

## **Microsoft 365 Digital Classroom Tools and the Development of English Teachers' Self-Efficacy in ICT**

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### **Abstract**

Present scholarship informs that teacher self-efficacy is in nexus with the quality of teaching. Thus, this study considers the issue of teacher self-efficacy in English teaching, particularly concerning ICT. It aimed at examining whether the English teachers' self-efficacy in ICT can be developed by using effective strategies of *Microsoft 365* digital classroom tools in teaching English. The study employed a mix-method analysis with a congruent mixed-method design. The participants were three female and one male English teachers teaching English in elementary schools. They all received educational intervention on the practical strategies of using *Microsoft 365* digital classroom tools. Closed-ended questionnaire was used to get quantitative data and it was administered before and after the teachers received the intervention. The data from the questionnaire were analyzed quantitatively through mean comparison. Besides, an interview was used to get qualitative data which were analyzed thematically. The quantitative result showed the mean comparison between pre and post-test: the post-test mean score was higher ( $M = 3.18$ ) than pre-test ( $M = 2.71$ ). The qualitative data indicated that the participants' efficacy for instructional strategies, classroom management, and student engagement were getting better. In short, both quantitative and qualitative showcase that the self-efficacy of the teachers in ICT was developed when they implemented the *Microsoft 365* Digital Classroom Tools.

**Keywords:** *English language teaching, ICT, Microsoft 365, teacher self-efficacy*

### **INTRODUCTION**

Self-efficacy is an individual's belief in one's abilities and perceived expertise in performing specific tasks (Bandura, 1977) has received a great deal of attention in teacher education (Hoang & Wyatt, 2021). Teacher self-efficacy is defined as a teacher's opinion of their own ability to control a classroom, engage students, and undertake allotted teaching materials (George et al., 2018). Empirical research from Zee & Koomen, (2016) shows teachers' self-efficacy, this relationship among teacher efficacy and learning affirm. One of their breakthroughs was that teachers' self-efficacy positively correlated with teacher behavior habits and classroom quality practices. As a result, studies on teachers' self-efficacy are critical.

The COVID-19 pandemic has ruined people's lives. It has, however, accelerated the development of online English language education (Carrillo & Flores, 2020), which focuses the world's attention on online English teaching modes (Gao & Zhang, 2020; Pu,

2020). Accordingly, during the Covid-19 pandemic, English teachers hugely used online teaching modes to teach English. Each reason behind this phenomenon is that various countries have enacted policies requiring the substitution of traditional (Carrillo & Flores, 2020). Indonesia is among them. In Indonesia, the Ministry of Education has called for a nationwide expansion of online education to ensure that learning persists even if classes are canceled due to the Covid-19 pandemic (Bureau of Communication and Public Service & Culture, 2020). Thus, English teachers in Indonesia also move to online learning and use various modes of online teaching to teach English. Unfortunately, English teachers still face problems in Indonesia, particularly concerning ICT use.

Interestingly, research on *Microsoft 365* digital classroom tools and their impact on English teachers' self-efficacy in ICT is scarce. A related study was found by Amirullah & Maesaroh, (2020) and Tahani R. K. Bsharat & Fariza Behak, (2021) with the title "The Impact of *Microsoft Teams*' App in Enhancing Teaching-Learning English during the Coronavirus (COVID-19) from the English teachers' perspectives" in Jenin city. Shows quantitative results Data encoded using SPSS v. 23. Analytical procedures, including conducting descriptive analysis. One-way ANOVA is used to explore differences, if any, between participants depending on their experience and age.

In this study, the impact of the *Microsoft Teams* App in improving English learning during the Coronavirus (COVID-19) from the perspective of English teachers in the city of Jenin used a self-managed questionnaire, which revealed the high impact of the use of *Microsoft Teams* on improving English teaching during the Coronavirus (COVID-19). Then another study written by Gufron Amirullah and Maesaroh (2020) with the title "Development of *Microsoft 365*-Based Digital Classes at Muhammadiyah School of DKI Jakarta." Showing the results of qualitative data that through *Microsoft Teams* teachers and learners can collaborate information and data from the online learning process, the skills of operating *Microsoft 365* by teachers have also improved. Which conducted online digital training using *Microsoft 365*, not so much focused on the impact of the effective strategy use of the tools in *Microsoft 365* for the teachers' self-efficacy in ICT. Due to COVID-19 restriction, according to the circular of the Surabaya City government, the government actually invited teacher representatives from every school in Surabaya to be given training regarding the benefits and how to use of *Microsoft 365* as a means of implementing online learning. On the contrary, there are still many teachers who lack self-efficacy in ICT, and of course this will hinder their online learning which will have an impact on the quality of student learning. Thus, we can see a gap in the field of ICT tools, particularly concerning their impact on teachers' self-efficacy. This gap is essential to understand to what extent English teachers have already had abilities to manage the classroom, engage students, and carry out assigned teaching tasks using the available ICT tools such as *Microsoft 365*.

Therefore, this study extended the previous study and addresses these problems, minimal ICT tools that help English teachers teach English online. This study developed strategies for using *Microsoft 365* digital classroom tools as a means of implementing

online learning which can maintain the quality of student learning even through online learning. Using the tools, teachers can manage the English online learning and the students easily. This will trigger teachers' sense of ability or agency when using ICT in a language classroom, in other words, their self-efficacy in ICT. Considering teachers' self-efficacy, as informed above, is in nexus with the quality of teaching and learning, *Microsoft 365* digital classroom tools by English teachers are expected to benefit the quality of online English instructions. Besides, when English teachers can effectively use ICT, it may promote high levels of student engagement and create a more dynamic learning environment (Hatlevik & Hatlevik, 2018). Besides, when teachers are physically and mentally prepared to integrate technology into their teaching, every activity in the classroom will be more organized (Lailiyah & Cahyono, 2017). Thus, this study focuses on the implementation of *Microsoft 365* digital classroom tools developed by the researchers and investigates their impact on English teachers' self-efficacy in ICT.

## METHODOLOGY

### *Research Design*

This study employed mix-method research with a congruent mixed-method design. The design benefits for revealing a complete analysis of an investigated issue using quantitative and qualitative data (Dawadi et al., 2021). Thus, this study was able to show the whole picture of the implementation of *Microsoft 365* digital classroom tools on English teachers' self-efficacy in ICT.

### *Participants*

The participants were three female and one male English teacher who taught English online in elementary schools who still did not know the benefits and how to use *Microsoft 365*. They were selected because they expressed problems in ICT use and they voluntarily wanted to get involved in the educational intervention program. Then, they were given short training about the *Microsoft 365* digital classroom tools before implementing them in their online classroom. They signed a consent form for ethical purposes.

### *Educational Intervention: Microsoft 365 Digital Classroom Tools*

*Microsoft 365* digital classroom tools were used as an educational intervention to boost teachers' self-efficacy in ICT. The tools had been provided in *Microsoft 365*, and the researchers created effective ways or strategies using the tools for instructional practices, particularly in teaching English. The strategies were validated by a *Microsoft 365* official mentor and been tried out to a teacher, and they echoed that the strategies were ready to use in the instruction. The effective strategies of *Microsoft 365* digital classroom tools are presented in Table 1.

Table 1. *Microsoft 365* Digital Classroom Tools and its Effective Use in Teaching English

| <i>Microsoft 365</i>   | Effective Strategies of Use   |
|------------------------|---|
| <i>Microsoft Forms</i> | In this research, researchers will use <i>Microsoft Forms</i> as a medium or tool to record student |

|                             |  |
|-----------------------------|--|
|                             | data and student feedback.   |
| <i>Power Automate</i>       | In this research, researchers will use <i>Microsoft Power Automate</i> to create flows and automate the process of running <i>Microsoft 365</i> digital classroom tools.   |
| <i>SharePoint</i>           | In this research, the researcher will use it as a place to store and record all incoming data and can be shared and viewed by people who are members of the class ( <i>Microsoft Teams</i> ) created by the researcher.  |
| <i>OneDrive</i>             | In this research, researchers will use <i>OneDrive</i> as a place to store all files and necessities that would be used in learning activities.  |
| <i>Outlook</i>              | In this research, researchers will use <i>Outlook</i> as a means of sending mass emails, both containing a schedule of learning activities, confirmations, and reports of learning outcomes.   |
| <i>Microsoft Excel</i>      | In this research, researchers will use <i>Microsoft Excel</i> as a medium for managing and displaying data.  |
| <i>Microsoft PowerPoint</i> | In this research, researchers use <i>Microsoft PowerPoint</i> as a medium in make interesting subject materials and designing a certificate of learning outcomes.  |
| <i>Microsoft Word</i>       | In this research, researchers would use the ribbon developer in <i>Microsoft Word</i> , which functions to automate the name of the learning outcomes, and the status of the student's passing or not on the learning outcomes certificate automatically integrated with <i>Microsoft Power Automate</i> . |
| <i>Microsoft Teams</i>      | In this research, researchers will use <i>Microsoft Teams</i> as a substitute for offline classes and make it a class in the context of online learning.   |

### *Data Collection Instrument and Technique*

#### Quantitative

A questionnaire was an instrument used to get quantitative data. It was in the form of a four-point Likert scale, so the data were interval. It was used and administered before and after the participants used the *Microsoft 365* digital classroom tools. It was adopted from Tschannen-Moran & Hoy, (2001). This questionnaire was chosen because it

emphasized ICT elements to express teachers' effectiveness in using ICT in the teaching and learning process. Furthermore, it passed construct validity tests of factor analysis and had robust reliability results, *Cronbach alpha*, 0.94. Notably, the questionnaire had strong consistency of use over various contexts, such as Zee et al., (2018), which discovered that item reliability scores ranged from 0.86 to 0.87, and Sakız et al., (2019), which found that the instrument's reliability value ranged between 0.83 and 0.93. Thus, this study adopted the questionnaire and used it in the English teaching context. The original device used English, then was translated into Indonesian to address participants' misunderstandings. The questionnaire survey can be seen in the appendix.

### Qualitative

Semi-structured interviews were used to reveal teachers' self-efficacy after the participants used *Microsoft 365* digital classroom tools. Interviews with each teacher were timetabled for approximately 30 minutes. The interview questions were the instrument and they produced data in the forms of opinions/expressions/sentences about self-efficacy in ICT. The interview questions *per se* were developed based on the teacher self-efficacy domain stated in the questionnaire of Tschannen-Moran & Hoy, (2001), which include: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement.

Interview questions were given in Indonesian. The list of questions asked during the interview is in the following.

1. What *Microsoft 365* digital classroom tools have you used?
2. How do you feel after you try to use *Microsoft 365* digital classroom tools?
3. Do you think *Microsoft 365* digital classroom tools help you in your English teaching? In what ways? Would you please elaborate?
4. Do you think *Microsoft 365* digital classroom tools help you to organize your English class? In what ways? Would you please elaborate?
5. Do you think *Microsoft 365* digital classroom tools help you to make your students involved in your English class? In what ways? Would you please elaborate?

### Data Analysis

Quantitative data analysis was performed using the comparative mean score. It was performed to the results of the pre and post-test questionnaire using SPSS. Furthermore, qualitative data analysis was thematically analyzed. The procedures were that the interview results were transcribed and analyzed their content and matched with these three themes. These three themes were generated from the domain of teacher self-efficacy from Tschannen-Moran & Hoy, (2001): efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement.

## RESULTS AND DISCUSSION

### Results

#### Quantitative Results

Table 2 contains the results of the mean comparison between pre and post-test to obtain the impact of the strategy use of *Microsoft 365* Digital Classroom Tools on teachers' self-efficacy in a few participants using SPSS.

Table 2. Mean difference of pre and post-test

| N | Test      | Mean Difference | SE  |
|---|-----------|-----------------|-----|
| 4 | Pre-Test  | 2.71            | .17 |
| 4 | Post-Test | 3.18            | .05 |

Table 2 showed the mean comparison between pre and post-test: the post-test mean score was higher (M = 3.18) than pre-test (M = 2.71). This indicated that the use of strategy *Microsoft 365* Digital Classroom Tools could develop the teacher's self-efficacy.

#### Qualitative Results

##### 1) Efficacy for instructional strategies

The use of *Microsoft 365* digital classroom tools on the teachers' self-efficacy was considered by the respondents as a solution in the midst of the development of this era. The qualitative data revealed that the teachers have perceived that they have increased their ability to perform English instructional activities. They think that they have betterment in terms of delivering materials and making the learning materials become more interesting, enjoyable, and innovative due to implementing effective use of *Microsoft 365* digital tools in their classroom.

Table 3. Results in terms of efficacy for instructional strategies

| PARTICIPANTS   |   |  |   |
|--|---|--|---|
| T1   | T2  | T3   | T4  |
| <i>Microsoft Teams</i> helps me in teaching to deliver materials, so when I have created <i>PowerPoint</i> , I can share directly and can be seen by students. In addition, when I give exercises about using <i>Microsoft Word</i> which I then send to <i>Microsoft Teams</i> , so | Yes of course because in teaching English on students have difficulty understanding the material, so with <i>Microsoft Teams</i> , I can make the material more interesting and | Yes, because I can take advantage of technology in my classroom and of course, this makes it very easy for me to teach, I can make classroom materials more interesting with the help of <i>PowerPoint</i> and | Yes, I think the <i>Microsoft 365</i> digital classroom tool helps me in doing learning activities. The learning activities I did this time were more innovative and, in this case, I was able to make the learning activities more enjoyable than just using books and |

|   |                       |                                  |   |
|---|-----------------------|----------------------------------|---|
| children can print, can be done directly. | easier to understand. | to spread it to students easily. | whiteboards on the usual learning activities. |
|---|-----------------------|----------------------------------|---|

### 2) Efficacy for classroom management

In terms of efficiency for classroom management, the teacher felt the strategy to use *Microsoft 365* Digital Classroom Tools was very easy, quickly sharing the material with students before starting to teach. So, it's more conducive when the teacher explains. Moreover, the teacher felt very helpful when it comes to compiling online class schedules, division, and task collection. Easier to share class schedules, presence, and also office selection that has many features from material work, problem making to displaying and processing student learning data. Furthermore, this strategy helps the teacher in making learning activities more innovative and more enjoyable.

Table 4. Results in terms of efficacy for classroom management

| PARTICIPANTS  |   |  |   |
|---|---|--|---|
| T1  | T2  | T3   | T4  |
| Because indeed, it is very easy, quickly share the material with students before starting to teach. So, students at least have a handle in the form of <i>PowerPoint</i> (material). So, students can read first. When explaining, there are some things that students have understood. So, it's more conducive when I explain. | Yes, <i>Microsoft Teams</i> can be very helpful when it comes to compiling online class schedules, division, and task collection. | Yes, I am easier to share class schedules, presence, and also <i>Microsoft Office</i> selection that has many features from material work, problem making, to displaying and processing student learning data. | Yes, I think the <i>Microsoft 365</i> digital classroom tools helped me in processing the class. I think the material or task can be more organized with the use of <i>Microsoft 365</i> digital classroom tools. |

### 3) Efficacy for student engagement

The strategy uses *Microsoft 365* Digital Classroom Tools. It also has an impact on efficacy for student engagement. Every teacher felt that their student was more active during the learning process and more responsible because if they do not do automatic tasks, their value will not enter. Furthermore, this strategy helped a teacher in getting students involved in the class.

Table 5. Results in terms of efficacy for student engagement

| PARTICIPANTS  |   |   |  |
|---|---|---|--|
| T1  | T2  | T3  | T4   |
| Well, enough, the students comment on my task when there is a lack of understanding of the material. Also I | Yes, students can be more active during the learning process. Children in | Yes, in QnA sessions in <i>Microsoft Teams</i> and work on tasks in the form, because | Yes, I think the <i>Microsoft 365</i> digital classroom tools helped me in getting students involved |

|  |  |  |  |
|--|--|--|--|
| <p>can answer it, so there is interaction. In addition, if he/she (the students) are finished and can say or comment as well, then I can give a score.</p> | <p>English lessons are less active and more passive, so they can be motivated to take English lessons.</p> | <p>if they do not do automatic tasks their score will not enter.</p> | <p>in my classes. In this case, the <i>Microsoft 365</i> digital classroom tools are able to make students play an active role to participate in learning activities by doing tasks using <i>Microsoft Office</i>.</p> |
|--|--|--|--|

## Discussion

The quantitative result showed the mean comparison between pre and post-test: the post-test mean score was higher than pre-test. This indicated that the use of strategy *Microsoft 365* Digital Classroom Tools could develop the teacher’s self-efficacy in ICT. The qualitative data in efficacy for instructional strategies revealed that the teachers have perceived that they have increased their ability to perform English instructional activities, deliver materials, and make the learning materials become more interesting, enjoyable, and innovative.

In terms of efficiency for classroom management, the teacher felt the strategy to use *Microsoft 365* digital Classroom Tools was very easy, and quickly shared the material with students before starting to teach. So, it’s more conducive when the teacher explains. Moreover, the teacher felt very helpful when it came to compiling online class schedules, and task collection. Easier to share class schedules, presence, and also office selection that has many features from material work, problem making to displaying and processing student learning data. Furthermore, in terms of student engagement. Every teacher felt that their student was more active during the learning process and more responsible because if they do not do automatic tasks, their value will not enter. Furthermore, this strategy helped a teacher in getting students involved in the class. In short, both quantitative and qualitative results showcase that the implementation of *Microsoft 365* Digital Classroom Tools could develop the teacher’s self-efficacy in ICT.

Interestingly, our findings extend the findings of other studies. A related study from Tahani R. K. Bsharat and Fariza Behak (2021) showed that the *Microsoft Teams* App improved English teaching during the Coronavirus (COVID-19). Another study written by Gufron Amirullah and Maesaroh (2020) showed that through *Microsoft teams* teachers and learners could collaborate information and data from the online learning process and the skills of operating *Microsoft 365* by teachers have also improved. The quantitative and qualitative findings of our study add another novel information that *Microsoft 365* digital classroom tools can also be a way for developing self-efficacy teachers in ICT through effective use of it.

The possible reasons for the development are that the strategies that we proposed to be used by the teachers are compatible with the work. In other words, the strategies of the teacher can have a feeling of agency to control classroom activities in online learning

using ICT; making the teachers' self-efficacy in ICT develop. This speaks of what Bandura (1977) views about self-efficacy is an individual's belief in one's abilities and perceived expertise in performing specific tasks (Bandura, 1977).

Furthermore, our qualitative data are also in agreement with the concept of the teacher self-efficacy echoed by George et al. (2018). They say that teacher self-efficacy is a teacher's opinion of their own ability to control a classroom, engage students, and undertake allotted teaching materials. Our qualitative data showed that the teachers have perceived that they have increased their ability to perform English instructional activities, deliver materials, and make the learning materials become more interesting, enjoyable, and innovative. In addition, our qualitative data findings also speaks to the benefits of ICT use in English language classrooms, creating high levels of student engagement and a more dynamic learning environment (Hatlevik & Hatlevik, 2018).

## CONCLUSION

The research aimed at examining the implementation of *Microsoft 365* digital classroom tools developed by the researchers, particularly in its impact on English teachers' self-efficacy in ICT. The findings revealed quantitative results showing the mean comparison between pre and post-test: the post-test mean score was higher than pre-test. This indicated that the use of strategy *Microsoft 365* Digital Classroom Tools could develop the teacher's self-efficacy. The qualitative data in efficacy for instructional strategies revealed that the teachers have perceived that they have increased their ability to perform English teaching activities. In terms of efficacy for classroom management, the strategy using *Microsoft 365* Digital Classroom Tools are very easy. Easier to share class schedules, presence, and also the tasks. This strategy helps the teacher in making learning activities more innovative and more enrichment. The strategy uses *Microsoft 365* Digital Classroom Tools to make teachers and students more productive in the classroom. Every teacher felt that their student was more active during the learning process and more responsible because if they do not do automatic tasks, their score will not enter into the system.

Although this study has successfully revealed important findings on a way to increase teachers' self-efficacy in ICT, this study still has limitations. The number of respondents (subjects) in this research is scant, only four people. In the next research, the other researcher can add research subjects. In addition, this research context focuses on elementary school-level English learning. Further research can be traced to secondary school and senior high school contexts.

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**APPENDIX**

The Questionnaire Survey

**Name:**

**Email:**

**School:**

**Teacher self-efficacy towards Microsoft 365 Based Digital Classroom Tools**

*Instruments adapted from Tschannen-Moran and Hoy, 2001*

| No | Item  | Strongly Agree | Agree | Disagree | Strongly Disagree |
|----|---|----------------|-------|----------|-------------------|
|    | <b>Learning Strategies.</b> through using Microsoft 365 Based Digital Classroom Tools, I got... |                |       |          |                   |
| 1  | Modify the assessment strategy.   |                |       |          |                   |
| 2  | Explain the confusion of students.  |                |       |          |                   |
| 3  | Ask a clear question.   |                |       |          |                   |
| 4  | Standardize teaching strategies.  |                |       |          |                   |
| 5  | Answer multi-level questions from students.   |                |       |          |                   |
| 6  | Adjust teaching based on student understanding.   |                |       |          |                   |
| 7  | Measuring understanding related to student learning.  |                |       |          |                   |
| 8  | Adjust the tasks according to the student level.  |                |       |          |                   |
|    | <b>Class Management.</b> through using Microsoft 365 Based Digital Classroom Tools I can...     |                |       |          |                   |
| 1  | Control of student discipline.  |                |       |          |                   |
| 2  | Influence students to follow class rules.   |                |       |          |                   |
| 3  | Calm the noisy students.  |                |       |          |                   |
| 4  | Create a student discussion group.  |                |       |          |                   |
| 5  | Dealing with the problem of students who are left behind.                                       |                |       |          |                   |
| 6  | Dealing with students who lack discipline.  |                |       |          |                   |
| 7  | Predict student behavior.   |                |       |          |                   |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| 8 | Creating a smooth learning routine.  |  |  |  |  |
|   | <b>Student Engagement.</b> through using Microsoft 365 Based Digital Classroom Tools, I got... |  |  |  |  |
| 1 | Encourage students to do learning activities.  |  |  |  |  |
| 2 | Encourage students to like/appreciate learning.  |  |  |  |  |
| 3 | Motivate students to engage in learning.   |  |  |  |  |
| 4 | Ensure students are diligent in carrying out every learning activity.                          |  |  |  |  |
| 5 | Improve students' understanding through a variety of learning.                                 |  |  |  |  |
| 6 | Help students think critically.  |  |  |  |  |
| 7 | Arouse student creativity.   |  |  |  |  |
| 8 | Explore the level of understanding of students.  |  |  |  |  |