The Applicability of Micro Learning Based on Historical Perspective

Hasan[1], Dedi Kuswandi[2], Zahid Zufar At Thaariq[3], Hutkemri Zulnaidi[4]

[1]Universitas Tadulako, Palu
[2,3]Universitas Negeri Malang
[4]University of Malaya

ARTICLE INFORMATION	ABSTRACT
  Correspondence Address: Hasan Universitas Tadulako, Palu Email: dedi.kuswandi@um.ac.id	**Abstract:** The focus on learner-centred learning approaches is a concern which needs to be facilitated as a matter of study. Microlearning has evolved in facilitating learners in short learning activities as viewed through history. This paper aims to review the application of microlearning historically. This narrative study uses deconstruction techniques with a historical research approach consisting of (1) heuristics, (2) verification, (3) interpretation, and (4) historiography. The study found that microlearning is a development of the concepts of microteaching and microcontent. This paper can be used as a reference in the development of microlearning as research and learning in the future.

The learning process has changed from the traditional process. One such process is the way millennials and subsequent generations are able to perceive and consume learning. Diminishing attention spans, the influence of smartphones and social media, and the quick gathering of information by doing a "Google" search are often cited as reasons for this change (Dolasinski & Reynolds, 2020). The instructional model of conventional organisations is facing challenges. Organisations need new approaches to training and knowledge creation (Lau et al., 2018).

Educational technology focuses on facilitating learning and improving performance to solve educational problems. (Januszewski & Molenda, 2013). According to Gabrielli dkk (2017) there is a focus of emerging educational technology research trends. Firstly, experiments into the design of anytime-anywhere access to digital learning resources by designing ubiquitous computer interfaces and corresponding interaction metaphors enabling the use of flexible microlearning environments by learners during informal lifelong learning activities. Secondly, Development and application of a combination of different methodologies for better analysis and understanding of lifelong learning practices in authentic usage scenarios, also through iterative and participatory generation of design concepts and solutions, according to learners' needs. Thirdly, the design of advanced technologies and prototypes related to the everyday use of ubiquitous/mobile technologies. Finally, the study of evaluation methods more suitable for learning environments that will take into account well the lifelong learning dimension, as well as the future advancement of teaching methods and models more specifically aimed at adapting to the emerging requirements of informal learning activities. Therefore, studies related to micro-learning processes are necessary in the development of educational technology research.

Microlearning supports the knowledge documentation process. It has massively influenced learning patterns in the digital age. Microlearning deals with relatively small learning units and short-term learning activities (Surahman et al., 2020). The term is used in e-learning and related fields to mean the process of learning in a mediated environment (Park & Kim, 2018; Sánchez-Alonso et al., 2006). Microlearning is a holistic approach to skills-based learning and education that deals with relatively small learning units (Surahman et al., 2020). Microlearning is a new pedagogy that allows students to engage in learning that is brief, focused, asynchronous, and just-in-time. Each short class earns an accredited professional credential. This recognition of short courses aligns with the delivery of the short snippet (Thillainadesan et al., 2022). Microlearning endeavours to provide the resources needed. With the help of knowledge of the user's learning context, microlearning can offer an engaging form of learning (Surahman et al., 2019). Microlearning is an innovation developed to meet the needs of twenty-first century professionals by providing quality professional learning in a format that can more easily support on going career and organisational development (Zhang & West, 2020).

Instruction in microlearning can be delivered in the form of videos, documents, screencasts and other types of learning created and deployed by learning professionals. It can also be developed by peers as user-generated content. Microlearning can also be delivered through web-based or mobile platforms, which can be categorised under mobile-based learning instruction and student-teacher interaction that occurs through mobile devices and wireless communication (Chung et al., 2019). This learning approach provides a ubiquitous learning environment and is the primary delivery format of microlearning to meet the demands

of quick and easy access to information required. The creation of microlearning continues as the demand and consumption of microlearning increases. According to microlearning researchers (e.g. Andriotis, 2018; Gagne dkk., 2019; Zambito, 2018), although this type of instruction varies in format and learning objectives, it provides small amounts of information that are easily and quickly consumed, learner-driven, and on demand (Taylor & Hung, 2022).

The study from Beste (2021) showed that the acceptance of the microlearning series was good, with almost 50% of participants completing the entire series and 75% of participants completing at least the first lesson. Lack of time or the fact that participants, who rated the course as irrelevant to them, dropped out after the first lesson, might explain the drop in participation over the seven modules. Of those who started the lessons, almost all also completed them. This indicates that the short lessons were of interest to the participants. This was also confirmed by the fact that 91% of participants responded that the microlearning series was relevant to them. Research from Veletsianos dkk (2022) on a microlearning intervention using comic media showed around 80% of participants met at least one learning outcome. The participants also found the intervention effective. Notably, although participants felt that the comic clearly presented information about the relationship between emotions and misinformation, they stated that an understanding of the relationship was not clearly developed by the comic. This response seems to reflect the fact that the precise dynamics of how emotionally charged information elicits certain responses on social media is a complex issue (Nesi et al., 2022).

For this reason, the author endeavours to review the application of microlearning from its historical perspective. Why does the historical side need to be discussed? Based on the statement from Nunn (2009) which states that historical events can still affect economic development in the long run if they change the deep determinants of long-term economic growth. So this also includes microlearning in the long-term educational development perspective.

METHODS

This paper is a narrative review that seeks to historically examine the application of microlearning using a historical approach with deconstruction techniques. Deconstruction techniques are commonly used in historical approaches that show that in every text there are always assumptions that are considered absolute. Every assumption is always contextual, assumptions are always present as social construction in history. These assumptions are present as traces that can be traced to their formation in history. (Soekarnoputri, 2021). The historical approach is based on the stages of (1) heuristics, (2) verification, (3) interpretation and (4) historiography. Heuristics is the stage of finding relevant sources, while in the verification stage, the temporal and spatial origins of the sources are established as well as their authenticity. In the interpretation stage, the information that has been cleared from the sources is put together through interpretation to deduce 'what happened' (Lorenz, 2006). Finally, at the historiography stage, researchers systematically compile the results of analysis or interpretation so that the logical flow is clear and easy for readers to understand (Subkhan, 2018). To assist in the study, the author uses the Publish or Perish app as a medium in tracking the existence of articles that discuss microlearning. Thus the author can find out by tracking these articles to serve as a guide to the topic being studied.

RESULT AND DISCUSSION

Historically, microlearning has been applied for a long time. It all started with the presence of the concept of Micro-teaching since the 1960s as a teaching method that facilitates the teaching process in the classroom, especially when carried out in the form of simulations. This can be seen from the article of Kallenbach (1966) who revealed that micro-teaching offers considerable advantages of immediate knowledge of the results and the opportunity to practice the given skills at once and until satisfactory performance is obtained and without harming the class group. Its application at that time had been conducted in the Stanford Programme (Fortune et al., 1967) which found that there were no significant differences in assessed teacher competencies between randomly selected secondary intern teacher candidates (n=30) who had summer student teaching and those who had participated in a micro teaching programme on campus (Allen & Fortune, 1964). Micro teaching has been further developed not only as a pre-service opportunity for practice in teaching, but also as a means in teacher selection and in-service training (Allen & Fortune, 1965).

The premise of micro teaching is to develop and improve the teacher's performance in teaching through immediate and continuous feedback. Thus, micro teaching is about learning to teach or teaching to teach. (Hasibuan et al., 1988). Although the act of teaching is complex, the skill elements involved can be learnt and practised (Brown, 1975). In other words, during the teaching experience, the mentor teacher conducts microteaching sessions for teacher candidates who are having difficulty with certain teaching behaviours or seeking to experiment with or refine certain teaching strategies (Young & Young, 1968). The question arises how to make the learning process receive maximum focus of attention? This can be difficult considering the development of the 21st century where multimedia has developed and influenced human life, including in terms of learning. Microteaching focuses more on the way educators teach. While there are other sources that influence, such as teaching materials, media, environment and so on. For this reason, microcontent was born in 1998.

In the beginning, microcontent tended to focus only on short pieces of content - such as short subject lines in emails, web page titles, or sections of metadata in HTML code (Nielsen, 1998). But since the advent of Google, wikis, blogs and others, the focus of micro-content has changed to information published in short form, with its length determined by the constraints of one main topic and by the physical and technical limitations of the software and devices used to view digital content today (Dash, 2002). In principle, a microcontent with an educational purpose plus metadata describing both the content itself and its educational use could be considered a regular learning object. However, the vision of microcontent requires that the description must come from a subjective personal view of the world, e.g. the view offered by the blog author (Sánchez-Alonso et al., 2006). Micro-content should be designed as a very short and fast stream of impulses and activities, similar to everyday tasks and threads that are followed throughout the day simultaneously, across media platforms (email, phone, Web, face-to-face) and across permanent interruptions and distractions (Lindner, 2007).

Microlearning is a concept that was born after microcontent. It takes an active role in filtering and providing information. With the help of knowledge about the user's learning context, micro learning can offer and initiate interesting information. Current technological, economic and social changes trigger the need for new concepts and strategies to support lifelong learning (Job & Ogalo, 2012). Buchem & Hamelmann (2010) describe microlearning as a pragmatic innovation for lifelong learning due to its ability to support flexible learning that can be easily integrated into daily activities, supporting individual learning goals and needs.

Based on the above explanation, Microlearning actually has a related relationship with microteaching. This can be seen from Hug (2005) statement which reveals that microteaching is a training concept that can be applied in various stages in teacher professional development. Basically, it means teaching a small group of peers in a relatively short time, i.e. 5 to 15 minutes, then giving and receiving feedback on their performance. Microlearning in this context means the experience of microteaching as a learning experience and a very effective learning method for students, but also a reciprocal process on the student side. In his view, we can learn a lot from experiences related to this field, but it would be a big mistake to reduce the question of microlearning to a question of formal education, teacher training or the horizon of pedagogical discourse.

Unlike microteaching, the exploration of the world of microlearning is still in its infancy. But new paradigmatic understandings at the micro-level of the learning process in mediated environments are emerging and being worked on (Hug, 2006). Microlearning is not only for students, but also optimal for educators as small units of learning are easy to create, manage, distribute and update by capitalising on Millennials' informal, purposeful and less linear learning styles and the ubiquitous availability of technology. Microteaching gives educators the opportunity to improve their teaching skills as it requires less time and effort to create and is easy to update and can provide great benefits to learners and organisations (Aldosemani, 2019).

CONCLUSION

Microlearning has evolved along with rapid digitisation, as this has led to the need for short, concise and clear situations. This construct began with microteaching, which optimised training in a small-scale environment in a relatively short time. Then, to maximise the learning process, microcontent was developed or utilised. This concept ultimately conceptualises the idea of microlearning which is broad in nature in various aspects for learning and teaching, where previously it was still macro. Microlearning talks about how to utilise microteaching and microcontent as learning experiences. Thus, the microlearning process can be applied thoroughly, without looking at one point of view only. It is intended that through microlearning that is applied can be the answer in facilitating learning and improving performance for learners.

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