Assistance for SD Muhammadiyah 20 Sidorejo teachers in using interactive Microsoft Teams

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ABSTRACT

The Covid pandemic has entered its second year. During the pandemic SD Muhammadiyah 20 used online learning applications to support learning, namely with the Microsoft team. So far, the Microsoft team has been used for video conferencing, giving assignments, sending learning videos where students are required to learn a lot independently. Do not rule out, in a lesson requires interesting and fun interactions in order to increase interest in learning. As a solution to this problem, training and mentoring are carried out using cool and interactive media, such as delivering material using whiteboards and delivering quizzes using kahoot, each of which has been integrated with the Microsoft team. The method used is that training is then carried out with assistance to teachers as an effort to make it easier for teachers to apply it in learning and then evaluate the activities that have been carried out. From the results of the training, the teachers were enthusiastic in participating in the training and there was feedback and discussion during the training. Next, at the mentoring stage, the majority of teachers have no difficulty in implementing it. Through the questionnaire, it was found that the kahoot application was easy to learn and could be used for interactive learning, while for the ms whiteboard application, not all participants agreed, but it is possible that if the two applications are collaborated, they can be a support for producing interactive learning, especially in the online learning period.

KEYWORDS
Assistance;
Teacher;
Microsoft Teams;
interactive

1. Introduction

Optimal learning can be realized by using media in the learning process. Media is an intermediary used in the learning process. This can also affect the quality of learning outcomes. SD Muhammadiyah 20 is located at Jl. MT Haryono No. 50 Mangkubumen, Banjarsari, Surakarta. Muhammadiyah 20 Elementary School has a vision of creating quality education with a global perspective towards a generation that is faithful, pious, independent, intelligent, skilled, knowledgeable and forms an environment based on the Qur'an and Sunnah. In realizing this vision, many changes have been made to improve the quality of human resources and graduates.

Online learning has been researched by previous researchers and is used as a reference for community service, namely

Faculty perceptions of teaching online translation courses during Covid-19 was researched by Almahsees [1]. Post-Pandemic Online Platform Effectiveness: Will Face-to-Face Classes Affect Students' Perceptions of Behavioral Intention (BIU) Using Online Platforms? researched by Al-Maroof [2]. Leading the education response during the COVID-19 pandemic: Perspectives from the online campus researched by Morales [3].

Face-to-face or Online Learning in Health Science Applied Statistics? Failed Experiment or Opportunity after COVID-19? researched by García-Camacha Gutiérrez [4]. Combining the Jigsaw Method and the Microsoft Team: Promising Online Pedagogy researched by Mahmud [5]. Evaluation of the usability of Microsoft Teams as an online learning platform during COVID-19 using the system usability scale and technology acceptance model in India was researched by Pal [6].

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The Significance of Digital Learning for Sustainable Development in a Post-COVID19 World in Saudi Arabian Higher Education Institutions was researched by Alotaibi [7]. Pandemic semester: Examining public opinion regarding online learning in the midst of COVID--19 was researched by Asare [8]. Teaching Course on Algorithms and Data Structures during the Coronavirus Pandemic was researched by Varga [9].

Students' perceptions of online assessment, feedback practices, and challenges were researched by Al Hashimi [10]. A survey on the Effectiveness of Online Teaching-Learning Methods for University and College Students was researched by Darius [11]. Challenges for Anticipation and Realization Regarding Organizing Online Lectures During the COVID-19 Pandemic: The Experience of the Faculty of Engineering at Assumption University was researched by Habib [12].

Exploring Relationships Between Students Based on Patterns of Accessing Digital Learning Attributes was researched by Muhuri [13]. Needs Engineering in the Integration of Social Media-Based Interactive Learning was researched by Adi Wicaksono [14]. Symmetry of Identification Elements in Informatics Teaching in Czech Secondary Schools During the Covid-19 Outbreak from a Student Perspective was investigated by Nemec [15].

Lessons from the pandemic: implications for joint training and educational programs for medical students investigated by Worobetz [16]. The Significance of Technology for Increasing Interaction in Online Learning in the Pandemic Era was researched by Surya Ariyani Pedo [17]. Distance education during the COVID-19 outbreak: A cross-sectional study among medical students in Northern Jordan investigated by Sindiani [18].

Student Technology Preferences and Applications of Computer Technology in the Teaching and Learning of Physics Modules at Undergraduate Level Universities in South Africa during the COVID-19 Pandemic was investigated by Mukumba [19]. Recognizing Predictors of Student Emergency Distance Learning Satisfaction during COVID-19 was studied by Kovačević [20]. Pandemic reflections, 30 years to today: sync signal, savior or survivor? researched by Bonk [21].

C-STARS: a collaborative online learning environment for teaching translation set in higher education was researched by Zappatore [22]. Continuing Development of University EFL Student Engagement, Satisfaction, and Efficacy in Online Learning Environments: The Chinese Experience was researched by Han [23]. Setting up a Language Learning Environment in Microsoft Teams was researched by Schneider [24].

Growing Motivation Against Chemistry Through Augmented Reality Educational Escape Activities. The Self-Determination Theory approach was researched by Elford [25]. Indian government's E-learning initiative in response to the COVID-19 crisis: A case study of online learning in the Indian higher education system was researched by Singh [26]. Delivery Platform Assessment and Online Pedagogy Requirements researched by Ali [27]

The use of Microsoft Teams and Stream in Nursing Education was studied by Hebert [28]. Perceptions of Satisfaction Using the Learning Management System Among Engineering Students During the COVID-19 Pandemic: Integration of Task Technology Fit and Extended Technology Acceptance Model was researched by Navarro [29]. Integration of E-Learning with traditional learning in university settings: Academic and administrative factors and conditions investigated by Krylova [30].

The era of the Industrial Revolution 4.0 had a major influence on changes in all sectors of life, especially in the world of education. Changing times that always coexist with technology make managers realize the importance of applying technology in learning. Then innovation is carried out in the form of information technology (IT) based learning. The Covid pandemic has entered its second year. During this pandemic SD Muhammadiyah 20 has used online learning applications to support learning, namely with the Microsoft team. The application is one of the powerful digital/virtual classroom features. Teams can also be used as a medium for doing remote work such as video conferencing which is needed in synchronous learning. In addition, Users can share documents with each other, or work on them together in real-time. So far, the Microsoft team has been used for video conferencing, giving assignments, sending learning videos where students are required to learn a lot independently. Do not rule out, in a lesson requires interesting and fun interactions in order to increase interest in learning. Interactive learning model is a method or learning technique used by the teacher when presenting lesson

material where the teacher plays the main role in creating an educative interactive situation, namely the interaction between teacher and student, student and student and with learning resources in supporting the achievement of learning objectives

Kahoot is an application used in online learning media which contains quizzes and games. Kahoot can also be interpreted as an interactive learning media because kahoot can be used in teaching and learning activities. In conventional teaching, the use of whiteboards as learning media is used in delivering material. With technological innovation, whiteboards can be applied in virtual form with more interactive developments like learning in class and even students can give their responses virtually.

2. Method

The method for implementing the dissemination program for teacher assistance at SD Muhammadiyah 20 Sidorejo in the use of an interactive Microsoft Team is shown in Figure 1. From the picture there are three stages carried out during the activity including preparation stage, implementation stage,and evaluation stage.

1. Preparation Stage

The activities carried out at this preparatory stage are as follows:

a) Taking care of permits for court activities to SD Muhammadiyah 20 Sidorejo
b) Conduct discussions regarding problems faced by partners
c) Conduct socialization of the training that will be carried out
d) Develop guide modules
e) Create partner knowledge questionnaires and assessment questionnaires related to application knowledge and assessment of the training that has been carried out
f) Create a WA group to facilitate communication with partners
g) Form a support team
h) Conduct training for the accompanying TEAM.

2. Implementation Stage

The activities carried out during the implementation stage are:

a) Distribute partner knowledge questionnaires at the beginning of the implementation of mentoring activities
b) Provide materials
c) Provide assistance to partners

3. Evaluation Stage

This evaluation stage is carried out by conducting an assessment of partners by distributing questionnaires, namely questionnaires related to application knowledge and questionnaires evaluating the training that has been carried out. The next stage is to analyze and report on the results of the mentoring.

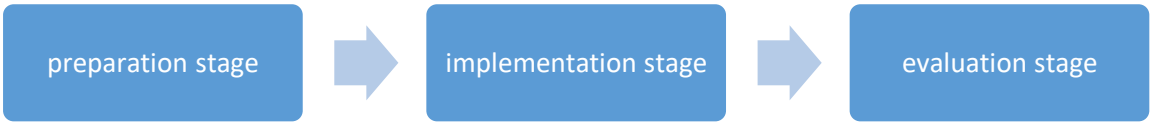

Fig. 1. Activity flow

3. Results and Discussion

PREPARATION

The first step taken is the socialization of the training that will be carried out to partners, in this case SD Muhammadiyah 20 Sidorejo, regarding the problems encountered, shown in Figure 2. The figure shows that communication is carried out through the principals of partner schools. The results of the discussion obtained the time and hours of training implementation. To prepare for the training, several materials needed such as practicum modules, training materials and accompanying teams during the training are included. In preparing the assistant team, training is carried out for the assistants in mastering the training material.

Fig. 2. Assistance team training

The companion training process is carried out by the author by providing training related to material and practicing applications that will be used in training later. Then carry out a simulation of training activities that will be carried out to partners.

IMPLEMENTATION

The next activity is the implementation stage. Before starting the training, the participants' knowledge of the application to be used was identified as shown in table 1. From the table it can be seen that there were 10 participants who were teachers at SD Muhammadiyah 20 Sidorejo.

Table 1. Participant Knowledge.

No	Questions	Yes	No	Total
KAHOOT				
1	Do you know the kahoot application	4	6	10
2	Do you use the kahoot application in online learning	1	9	10
MS WHITEBOARD				
3	Do you know the Microsoft Whiteboard application	4	6	10
4	Do you use the whiteboard application in online learning	1	9	10

From the results of the table above, it appears that the majority of participants did not know about the application and could not use it in learning, so at this implementation stage the authors conducted outreach/training to partners accompanied by companions who had been prepared beforehand. In its implementation, several stages were carried out which are described in Figure 3. The figure shows that the flow of implementation consists of delivering/socializing training materials, application demos, training participants, mentoring, and participants being able to use the application properly.

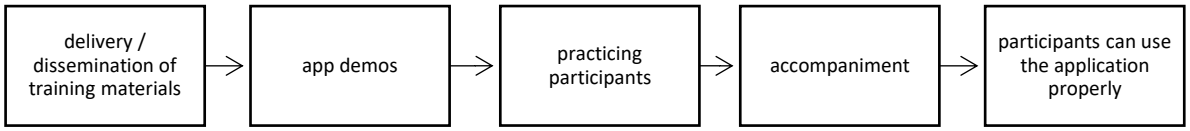

Fig. 3. Implementation flow

The first stage is shown in Figure 4, namely socialization/delivery of material by the author which contains how to use kahoot and whiteboards, integration of kahoot and whiteboards into Microsoft Teams, using kahoot and whiteboards to make learning fun and interactive where all the material is summarized in the module guide made by the author then distributed to participants via wa group.

Fig. 4. When delivering material

Next is the app demo. The first application is Kahoot shown in Figure 5, which is an easy-to-use game-based (gamification) application. Kahoot can be used as a tool for evaluating student understanding in the form of quizzes. If it is related to learning, the users of the kahoot application consist of teachers and students. The teacher acts as a task giver (host) and students who do the task (player). The author does a demo on how to use kahoot from both sides. At this stage participants are included in trying to use it.

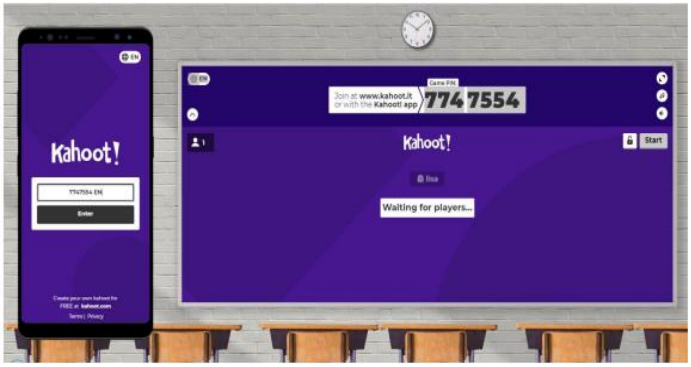

Fig. 5. Demo how to play with kahoot

Next is the ms whiteboard application shown in Figure 6. In conventional learning the whiteboard becomes a support when the teacher delivers the material. Interactive learning requires communication

between teachers and students. Ms Whiteboard can be used to assist teachers in explaining material. Even students can respond to what the teacher says. The enthusiasm of the participants emerged after the demo of these two applications was carried out. There is feedback and discussion that occurs between the instructor and the training participants.

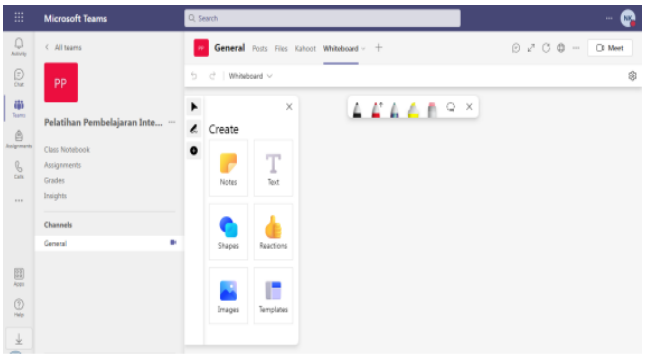

Fig. 6. Integration of MS Whiteboard in MS Teams

Next, the participants practiced independently as shown in Figure 7. The figure shows that the participants were given space to try using the two applications independently so that participants had the knowledge and experience in using them.

Fig. 7. Participants practicing independently

To further assist participants in using the application, the authors created a wa group shown in Figure 8 which functions as assistance to participants after the training ends which can be used as a means of asking questions and discussions even though the training is over.

Fig. 8. Wa group assistance

EVALUATION

The last stage is the evaluation of the activities that have been carried out. After training and mentoring, the next step is the assessment stage. At this stage the author conducts an assessment related to application knowledge and an assessment of the training that has been carried out. In this case the author distributed questionnaires through the wa group with a rating scale of 1: Disagree 2: Undecided

3: Agree 4: Strongly agree. The following is the kahoot and ms whiteboard application questionnaire which is shown in table 2. Based on the evaluation of the table, it was found that the kahoot application was easy to learn and could be used for interactive learning but for the ms whiteboard application not all participants agreed, this shows that learning interactive, namely learning that can provide a learning atmosphere that is more relaxed (relaxed) and fun so that it fosters enthusiasm and motivation for student learning, but does not rule out the possibility if the two applications are collaborated in learning.

Table 2. The kahoot and ms whiteboard application questionnaireSs

NO	QUESTION	TOTAL RATING				TOTAL
		1	2	3	4	
KAHOOT						
1	Is the kahoot app easy to learn and implement			2	8	10
2	Does the kahoot application make the learning process more interactive			2	8	10
3	Does the kahoot app make the learning process more fun?			3	7	10
4	Can the kahoot application increase students' interest in learning?			3	7	10
MS WHITEBOARD						
1	Is the microsoft whiteboard application easy to learn and apply			6	4	10
2	Does the Microsoft Whiteboard application make the learning process more interactive			6	4	10
3	Does the microsoft whiteboard application make the learning process more fun			6	4	10
4	Can the microsoft whiteboard application increase students' learning interest			6	4	10

Next, in the evaluation of the training, it was found that the training and mentoring had been carried out well and provided satisfaction to the participants who were present as shown in table 3. The table shows that from the results of the questionnaire the majority agreed and even strongly agreed with the training and assistance that had been provided. However, in several dimensions there are still things that need to be improved and improved as input for the authors and the implementing team.

Table 3. Training and mentoring evaluation questionnaire

NO	QUESTION	TOTAL RATING				TOTAL
		1	2	3	4	
Tangible dimensions (physical evidence analysis)						
1	The theme of the training helps participants prepare for interactive learning			2	8	10
2	Learning applications (kahoot, whiteboard) demonstrated by the instructor can broaden participants' insights in preparing for interactive learning			3	7	10
3	The training materials are easily accepted and applied			3	7	10
4	Can the kahoot application increase students' learning interest			3	7	10
Dimensions of reliability (reliability analysis)						
1	The instructor masters the training material			5	5	10
2	The instructor provides material clearly and sequentially			4	6	10
3	Presentation techniques The instructor provides an overview of the participants in preparing for interactive learning			3	7	10
4	Can the microsoft whiteboard application increase student learning interest			3	7	10
Dimensions of empathy (empathy analysis)						
1	The instructor provides a question and answer opportunity			3	7	10
2	Instructors are friendly and patient in helping participants			3	7	10
3	The companion team is friendly and patient in helping participants		2	2	6	10
Responsive dimensions (ready analysis)						
1	Instructor is communicative in delivering the material			3	7	10
2	communicative companion team in helping participant problems		2	2	6	10
3	The instructor is responsive in helping participant complaints			3	7	10
4	The Assistance Team is responsive in helping participant problems		2	2	6	10

Assurance dimensions (guarantee analysis)					
1	Handout/Module provided helps in understanding the material	2	2	6	10
2	Participants can get another handout/module after the training	2	2	6	10
3	Participants can ask for training materials after completing the training	2	2	6	10

4. Conclusion

The Community Service Program is carried out at Muhammadiyah 20 Elementary School located in Surakarta, namely through training activities to develop the use of the cool and interactive Microsoft Teams application using kahoot and whiteboards. This can be an additional experience for teachers in implementing technology-based learning that is fun and not boring.

Acknowledgment

The author expresses special gratitude to LPPM ITS PKU Muhammadiyah Surakarta for the Community Service grant for the 2021 Fiscal Year that has been given. Next, thank you to partners, companion team and all parties who have contributed so that this activity can be carried out properly.

Author Contribution

Activity plan in order to implement the solutions offered in mentoring for SD Muhammadiyah 20 Sidorejo teachers in the use of interactive Microsoft Teams.

Funding

The author expresses special gratitude to LPPM ITS PKU Muhammadiyah Surakarta for the Community Service grant for the 2021 Fiscal Year that has been given. Next, thank you to partners, companion team and all parties who have contributed so that this activity can be carried out properly.

Conflict of Interest

The authors declare no conflict of interest.

References

[1] Z. Almahasees and M. Qassem, "Faculty perception of teaching translation courses online during Covid-19," PSU Res. Rev., vol. 6, no. 3, pp. 205–219, Dec. 2022.

[2] R. S. Al-Maroof et al., "The Effectiveness of Online Platforms after the Pandemic: Will Face-to-Face Classes Affect Students' Perception of Their Behavioural Intention (BIU) to Use Online Platforms?," Informatics, vol. 8, no. 4, p. 83, Nov. 2021.

[3] C. R. Morales, "Leading the educational response during the COVID-19 pandemic: The perspective from an online campus," in 2020 X International Conference on Virtual Campus (JICV), 2020, pp. 1–4.

[4] I. García-Camacha Gutiérrez, S. Pozuelo-Campos, A. García-Camacha Gutiérrez, and A. Jiménez-Alcázar, "Face-to-Face or Online Learning in Applied Statistics in Health Sciences? Failed Experiment or Opportunity after COVID-19?," Educ. Sci., vol. 12, no. 12, p. 922, Dec. 2022.

[5] M. M. Mahmud and S. F. Wong, "Fusing the Jigsaw Method and Microsoft Teams: A Promising Online Pedagogy," Int. J. Learn. Teach. Educ. Res., vol. 20, no. 11, pp. 272–287, Nov. 2021.

[6] D. Pal and V. Vanijja, "Perceived usability evaluation of Microsoft Teams as an online learning platform during COVID-19 using system usability scale and technology acceptance model in India," Child. Youth Serv. Rev., vol. 119, p. 105535, Dec. 2020.

[7] N. S. Alotaibi, "The Significance of Digital Learning for Sustainable Development in the Post-COVID19 World in Saudi Arabia's Higher Education Institutions," Sustainability, vol. 14, no. 23, p. 16219, Dec. 2022.

[8] A. O. Asare, R. Yap, N. Truong, and E. O. Sarpong, "The pandemic semesters: Examining public opinion regarding online learning amidst <scp>COVID</scp> -19," J. Comput. Assist. Learn., vol. 37, no. 6, pp. 1591–1605, Dec. 2021.

[9] M. Varga, M. Kvassay, and M. Kvet, "Teaching Course on Algorithms and Data Structures during the Coronavirus Pandemic," in 2020 18th International Conference on Emerging eLearning Technologies and Applications (ICETA), 2020, pp. 730–738.

[10] S. Al Hashimi, Y. Alamarat, and Y. Zaki, "Students' perceptions of online assessment, feedback practices, and challenges," Int. J. Eval. Res. Educ., vol. 11, no. 4, p. 1939, Dec. 2022.

[11] P. S. H. Darius, E. Gundabattini, and D. G. Solomon, "A Survey on the Effectiveness of Online Teaching–Learning Methods for University and College Students," J. Inst. Eng. Ser. B, vol. 102, no. 6, pp. 1325–1334, Dec. 2021.

[12] S. Habib and T. Parthornratt, "Anticipated and Actual Challenges Pertaining to Online Delivery of University Courses During COVID-19 Pandemic: The Engineering Faculty's Experience at Assumption University," in 2020 5th International STEM Education Conference (iSTEM-Ed), 2020, pp. 5–8.

[13] S. Muhuri and D. Mukhopadhyay, "Extracting the Relationships Among Students Based on Accessing Pattern of Digital Learning Attributes," IEEE Trans. Learn. Technol., vol. 15, no. 6, pp. 747–756, Dec. 2022.

[14] P. Adi Wicaksono, S. Robert Marsiamto, M. Farhan Arief, S. Saptadi, D. Nurkertamanda, and Y. Widharto, "Requirements Engineering in The Integration of Social Media Based Interactive Learning," E3S Web Conf., vol. 317, p. 05028, Nov. 2021.

[15] R. Nemec, A. Jahodova Berkova, and S. Hubalovsky, "Identification Elements Symmetry in Teaching Informatics in Czech Secondary School during the Covid-19 Outbreak from the Perspective of Students," Symmetry (Basel)., vol. 12, no. 11, p. 1768, Oct. 2020.

[16] A. Worobetz et al., "Lessons learned from a pandemic: implications for a combined exercise and educational programme for medical students," BMC Med. Educ., vol. 22, no. 1, p. 255, Dec. 2022.

[17] V. A. Surya Ariyani Pedo, N. Pawestri, and M. Revani Putri, "The Significance of Technology for Augmenting Interaction in Online Learning during Pandemic Era," in 2021 5th International Conference on Education and E-Learning, 2021, pp. 65–69.

[18] A. M. Sindiani et al., "Distance education during the COVID-19 outbreak: A cross-sectional study among medical students in North of Jordan," Ann. Med. Surg., vol. 59, pp. 186–194, Nov. 2020.

[19] P. Mukumba and N. Shambira, "Students' Technology Preference and Computer Technology Applications in the Teaching and Learning of Physics Modules at the University Undergraduate Level in South Africa during the COVID-19 Pandemic," Educ. Sci., vol. 12, no. 11, p. 771, Oct. 2022.

[20] I. Kovačević, J. Anđelković Labrović, N. Petrović, and I. Kužet, "Recognizing Predictors of Students' Emergency Remote Online Learning Satisfaction during COVID-19," Educ. Sci., vol. 11, no. 11, p. 693, Oct. 2021.

[21] C. J. Bonk, "Pandemic ponderings, 30 years to today: synchronous signals, saviors, or survivors?," Distance Educ., vol. 41, no. 4, pp. 589–599, Oct. 2020.

[22] M. Zappatore, "C-STARS: a collaborative online learning environment for situated translation teaching in higher education," Int. J. Inf. Learn. Technol., vol. 39, no. 4, pp. 386–404, Oct. 2022.

[23] J. Han, X. Geng, and Q. Wang, "Sustainable Development of University EFL Learners' Engagement, Satisfaction, and Self-Efficacy in Online Learning Environments: Chinese Experiences," Sustainability, vol. 13, no. 21, p. 11655, Oct. 2021.

[24] C. Schneider, "Setting Up a Language Learning Environment in Microsoft Teams," Stud. Self-Access Learn. J., pp. 263–270, Sep. 2020.

[25] D. Elford, S. J. Lancaster, and G. A. Jones, "Fostering Motivation toward Chemistry through Augmented Reality Educational Escape Activities. A Self-Determination Theory Approach," J. Chem. Educ., vol. 99, no. 10, pp. 3406–3417, Oct. 2022.

[26] M. Singh, S. O. Adebayo, M. Saini, and J. Singh, "Indian government E-learning initiatives in response to COVID-19 crisis: A case study on online learning in Indian higher education system," Educ. Inf. Technol., vol. 26, no. 6, pp. 7569–7607, Nov. 2021.

[27] M. Ali and M. H. Miraz, "Assesment of Delivery Platforms and Online Pedagogy Requirements," in 2020 International Conference on Computing, Electronics & Communications Engineering (iCCECE), 2020, pp. 176–181.

[28] M. Hebert, A. Upshaw, and J. Rossie, "Usability of Microsoft Teams and Stream in Nursing Education," CIN Comput. Informatics, Nurs., vol. 40, no. 10, pp. 699–704, Oct. 2022.

[29] M. M. Navarro, Y. T. Prasetyo, M. N. Young, R. Nadlifatin, and A. A. N. P. Redi, "The Perceived Satisfaction in Utilizing Learning Management System among Engineering Students during the COVID-19 Pandemic: Integrating Task Technology Fit and Extended Technology Acceptance Model," Sustainability, vol. 13, no. 19, p. 10669, Sep. 2021.

[30] N. P. Krylova, G. M. Tyulyu, and E. N. Levashov, "E-Learning Integration with traditional learning in a university environment: Academic and administrative factors and conditions," Sci. Educ. Today, vol. 10, no. 6, pp. 200–219, Dec. 2020.