlighting the importance of personalized feedback to address individual needs and foster a supportive learning environment. Overall, educators should actively seek student input and consider their opinions when designing language teaching experiences on Microsoft Teams to create an inclusive and productive learning environment. Future research could further explore how cultural variables influence technology-mediated language learning, demonstrating the necessity for culturally sensitive instructional practices tailored to students' preferences and attitudes.

REFERENCES

- 1. Abu Elnasr E. Sobaih, Amany E. Salem, Ahmed M. Hasanein, & Ahmed E. Abu Elnasr. (2021). Responses to covid-19 in higher education: Students' learning experience using Microsoft Teams versus social network sites. Sustainability, 13. https://doi.org/10.3390/su131810036
- Ahmad Ridho Rojabi. (2020). Exploring EFL students' perception of online learning via Microsoft Teams: University level in Indonesia. English Language Teaching Educational Journal, 3(2), 163. https://doi.org/10.12928/eltej.v3i2.2349
- 3. Amani Nawi, & Umi Hamidaton. (2022). Exploring student's readiness and behavioural towards virtual learning via Microsoft Teams. Malaysian Journal of Social Sciences and Humanities (MJSSH), 7(2). https://doi.org/10.47405/mjssh.v7i2.1273
- 4. Amel AlAdwani, & Anam AlFadley. (2022). Online learning via Microsoft TEAMS during the Covid-19 pandemic as perceived by Kuwaiti EFL learners. Journal of Education and Learning, 11(1), 132. https://doi.org/10.5539/jel.v11n1p132
- Buchal, R., &Songsore, E. (2019). Using Microsoft Teams to support collaborative knowledge building in the context of sustainability assessment. Proceedings of the Canadian EngineeringEducation Association (CEEA), 1–8. https://doi.org/10.24908/pceea.vi0.13882



- 6. Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. Journal of Learning Design, 10(1), 20-30. Doi:0.5204/jld.v9i3.293
- Ha, G. L., & Ngo, T. T. C. (2021). Challenges in learning listening comprehension via Microsoft Teams among English majors at Van Lang University. International Journal of TESOL & Education, 1(3), 142–175. https://doi.org/http://eoi.citefactor.org/10.11250/ijte.01.03.009
- Wahab, 8. Khairul Izwan Abdul Zulkurnain & Hassan. (2021).Kebolehlaksanaanpembelajaranmelaluiaplikasi Microsoft Teams di Kolej Komuniti Kota Marudu, Sabah. International Journal of Humanities Technology and Civilization. 6(1). 1 - 10.https://doi.org/10.15282/ijhtc.v6i(S1).6223
- 9. Khany, R., &Kamalvand, A. (2022). 100 years of research on English language learning/teaching materials: A systematic literature review. The Electronic Journal for English as a Second Language, 25(4). https://tesl-ej.org/pdf/ej100/a2.pdf
- Kristiana Nathalia Wea, & Agustina Dua Kuki. (2021). Students' perceptions of using Microsoft Teams application in online learning during the Covid-19 pandemic. Journal of Physics: Conference Series, 1842(1). https://doi.org/10.1088/1742-6596/1842/1/012016
- Laquindanum, E. M. (2022). Effectiveness of Microsoft Teams: A study of perception among tertiary learners. International Journal of Recent Research in Social Sciences and Humanities (IJRRSSH), 9(2), 88–95. https://doi.org/10.5281/zenodo.6477320
- Muhamad Khairul Ahmad, Airil Haimi Mohd Adnan, Ahmad Ariffuddin Yusof, Muhammad Anwar Mohd Kamal, &Nurul Nadiah Kamal(2019). Using new technologies to teach English in Malaysia issues and challenges. Proceedings of International Invention, Innovative & Creative (InIIC) Conference, Series 1/2019, 203–207.https://ssrn.com/abstract=3511173
- 13. Muhammad Izuan Abd Gani, Nur Aina Abdullah, & Nur Hafizah Abd Aziz. (2020). Penerimaanpelajarterhadappenggunaan Microsoft Teams dalampembelajaran Bahasa Arab komunikasisepanjangpandemik Covid-19. Seminar Antarabangsa Islam Dan Sains.https://oarep.usin.edu.my/jspui/handle/123456789/6837
- 14. Northrup, P., Lee, R., & Burgess, V. (2002). Learners' perceptions of online interaction. World Conference on Educational Multimedia, Hypermedia& Telecommunications,1– 7.https://eric.ed.gov/?id=ED477075
- 15. Nur Shuhadak Ismail, Nor Zahidah Ahmad, Mohamad Lukman Al Hakim Md. Noor, &Khairun Nisaa Mohd. (2022). Students' perception on using Microsoft Teams in online learning Arabic language during pandemic. Borneo International Journal, 5(2), 1–12. https://majmuah.com/journal/index.php/bij/article/view/263
- Paris, P. G. (2004). E-learning: A study on secondary students' attitudes towards Online Web Assisted Learning. International Education Journal, 5(1), 98– 112.https://www.learntechlib.org/p/106537/.
- 17. Philip, A. (2018). Online Teaching and Learning. International Journal of Advanced Research in Computer Science and Software Engineering, 8 (2), 73-75.DOI:10.23956/ijarcsse.v8i2.549
- Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. Higher Education for the Future, 8(1), 133– 141.https://doi.org/10.1177/2347631120983481
- Riadh Jeljeli, Faycal Farhi, Sameera Setoutah, & Abderrazak Ahmed Laghouag. (2022). Microsoft teams' acceptance for the e-learning purposes during Covid-19 outbreak: A case study of UAE. International Journal of Data and Network Science, 6(3), 629–640. https://doi.org/10.5267/j.ijdns.2022.4.010
- 20. Rofizah Mohammad. (2020). Pembelajarandalamtaliansegerak: Kepuasanpelajarterhadappenggunaan Microsoft Teams. Journal of Quality Measurement and Analysis,16(2).https://www.ukm.my/jqma/wpcontent/uploads/2021/01/jqma-16-2-abstractrefs-08.pdf
- 21. Schober, P., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. Anesthesia and Analgesia, 126(5),1763–1768 https://doi.org/10.1213/ANE.00000000002864
- 22. Shahrul Nizam Mohammad, Mohamed Khatif Tawaf Mohamed Yusof, Muhammad Bazli Faliq Mohd Puaad, Mohammad Hazizi Jamal, & Lee, S. W. (2023). Investigating students' perception and preferences of online learning in UiTM Pasir Gudang campus. Asian Journal of University Education, 19 (1), 223–234. https://doi.org/10.24191/ajue.v19i1.21228



- Tam, L. N. D., & Nhi, H. U. N. (2021). The challenges of E-learning through Microsoft Teams for EFL students at Van Lang University in COVID-19. AsiaCALL Online Journal, 12(4), 18–29. https://asiacall.info/acoj
- 24. Tran, V. M. Y., & Nguyen, T. U. N. (2021). The practice of online English teaching and learning with Microsoft Teams: From students ' view. AsiaCALL Online Journal, 12(2), 51–57.
- Xia, Y., Hu, Y., Wu, C., Yang, L., Lei, M. (2022). Challenges of online learning amid the COVID-19: College students' perspective. Frontiers in Psychology. 13:1037311. doi: 10.3389/fpsyg.2022.1037311
- 26. Xie, X., Siau, K., & Nah, F. F. H. (2020). COVID-19 pandemic–online education in the new normal and the next normal. Journal of Information Technology Case and Application Research, 22(3), 175–187. https://doi.org/10.1080/15228053.2020.1824884
- 27. YanuarRizkaWijayanto, Andayani, &Sumarwati. (2021). Utilization of Microsoft Teams 365 as an alternative for distance learning media amid the Covid-19 pandemic. International Journal of Multicultural and Multireligious Understanding,8(2),87. https://doi.org/10.18415/ijmmu.v8i2.2333