

# Integration of MS Teams as an LMS Tool for Language Classroom: An Analysis using SAMR Model

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## Abstract

The digital transformation that happened in the field of education has made its way in teaching methodology supported by the integration of digital technologies. With the normalization of using digital technology among the generation Z and Alpha, the educational approaches are being constructed and reconstructed using latest digital technologies. The change in approaches can be identified from computer assisted to mobile assisted, blended to flipped and regular courses to Massive Open Online Courses (MOOC) or Learning Management System (LMS). In the context of language teaching and learning, the current digital technologies are being supportive tools in imparting language skills. Hence, this study aims to analyse the effectiveness of integrating Microsoft Teams (Teams) as an LMS tool to support language teaching using Substitution, Augmentation, Modification and Redefinition (SAMR) framework. The four degrees of the SAMR framework helps in understanding the effectiveness of the integration of digital technologies to language teaching methods. The findings of the study conclude that MS Teams can be considered as an efficient LMS tool for language teaching-learning process.

**Keywords—** Digital technology, Language skills, LMS, SAMR, Teams.

## I. INTRODUCTION

In recent times, the use of Learning Management System (LMS) has gradually increased due to various reasons such as rapid developments in Information and Communication Technology (ICT), adapting new educational approaches like flipped learning and necessity of digital tools for education during pandemic times. Even in the post pandemic educational scenario, few institutions continue to use LMS tool for blended and flipped approaches. With the use of LMS, teachers can communicate with, collect assignments from, evaluate the works done by, students. As LMS are widely used for teaching-learning process, the effectiveness of LMS tools are required to be assessed.

The assessment on the efficacy of LMS tool opens the way to verify the usability and the relevance of the tool with the teaching-learning content. This study focuses on the effectiveness of using Microsoft Teams (Teams) as an LMS tool to evaluate how the application enhances and transforms the cognition level of Language learners. This study uses Substitution Augmentation Modification Redefinition (SAMR) model as a theoretical framework to evaluate the effectiveness, whether the features and integrated applications available on Teams allow the students to move from enhancement level to transformation level.

## II. LITERATURE REVIEW

Most of the students from generation Z and Alpha are habituated to use the latest digital technologies. As the students of these days are more towards digital technologies, the integration of technology in education is unavoidable one. Budhwar (2017) [1] explains the necessity of incorporating technologies for teaching, as technology prepares students for future career and real-world environment, makes students to work in collaboration, excites students to learn and helps teachers to teach students according to their learning styles. In academic settings, digital technologies are incorporated in various forms such as audio-visual aids, video conferencing platform, LMS and gamifications. LMS are generally used to create educational contents, discuss the course through personal chat, discussion forum and video conference, manage students' academic progress, evaluate and provide feedback.

Many studies have been done on the effectiveness of incorporating digital technologies for language Teaching using various frameworks like Technology Acceptance Model (TAM) and Substitution Augmentation Modification Redefinition (SAMR). Puentedura (2013) [2]

has designed a framework named SAMR to enhance or transform the educational practice using any technological tool. Often, SAMR is associated with the Bloom's taxonomy as the learners move from lower order of cognition to higher order (Puentedura, 2013) [3]. Patria (2019) [4] has studied the enhancement of academic practice by integrating iPad by English language learners and teachers. The study concludes that iPad helps the users to reach upto Modification level. Howlett et al. (2019) [5] have studied that majority of the samples used technologies (tools in general) only up to lower levels (Substitution & Augmentation). Tseng (2019) [6] has made a study on the use of iPads for language teaching. The study finds that technological problem of the instructor might influence to reach the higher levels (Modification & Redefinition). Al-Khalidi (2021) [7] has studied that there is a high frequency of using digital tools to the levels of Substitution and Augmentation than Modification and Redefinition. Cheung (2021) [8] has discussed that Zoom limits the teacher to remain in the level of enhancement (Substitution and Augmentation) as the sample (participant) of the case study designed the task that does not require interaction between students. Syathroh (2022) [9] has made a study on the use of technology in English as a Foreign Language class. The study evaluates that a list of technology used by the samples are up to the level of Modification.

As there are no major studies have been made to evaluate use of LMS specific to language classroom using SAMR model, this study evaluates the features and integrated applications available on *Teams* using the same model. The study focuses SAMR, a conceptual model to understand and evaluate the integration of *Teams* with the objective as follows:

1. To find out the features and integrated applications available on *Teams* used by the subjects of the study for the major language skills (LSRW)
2. To classify the features and integrated applications of *Teams* according to higher and lower orders.

### III. DATA AND METHOD

The study is conducted using mixed approach comprise of both qualitative and quantitative data. The sample universe comprises of 2 teachers and their students of English class from a recognised private university from Southern part of India educates students across the country. The sample size of the study consists one male and one female language teachers. For the study, data was gathered in the form of questionnaire survey, interview and observation. The obtained data is graphically represented in tables and analysed using the conceptual framework, SAMR.

The conceptual framework, SAMR stands for Substitution, Augmentation, Modification and Redefinition. SAMR is categorised into two orders including Enhancement level (Substitution & Augmentation) as lower order and Transformation level (Modification & Redefinition) as higher order. The definition and example can be seen in the Table 1.

The data is collected in the form of questionnaire, semi-structured interview and observation. The questionnaire comprises of demographic detail of and the preferred features and integrated application that are being used by, the participants. In semi-structured

Table 1: SAMR: definitions and examples (Puentedura, 2013)

Levels	Definition	Example	Order
Redefinition	The use of technology allows the teacher to create a new task which had been inconceivable in the traditional approaches	Taking the students on a virtual tour of the Mount Everest using Google Earth	Transformation (Higher)
Modification	The use of technology that allows the teacher to modify or redesign the task or activity in the classroom/virtual classroom	Asking the students to write collaboratively using Google Docs instead of writing individual assignment	
Augmentation	The use of technology replaces the traditional approach with some functional changes	Assigning writing components using Google Docs offers additional functions like a spell check, language correction/ suggestions and thesaurus	Enhancement (Lower)
Substitution	The use of technology which replaces the traditional approach with no functional change	Asking students to write an essay using Notepad software application instead of pen and paper	

interviews, participants shared their opinions on and experience with the features and the integrated applications. The researcher has observed the classes online to make the study more accurate and reliable.

#### IV. ANALYSIS AND RESULTS

The demographic details contain socio-linguistic variables like Age, Gender and Years of experience in teaching and in using technology for teaching. The participant's identity is pseudonymised as participant A and participant B. (See Table 2).

Table 2: Demographic details of the participants

Participants	Gender	Age	Years of experience	Years of experience with technology
A	Male	29	3	3
B	Female	34	5	2

Generally, language teachers often assign tasks for their learners to impart major language skills such as Listening, Speaking, Reading and Writing. A review article of Blake (2016) [10] emphasises on the importance of integrating digital technologies and Task Based Language Teaching (TBLT). Blake affirms that, coupling of new technologies and TBLT sets a platform for a teacher to have goal-oriented approach that prepares the learners to a real digital world situation by combining the language skills with the digital world. Therefore, combining language skills with digital technology can influence the digital natives in a very positive way.

In *Teams*, there are numerous features and integrated applications that aid the language learners to develop their language skills. In order to identify the features and integrated applications that are preferred by the study samples, questionnaire is framed including open-ended questions. For the questions, Participants have recorded responses with a list of features and integrated applications in the answering section. The features and integrated applications used by the participants according to the target skills, can be seen in the Table 3.

Table 3: Features and Integrated Applications preferred by the participants

Participant	Listening skill	Speaking skill	Reading skill	writing skill
A	YouTube, Screensharing	Breakout rooms, video conferencing, Flipgrid	E-books in PDF or DOC formats, Glose for Education	Discussion forum, One Note, Whiteboard
B	Ed puzzle	Breakout rooms, video conferencing Speech Coach	Glose for Education, Reading Progress	Chat, One Note, Whiteboard

The participants shared their experience with and opinions on the available features and integrated applications on *Teams* as follows:

**YouTube:** Integrated YouTube application available in *Teams* allows the user to post the link in the application. It helps the participant A to post the link directly in *Teams* which can make the students to avoid diverting from *Teams* to watch the video. It is observed that there was a functional change by watching YouTube content without navigating the application

**Screensharing:** Screen sharing feature in *Teams* helped the participant A to share his entire screen to the students

through which the students were able to listen the audios and watch the videos played by the participant A. It is observed that there was no functional change in sharing the screen.

**Breakout rooms:** Breakout rooms is a feature available on *Teams* provided both the participants (A&B) to conduct group discussions and tasks. Participants were able to put the students in different rooms. So, it is observed that there was a functional change in splitting the students in *Teams*.

**Video Conferencing:** video conferencing is a feature of *Teams* aided both the participants (A&B) to conduct speaking activities or discussions among the students. So,

it is evident that there was no any functional change in using this feature.

**Flipgrid:** Flipgrid is an integrated application of *Teams* that offers the students to upload a recorded video. Below the video the teachers and fellow students can like and comment. With this application, participant A asked the students to prepare and record a video on particular topic. Here it can be seen that participant have redesigned the speaking task which had been given in the traditional classes.

**Ed puzzle:** Ed puzzle is an integrated application of *Teams* that helps the teacher to combine videos and questions together in the same application. It is observed that in one window content and question & answer can be combined.

**Speech Coach:** Speech Coach is a feature can be seen in *Teams*, which provides individual feedback in private. It provides feedback on filler words, intonation, pace and repetitive language. It is observed that this kind of detailed feedback on human speaking is actually impossible to get without a technology.

**E-books in PDF or DOC:** PDF or DOC files can be added in *Teams* to make the student to read a specific content. By using this feature, it is observed that E-books are substituting printed books.

**Glose for Education:** Glose is an integrated application of *Teams* which offers the teachers to create a reading group. It helps the students by providing thousands of open-sourced classic E-books. In this application, students can find out meanings or definitions of unknown words, translate, bookmark, add notes, raise questions and teachers can clarify with the questions raised. It is observed that the collaborative reading and other features

that are offered by Glose is something novel which cannot be experienced in traditional classrooms.

**Reading Progress:** Reading Progress is a feature available on *Teams*, helps the students to get detailed feedback on their reading Fluency skill. It can give feedbacks on mispronunciation, repetitions and omissions. It is observed that these kinds of feedbacks cannot be given accurately in the traditional approach without technology.

**Chats:** Chats is feature of *Teams* that helps the students to share their opinions and response in the chat box when they are asked any questions. It is observed that it just has replaced the oral sharing in the traditional approaches.

**Discussion Forum:** Discussion Forum is a feature available on *Teams*, that helps the teacher to start a thread to discuss on any topic. Students can also reply to the main thread. So, it is observed that this feature just replaced the oral discussion.

**One Note:** One Note is an in-built application that allows the students to write, draw, attach pictures and even the voice and video records. It is observed that One Note has some functional change that can also redesign the tasks by making the writing tasks a collaborative.

**Whiteboard:** Whiteboard is also similar to One Note, an in-built application where students can collaboratively write their ideas and opinions. It is observed that Whiteboard can used for writing tasks collaboratively with few functional changes like colouring, highlighting, attaching sticky notes and writing.

All the mentioned features and integrated applications are analysed and charted their level according to SAMR model. (See Table 4)

Table 4: Levels of Features and Integrated applications according to SAMR

Skills focused	Substitution	Augmentation	Modification	Redefinition
Listening	Screen sharing	YouTube	Ed puzzle	N/I
Speaking	Video Conferencing	Breakout rooms	Flip Grid	Speech Coach
Reading	E-books in PDF or DOC formats	Glose for Education	Glose for Education	Reading Progress
Writing	Chats, Discussion form	One Note, Whiteboard	One Note, Whiteboard	N/I

Note: N/I – Not identified.

As mentioned in the Table 4, it can be concluded that the features and integrated applications available on Microsoft Teams have the potential to move the learners from enhancement level to transformation level.

## V. LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDIES

As this study have included only two participants, the results need to be generalized by including a greater

number of study samples. So, in future a greater number of samples can be added for the study. The study samples have not identified any applications or features that takes the students to Redefinition level for Listening and Writing skills. In future research, researchers can aim to identify the applications that takes the students to redefinition level. The study focuses only on the major language skills such as Listening, Speaking, Reading and Writing. So, the future studies can focus on other language skills like vocabulary skills and grammar skills. The features and integrated application that are discussed in the study is limited. So, other integrated applications like Nearpod, Video wiki, Kahoot and Loops. This study has focused only on *Teams*. Therefore, the future study can be focused on other LMS platforms like, Moodle, Google Classroom, Blackboard, Schoology and Canvas.

## VI. CONCLUSION

The main aim of this study is to identify the integrated applications and features of *Teams* and categorise them using SAMR model. This study identified a list of applications and features that are being used by the study samples. The identified applications and features are analysed by the conceptual framework called SAMR model. This study has found that Screen sharing, Video Conferencing, E-books in PDF or DOC formats, Chats and Discussion form take the learners to Substitution level. Likewise, YouTube, Breakout rooms, Glose for Education, One Note and Whiteboard to Augmentation level, Ed puzzle, Flip Grid, Glose for Education, One Note and Whiteboard to Modification level. Finally, Speech Coach and Reading Progress take the learners to Redefinition level. In sum, features and integrated applications available on Microsoft Teams have the capability of making the students to reach the transformation level.

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