
Issues and Perspectives in Business and Social Sciences

The effectiveness of microlearning approach from the perspectives of practicum teachers

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Abstract

Over the past years, practicum teachers have been assigned to schools for their teaching practicum. Many of them tend to struggle with the reduced attention span of students due to online learning. As such, microlearning has been seen to be the most recent method of teaching that could aid students to learn better. This research focuses on the interaction and relativity of microlearning with practicum teachers in the teaching and learning process. 8 groups of 20 students in each group were selected using a convenience sampling method, as the group of students were easily accessed by the researcher, and the practicum teachers acted as the data collectors for this research. The microlearning tool used to replace the traditional teaching method was a 3-minute video and images. All selected students are in the same level of studies which is in Year 8. Majority of them have the same proficiency level which is upper intermediate. The results show that microlearning did help with their classroom management and students were able to practise their scaffolding skills in a more effective manner.

Keywords:

microlearning;
attention span;
motivation;
qualitative study;
teaching methods

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1. Introduction

Due to the COVID-19 virus's almost universal dissemination, many educational institutions now offer online courses (Fitria, et al., 2022). The focus and attention span of students cannot be maintained consistently during study time, which is just one of the numerous difficulties in conducting online learning. Given that students' attention can wane after lengthy lecture times due to weariness and boredom, it is less practicable to make the online learning time equal to that of the in-person learning in class. In addition, it is expensive, especially when done remotely, and each student in the session needs their own personal electronic device to stay in touch with others throughout the same lesson hour.

It is exceedingly challenging to have a learner sit down in one place and continuously absorb instructional content and remain concentrated on a topic for hours in today's fast-paced environment full of distractions and online stimulation. Students nowadays struggle to avoid being distracted by their mobile devices. Furthermore, rather than only learning, students are engaged in a number of other activities at once. As many students take up part-time jobs, they tend to enrol in online courses and when they do so, they are either overworked or unable to

set aside two or three hours each week to finish the required compliance courses, and employees fall behind in their compliance training.

For these reasons, solutions are explored to address the issue of students' declining focus and attention. Hector Correa presented microlearning in 1963 as one of these solutions. Microlearning is a teaching pedagogy that aims to reduce learner fatigue by focussing on a single learning objective in less than 20 minutes (Díaz Redondo et al., 2021). Microlearning offers brief educational materials, often lasts only a few minutes, and is easily accessed via mobile devices (Palmer & Blake, 2018). For a number of learning phenomena, the idea of microlearning (ML) has repeatedly been emphasised as an efficient learning technique (Khong & Kabilan, 2020). Microlearning has also been viewed as a viable area for workplace education (Leong et al., 2020). Because it is simple to use and can be presented in a variety of ways, microlearning is growing in popularity. This makes it convenient for those who need to learn new information but are busy. Microlearning can also be used in conjunction with other learning methods and is inexpensive. The purpose of this learning is to impart knowledge in a way that makes it simpler for individuals to retain and use it in daily life.

One of the key benefits of microlearning is that it allows learners to consume and retain information more easily, as they are only presented with a small amount of content at a time. This makes it an ideal training method for learners with short attention spans or who need to learn and retain information quickly (Kroening, 2023). Attention span among students in the classroom has been a major issue since many years ago. Attention span has to be addressed well so that students are able to focus on all the content that they are absorbing in the teaching and learning process. In addition, with different proficiency levels is a common issue among learners of English as a Second language, microlearning is a good remedy for students with different proficiency level, as it presents information in smaller chunks and knowledge can be delivered in a smaller portion to allow students from all levels to understand.

Since the introduction of online learning, microlearning has gained popularity, and numerous institutions—including schools, businesses, and government agencies—have adopted it because it is believed to enable students to assimilate information more quickly and readily. In 2018, microlearning accounted for 60.7% of all e-learning. In 2020, microlearning adoption grew by 40% during the COVID-19 pandemic, and mobile learning is expected to be the preferred microlearning mode by 2025 (Corbeil & Corbeil, 2023). Microlearning, a novel approach that is anticipated to help students meet their learning objectives in e-learning, has evolved. Microlearning can be understood as small-scale learning activities because it comprises the two words: micro (which means little) and learning (which implies learning activities). In other word, microlearning is a technique for breaking up large amounts of learning content into manageable chunks.. The content in question takes the form of e-learning learning objects. As a result, microlearning has been identified as a technique that can assist individuals in resolving classroom-related problems.

Microlearning has been very helpful for new teachers, especially practicum teachers. Microlearning enables new teachers to experiment teaching methods in smaller chunks in order to not overwhelm them too much. Despite a well-established English Language Teaching curriculum in Malaysia, there are problems with how the curriculum is used in the classroom. The application of the learned theory in practice has a gap. According to Senom et al. (2013), there is no specialised new teacher induction programme to prepare teachers for the transition, hence new teachers in Malaysia do not receive appropriate support. In addition to supervision, pedagogical expertise, and topic understanding, pre-service teachers experience further difficulties in the ESL classroom. English has been the hardest for teachers as they face students with different proficiency levels and thus that complicates the entire situation further. As such, microlearning can be a good method in allowing new teachers to explore new possibilities that can help students to learn the language better as it is not too overwhelming

for them. Besides that, microlearning will allow students to learn different skills better as it is product oriented and focused as all the skills can be acquired sufficiently.

This study thus concentrates on how practicum teachers view microlearning among students in particular schools. This study aims to highlight practicum teachers' perceptions on microlearning methods used in their classroom. In addition, the study also raises awareness among practicum teachers on this current method that is vastly used in schools. In particular, the study seeks to address the following questions: (1) What is the effect of microlearning methods and tools on students' attention span? (2) What is the effect of microlearning methods and tools in lessons involving students with different language proficiency levels?

2. Problem statement

The learning process is not always optimised by e-learning; occasionally, some of the learning process objectives are not reached. Many notifications from social media, online gaming, or other distractions might easily keep some students using e-learning systems from their studies (Fitria, 2022). Because there are so many distractions that might cause students to lose focus when studying, it is difficult to provide material or content in e-learning. In Malaysia, e-learning is considered as a new method which has not been explored sufficiently. Consequently, the implementation of e-learning could take a little longer as there is no proper exposure to teachers. As such, practicum teachers face difficulties in making sure students have sufficient attention span. On top of that, the current e-learning method does not seem to cater to students who have different proficiency levels which makes it even harder for them to focus on their daily lesson. The problems become worse when the learning outcome is not achieved, and thus students' achievements have drastically decreased. Therefore, it is necessary to look into a method that can help students to learn better as e-learning is seen to be the new way of learning among students.

3. Literature review

One of the learning techniques that requires less time is microlearning. For this reason, short-term learning is frequently used to describe microlearning or microteaching. Although there is no accepted definition of microlearning, we may understand the general idea behind this approach using this knowledge. Microlearning is a learning strategy used by teachers that is more condensed. The first published use of the term "Microlearning" dates back to 1963 in a book called 'The Economics of Human Resource,' by Hector Correa. Microlearning came into the spotlight when the internet became much more accessible to domestic households in the mid-1990s. With the introduction of smartphones, microlearning too received a major boost. Suddenly everybody had a portable device that had access to the internet and could be used to deliver content more effectively. People could learn something new in a few short minutes. In this age when the attention span of a normal human is 8 seconds (as per a study by Microsoft, 2017), microlearning is a blessing. Moreover, it can be used for all kinds of training including but not limited to employee onboarding, compliance training, and skills training and education. Microlearning is a technique for short-term learning, to put it simply. Short-term learning activities and relatively small learning units are the focus of microlearning.

Microlearning refers to the learning process in a media-mediated environment and is used in e-learning and related domains. Microlearning is a comprehensive approach to education abilities related to relatively brief learning units. It involves a focus strategy for the short term created especially for understanding, learning, and skill-based education. As a result, the time needed to locate specific themes and contents can be reduced. Micro-learning also makes it possible to

access similar information, images, and videos in mobile environments in real-time (Park & Kim, 2018).

Microlearning can be described as short bursts of content that are delivered to students through a variety of delivery methods that include text, images, videos, audio, tests, quizzes, and games (Kulhanek & Mandato, 2022). Many people think that microlearning with video is a common and effective form. Video is not the only type of microlearning that uses this approach, though. E-learning, games, blogs, podcasts, infographics, and other visualisations are other examples. The type of media that best suits the circumstance and the student's unique learning demands must then be chosen. For instance, when we wish to learn how the cosmos was created and if we simply read one book about how the universe was created, we might not be able to comprehend the material in a brief amount of time because most books include language that is too lengthy and complex. It differs from seeing a film on how the cosmos was created, which we can find easier to comprehend in less time and is typically accessible via online platforms.

1. **Videos.** Everywhere there is internet access, people watch videos on Netflix, the YouTube platform, and other services. Not all of the videos, meanwhile, are accessible through microlearning. Microlearning films are typically presented in one of two ways: as Motion Graphics, like the What If example above, or as Video Explainer. Microlearning films are often brief and have an easy-to-understand presentation. In some scenes, an image and a description may be present. While amusing, videos nonetheless have an effect on students' understanding. Short video lengths and minimal file sizes that can be easily shared with classmates help learners maintain focus.
2. **Application.** The application mentioned in microlearning media is a learning programme that includes educational micro content and has navigational features to facilitate learning for students. Instructions for working on reading and performing exercises connected to the material being studied make up the learning concept used in the programme.
3. **Gamification.** Microlearning, or gamification, is comparable to learning apps in that they have learning objectives but disguises them as tasks that are more like games. The grade that students receive is more of an accomplishment than a result of the measurement theory's conventional scoring guidelines. The goal of this gamification is to engage students in more enjoyable learning activities while increasing motivation. An illustration of this gamification would be answering quiz questions where different people may receive different outcomes even though the results are the same.
4. **Infographics.** Infographics are two-dimensional media that use text, pictures, and other elements to convey information. By focusing on the information and aesthetics of the media generated, words are ordered in this way.
5. **Social media.** Microlearning can also incorporate social media. Because internet users also spend a lot of time on social media, it is crucial to be aware of this. Learning can be replaced by social networking sites like Facebook, Twitter, Instagram, and Tik Tok. Just that microlearning is linked to the content given in the platform, not the other way around. Every social media site has unique qualities, thus the microlearning materials that are distributed must reflect those traits. For instance, Instagram is extremely dependable with its picture content, so typography and infographics are acceptable micro-content, whereas Tik Tok excels at short-form films, so this platform is appropriate for Micro-content sorts of explainer videos or motion graphics.

There are several studies conducted in the area of microlearning. The authors from Near East University adapted microlearning-friendly materials in the format of video contents. They used

these videos to introduce microlearning to others in term of term, explanation, examples, potential and microlearning experience demands. While in Ozdamli et al. (2016), infographics have been examined as a microlearning tool. This qualitative research involved an anatomy class of 140 students, for a period of six weeks. Results of the study showed that students have better experience with infographics than traditional methods and visuals. Infographics are satisfying, easy to understand, and memorable for longer periods.

Besides that, there was another method which was proposed by Edge et al. (2012) called MemReflex. It is used to get fast-feedback from learners. They used flashcard systems to help students to learn about definitions, names, and dates. It depends on robust memorisations with posterior tests which come up to days later after using the flashcards. This approach not only utilises the short, scattered, dynamic opportunities for microlearning throughout the day but also helps learners who want motivation which is sourced from infallible study sessions.

4. Methodology

4.1 Research design

This research is qualitative research. The procedures for qualitative data collection and analysis had been conducted rigorously (e.g. sources of information, data analysis steps). Eight groups of 20 students in each group were selected through a convenience sampling method as the group of students were easily accessed by the researcher and the practicum teachers who acted as the data collectors. All students that were selected are in the same level of studies which is in Year 8. A majority of them have different proficiency levels ranging from beginner up to upper intermediate. The microlearning tool used was a 3-minute video and images to replace the traditional English class which uses the text book and activity book as the core curriculum methodology.

4.2 Research process

In this section, we will introduce the methodology of our work. Firstly, practicum teachers were instructed to conduct a microlearning lesson focusing on their students in their respective classroom. They were asked to complete the lesson within the first 4 weeks of their practicum. An interview was conducted to review their perception on the effectiveness of microlearning to their students. Then we compared the outcomes of their feedback. The findings were then transcribed to find out their opinion over microlearning. The methodology flow chart is shown in Figure 1:

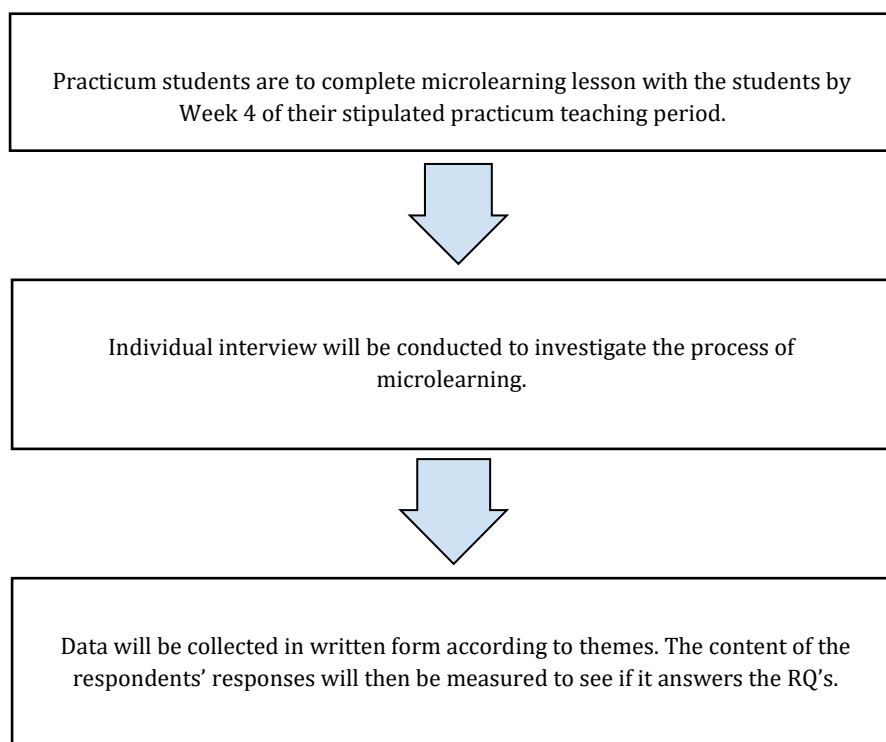


Figure 1: Research Flow Chart

5. Findings

The findings below are divided into four different themes, mainly on attention span, teaching methods, motivation and independent learning. Eight practicum-going teachers who would be teaching for the first time, were instructed to include a microlearning method and report its effectiveness are the transcribed statements of the 6 questions that were asked. Q1, Q2 and Q5 are for Research Question 1 where else Q3 and Q4 are for research question 2. We labelled the respondents as R1 till R8 indicating the eight practicum teachers who participated in this study.

5.1 Attention span

Q1 Do you think students were focused throughout the microlearning lesson?

R1: Yes, students were focused while watching the 3-video time frame as there was a different time limitation in every question they were answering from the video. After that, they focused on the analytic report and reflections.

R2: The students were able to focus throughout the lesson. The minority that usually has a shorter attention span compared to others were more engaged in the lesson during microlearning.

R3: Yes, students were more focused and willing to participate when discussing answers. According to my personal observation via the Pimsleur Language Assessment Battery (PLAB), my students were able to largely pay a significant amount of attention, focus and active

participation in the course of my English lessons. Nonetheless, it also depends on the personality of the students themselves. Under optimum conditions, students may find that the subjects and materials presented unto them during microlearning lessons tend to be more academically digestible in terms of their focus, which enables them to remain engaged and conscientiously motivated.

R5: Some students were focused and some of them were roaming around the classroom saying it was boring and they felt sleepy.

R6: Yes, students tend to be more focused when they are engaged in interactive and hands-on activities compared to the teacher's talking during the lesson.

R7: Yes, microlearning helped attract students' attention and made them more interested and engaged throughout the lesson.

R8: Yes, the students were all engaged during the lesson. The class is in complete silence while videos related to the topic of the day are played.

Majority of the students enjoyed the lesson and were able to provide their concentration except for R5 as there were mixed perceptions over the lesson in the classroom.

5.2 Students' focus

Q2 Through your observations, how long do students focus in the lesson?

R1: A good 30 minutes. I allocated 15 minutes for the Quizziz but students were focused until the end of the lesson, the remaining 15 minutes were where we did a reflection and revealed the analytical report of the Quizizz.

R2: In a 50-minute lesson, the students were focused for about 35 minutes when they were given a group task.

R3: Students focused for about 20 minutes at a time in a one-hour lesson.

R4: My teaching practice reports a 40-minute attention span in a 50-minute lesson for each student which is also accompanied by the length, content dexterity, and in general the overall complexity (difficulty) of the lesson. Nonetheless, it must be noted that my students may have a tremendous ability to only focus during short periods of a lesson during which the microlearning element has to be integrated with lessons which are both auditory and visually stimulating to them.

R5: In the 40-minute lesson only 15-20 minutes they were focused.

R6: Most of the students stayed focused for 80 minutes. Students get bored when they have to form sentences in the production stage.

R7: For the 1 hour and 30-minute lesson, the majority of the students were able to stay focused for 1 hour.

R8: Students focused for about 40 minutes in an hour lesson.

In general, many of them are able to stay focused for at least more than 30 minutes of lesson with this method.

5.3 Teaching methods

Q3 How was the effectiveness of the 3-minute video as a microlearning method that you have used in your lesson?

R1: It was a revision lesson so I utilised the video in the lesson in which students were using their phones to answer questions online via Quizizz. The correct answer will appear right after they are done answering all the questions, and also will be uploaded to their Google Classroom for revision. The answers will then be discussed in the next lesson for any clarifications.

R2: Peer learning was used in the lesson as the students were separated into groups to work together and determine the definition of the vocabulary and the synonyms that would fit into the context of the text from the **3-minute** video.

R3: TTT method with some scaffolding. I started the lesson with a connective crossword induction to give them words they can use to connect their persuasive writing. Next, I had students rearrange a persuasive text for 10 minutes to observe for students' understanding of the text. The **3-minute** video related to the topic was used and students were asked to explain about the video content.

R4: My teaching method is largely deductive in its nature with elements of differentiation (challenging intelligent students) whilst providing support to academically weaker students so that no one is left behind. However, some examples of microlearning techniques that has been respectfully exhibited in my lessons are as follows:

1. **Spaced learning technique:** *A method of teaching where my students would receive periodic instructions and feedback from me as the Teacher. However, this role is not to spoon feed them with academic content but to guide them via peer feedback as a facilitator that is ideal for 21st century learning.*
2. **Interactive Tasks:** *A method which involves my students in actively participating in collaborative group projects via the 3 min video use as it enhances group work.*

R5: I used the listening and speaking method and also the inquiry-based learning method with the **3-minute** video

R6: I played the **3-minute** video for students so that they are able to recall what they did during the school holidays. I asked students to write the activities they did during the school holidays in a mind map then discuss the answers with them. I also wrote and explained the vocabulary in both English and Mandarin for students to understand the vocabulary.

R7: **3-minute** Videos (of a short variety) - Videos were mainly used while teaching the lesson. For example, grammar-related YouTube videos assist students to acquire the information because of the attractive visuals.

R8: Youtube **3-minute** video. Cartoon videos explaining grammar items were used in my lesson. Attractive visuals will keep the students focused and understanding the content of the video. Images. Students like colourful pictures rather than words. This will attract their attention while doing their exercises.

5.4 Motivation

Q4 Do you think microlearning motivates students to complete their task on time?

R1: Yes, definitely. As I allocated a specific time to answer the question or task sheet, they were all very active and competent during the answering process. Hence, even though some of them might give incorrect answers, they would try their best to complete the task on time. As for different microlearning approaches such as video watching of a specific topic, the video-graphic will definitely prolong students' attention span, which makes them easier to understand and process faster for a certain lesson, while a hands-on task will build muscle memory of the students leading to an auto-retrieving knowledge for a specific task when encountering the similar task.

R2: Microlearning being in its bite-sized form of learning, serves as a motivation for students to complete their task as quickly as possible in order to move on to the next task. It allows students to be fully focused on one task at a time and provides ample time for the students to process, and digest the knowledge for scaffolding.

R3: I believe it motivates students to stay on task and finish them on time. Compared to lessons where microlearning was not used, more students were staying on task and helped me ensure students finish their task through each part being interspersed with discussion to check for understanding.

R4: Yes to a significant extent, as microlearning may prove to be beneficial as opposed to traditional forms of lecturing whilst granting my students the opportunity to focus on one particular subject at a time and practise it until they have successfully achieved their course learning outcomes based on the syllabus. On the other hand, since the major advantage of microlearning is the ability of the tutor to deliver the lesson in short chunks of time, my students are able to absorb the content in a timely manner which is more organised.

R5: In my opinion, for fast learners and good observers, yes they can but not for the slow learners or students who have lower proficiency level.

R6: Microlearning is an effective way to motivate and guide students to complete their tasks on time because it breaks down the learning content into small chunks that are less overwhelming and boring.

R7: It aids in keeping short attention span students on track and encourages them to complete their tasks on time. In my experience, providing students with pictures, videos, and games as instructional tools will enable them to comprehend their tasks more quickly and finish them on time.

R8: Yes, students find the class boring with just writing or completing their workbook. This will cause them to drag more time completing the task given as they are zoned out halfway doing the task. But teaching with materials that are aligned with the student's interests will keep them focused while completing the task.

According to the majority, there is evidence that microlearning has been a motivating factor in helping students to learn the lessons.

5.5 Independent learning

Q5 Do you think microlearning promotes independent learning among students?

R1: Yes. As students would be trying to understand the subject matter, bite-sized learning makes the process more efficient and easier. Students are able to learn at their own pace, they will be able to attempt different approaches that suit their capabilities and maximise the learning outcome. For instance, slower learners might take time to comprehend the complex definition or explanation in the text, but with microlearning everything has turned into smaller chunks which were simplified, slower learners are able to take it bit by bit and consume the knowledge without feeling pressured to learn independently.

R2: According to the nature of the task that was given, microlearning in teaching vocabulary aided in encouraging the students to learn and discover knowledge independently.

R3: As of so far, I have yet to observe any independent learning among my students. If used continuously, I believe it may encourage them by showing them how to break their work into smaller chunks to study bit by bit and make it less overwhelming.

R4: Yes, indeed. I strongly agree with the fact that microlearning does not only promote independent learning among students, but it is also the pinnacle of mankind's achievement in terms of developing rubrics for a holistic learning experience. In this scenario, by dividing huge chunks of content into smaller portions learners are not only more engaged, but in fact they ascend towards the ownership of participating in the very autonomy of out-of-classroom exploration and also in academic discovery within the fields of linguistics.

R5: I think not because not all learners or students could learn things independently because they are not so good in using technology learning and also they find it difficult to do their work like this.

R6: Yes, microlearning tasks are typically short therefore students are able to complete the task easily and independently without extensive guidance. Moreover, students are able to utilise gadgets and applications for microlearning.

R7: Absolutely, in my opinion, I believe that students will be more inspired to look out for videos or images that will further their understanding of the topic after watching the microlearning resources that were utilised in the class. Therefore, microlearning will encourage students to learn on their own.

R8: Indeed, the students are understanding the contents that the teacher is supposed to teach on their own. When students find the videos are fun although they are related to academics, this will stimulate their interest in finding similar videos to understand their homework assigned. This promotes the habit of finding resources on their own.

For these questions, the majority of the practicum students agrees that microlearning will help students to be more independent in their learning as they are exposed to trying new things by themselves with minimal supervision or guidance.

6. Discussion and conclusion

According to the results of findings as stated above, the answers to the Research Question for the research are as follows.

What is the practicum teachers' opinion on the students' attention span while using microlearning methods and tools during lesson? Majority of them stated that students have better attention spans when they are exposed to microlearning.

What are the advantages of embedding microlearning into in-class lesson involving students with different language proficiency levels? Majority of them believe that students are able to be motivated and independent in their learning, as the method is easy to absorb in daily lessons and also able to participate without hesitation in class as their attention span improved with this type of lesson method.

It is hoped that these methods will help practicum going teachers in handling the classroom as it is very important for the new teachers to have a variety of methods and experiment them as practicum is where all practicum teachers find their true momentum in their teaching ideology. Further research can be done on investigating microlearning among junior teachers and senior teachers in rural or urban schools or even high-performance schools.

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