Micro-learning (ML): An effective way of learning in Teacher Education

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Abstract:

Micro learning provides self-learning environment to the learner and this concept known as 'Micro-learning'(ML). This paper is trying to give more understanding of ML and related concepts of Micro-learning (ML) i.e., background, characteristics, dimension and principles of Micro learning etc. Micro-learning (ML) has been popularized as learning approach in different areas or phenomena (Khong & Kabilan, 2020) and this is useful for teacher professional development. In the era of technology, teacher must be flexible for accepting digital technologies and this kind of digital technologies provides best opportunities for developing learning among the teacher community (Inbal & Blau, 2020)

Keyword: Micro-learning, micro-content, learning

Introduction:

Everyday technological changes are triggering new ideas and strategies, that improves learning. Learning needs changes as per our lifestyle. Many studies shown that small chunks may increase information retention. (Luminita, 2017). Micro learning determined the content should be small and interconnected and focus on individuals learning goals (Singh, 2014).

Online learning content is mostly depended on small chunks many researches said that. The main focus of that small chunks is to fulfill the objective. For that, these small chunks is very important and very effective for learning. The study divided online content into 16 chapters and 3 groups of students. Group one answered all questions in the test, group two answered four questions in the test, and group three answered eight questions in the test. After the first stage, students have supported the same test in second stage. In the first and second stage result shown that small chunks content helped students to retain information. In the small chunks improve the capacity of working memory and give students better learning environment.

So, Micro learning gives learners the opportunity learns easily and recall the information given by the learning experiences that are more consumable. Micro learning education is small sized education no longer than a minute. (Luminita, 2017).

Microlearning is not a different educational strategy or best educational strategy but it is something that which good way converging micro-media environments. People are not giving complete information in data, but microcontent gives (Hodgins, 2001). Now a days, people are working on the web. So that available learning materials need to be converted into acceptable chunks by microlearning. That's way Google is most effective e-learning tool yet. This informal microlearning is the future design of e-learning. Some of these still be macro-structured content in courses but in future the e-learning content developer must make these content in micro-structured of the learning material with digital form.

Background of Micro-learning (ML)

Micro learning approach comes in the first time in Austria conference in 2005. Micro learning focuses on more than theory than practice (Marcovich, 2016). "Microlearning: A new Pedagogical Challenges" by Hug. T. (2006), the main objective of this research is to develop a model to guide the production of educational microcontent to be used in virtual learning environment with mobility paced the way for microlearning. The future learning will be in short time and frames like micro units or micro learning (Futurethink, 2009). In 2010, the Micro learning used in learning industry also as publications, and by 2013 it was a recognized trend in employees training.

Micro-learning (ML): Concept

Micro learning is an approach to learning that delivers information in short and highly focused chunks. It is the way to search quick answers to specific problems. Micro learning focuses on small learning content and short learning activities. Microlearning require microcontent (Mosel, 2005). Macro and Micro learning two concepts are different, Macro is focus on the big picture and a complete learning series, Micro learning is very short and there is a specific focus or skill that needs to be learned in specific need (Gutierrez, 2017). Principle of Micro learning is to divide huge complex information into many short pieces and try to make them as easy as possible. The content focus only the main and necessary part with appropriate examples on the things to be learned. This makes work very simple and easy. Student learn in a few seconds or few minutes in a small part of an information and then repeat it. By this method, student learn

step wise until understand the complete concept. This is the way the brain acts and work. When students learn something about the topic the teacher can go complex things because students already know basic knowledge about the topic (Aitchanov, 2012). Micro learning is changing day by day and develop the importance among learning professionals. This is the best method for learning new methodologies. Use of right technology is the key of Micro learning.

Microcontent: Concept

Micro learning depends on microcontent. Microcontent means information published in short and small form. But the length of the content is a single main topic and its technical limitation of the software and devices that are used to view the e-content. When we learn in small portions or parts then it will take time to adopt (Dash, 2002). Microcontent is different concept form learning objects. Microcontent concept means like, 'drops in the sea of information' and 'Lego building block' (Hodgins, 2001). A Microcontent is the specific learning outcome on complete learning experience. In opposite, microcontent means collection of learning components that focuses on the complete topic (Gutierrez, 2017). Microcontent is always reusable based on the needs of the learners. The contents are always separated and convert in different forms (Alonso, 2006).

Micro-learning (ML) and Teacher Education

In the Teacher Education ICT plays very important part. So, Educational technology is the major aspect in higher education. Educational technology has two perspectives those are 'Technology of Education' and 'Technology in Education' (NCERT, 2006). Technology of Education focuses on inclusion of educational processes, theories for achieving objectives of teaching-learning. Technology in Education focuses on the use of different educational software and hardware. Micro learning helps to apply classroom practices according to these two approaches. Micro learning developed as a technology of learning for classroom teaching learning. Micro learning approach will enable the learners to learn form short time, blended curriculum, experiences and discovery method, etc. Micro learning helps teachers to develop their professional development, updating continuous knowledge, skills and creating learning environment for students. Teacher education assumed that learner will acquire skills, knowledge and their professional development by their internal capacities but it is not possible in all conditions. So, in such conditions Micro learning will help to learners. Microlearning also help to improve the effectiveness of pre-service and in-service teacher education (Joshi, 2015) Micro-learning course is more time efficient and students obtain the required knowledge

in a short time. Micro-learning curriculum development form is suitable for students according to their study needs, and confutable for educational environment. Small learning units helps students for proceeds to plan their studying. Students can use their mobile devices and learn according to their comfort (Thomas, 2019).

National Curriculum Framework for Teacher Education (NCFTE, 2009) recommended that teachers should learn through activity, discovery, observation and understanding. The role of teacher as a mentor, he will be motivating learners to learn as active participation for self-learning, improve the capacity to construct knowledge, learning should be like; based on personal experiences and reflective learning. NCFTE focused on learner-centered, activity-based, participatory learning experience, play, projects, discussion, dialogue, observation, visits, integrating academic learning with productive work such king of teacher training. For this kind of training needs advanced learning strategies for development and Microlearning gives that opportunity to fulfill the objectives.

There are five types of Micro learning tools. With the use of these tools learner will be create effective microlearning content.

- Video

  Video is the most important tool for delivering microlearning. Because this tool is multimedia device, readily build and time effective. These features help students to understand the content for long time. Video is the most interactive form of learning. Small videos help to learn better and fulfill the learning objectives. The main features of videos are:

  - This is a different way of learning apart from the classroom learning.
  - It helps learner to improve their sensors.
  - In the pandemic situation many teachers use this form of learning with the help of different platform, like; YouTube, WhatsApp, Zoom, Google Classroom.

- Blogs

  Blog is the best way of micro learning. Everyone writes something in everyday based on different topics. Blogs are smalls but gives large information, to many people at one time. The different methods of blog and the different uses as follows:

  - Give opportunity to discuss many topics in blog platform on a large scale.
  - blogs use also for the evaluation.

- Blogs give space to add content, summary, main topics, and different practices.

- Podcasts

It is audio tool that helps to improve learning in audio form and retention of the content. Podcasts is versatile audio tool that help to improve learnings retention of training context. MP3 format used in the Podcasts. In the Microlearning tool podcasts is the best tool for complete learning context. Many benefits of this tool are given below:

- This tool use for create content by experts, institutional leaders and other specialists
- Learners can hear as per their time convenient.
- Easily use as content is assessable on different devices

- Social Media

Social media is important microlearning tool, because learners mostly use these tools, use the information that are available and require less time to watch. Many social media tools such as Facebook, Twitter, WhatsApp, Signal and LinkedIn are most suitable microlearning content. Recently, the news of data privacy regarding WhatsApp, most of the social media users are transfer towards new secure social media, like Signal, etc. This tool improves learner by the following activities:

- Large audience engage in this platform
- Real time scenario with experts
- Share the learning material on platforms
- Most engaging during the learning

- Interactives

Interactives give chance to interact with different people and require high management skills. This tool improves work efficiency and crate different fun activities based on content. That's why, this tool is very useful for creating microlearning content.

- It is very attentive for learners in video form
- Useful for making decisions and do actions
- Hands on activities are more effective

Therefore, the urgent need of integration of ML and Teacher Education in future higher education in India. For more understanding of ML in Teacher Education, present reader must be knowing about the characteristics of ML. The characteristics of ML is as follows:

- **Adequacy:** the level of difficulty that enables the generation and updating of contents without IT professionals
- **Convenience:** online contents linked to the authoring tool can be made and revised
- **Efficiency:** short time required for creation
- **Usability:** the openness and ease of the form of delivery and outputs through the web
- **Recency:** newest technologies can be applied such as support for mobile devices

Although, Rebeca (2020) defined seven dimensions of ML. These dimensions are very useful for creating ML content (Yasung, 2018). The dimensions are:

- **Time:** short time and less effort for creating micro content
- **Content:** small units with limited topic and simple concept
- **Curriculum:** curriculum content divided into short module and brief elements
- **Format:** diversity in formats, such as assignments, short videos, text etc.
- **Process:** activities that are independent and short but complete context
- **Media:** offline and online learning based on different multimedia
- **Learning Models:** reflexive, constructivist, discovery, project-based, etc.

- **Principles of ML**

  Four principles of micro learning (Asni, 2018) are more important features of microlearning is accessible anywhere, anytime and also available and accessible form highly desirable digital devices. And also downloaded offline microlearning content is available in different format.

  1. **Principle of Small Content:** It is also important to select the hole content and divided into different but complete small modules. Make sure that one module included into one idea. Explain that idea in such way that it really presents a different way. It should target the first 3 to 5 minutes that will be the turning point whether the student will acquire something or not. It is very important task that is the main principal of microlearning.

  2. **Principle of using Microcontent:** Microcontent should be designed with the proper and related visuals and media to make it motivational and engaging. Keep text content to short and minimal so learners like to reads and maximum information in minimum time. Use graphics, animations, sound effect and other elements. The

main purpose is to help learners to understand the information quickly. Focus on the big ideas and concepts represent in such way it is easy to remember and understand. But make sure that that graphics, video and audio is distracts the learning process of microlearning.

3. **Principle of Adjustment:** Microcontent should be adjustable. It should be one that help to leaners to adapts different learning needs. Microlearning help learners to learn what they want and perform best. This is not easy task to collect all things and achieve objective but microlearning offer different learning strategies with available resources at hand.

4. **Principle of 'Less is More':** It is very easy to learners when content is less. In order to do this, single content that are consider dynamic as different too nice to know. Use those content that improve value to the learner in graphic or sound. Use graphics and animation in collective but simple form otherwise it will time taking.

Conclusion

Collected and available huge amount of content accessible by a person needs to be presented in such a way so that it will be easy to understand and easy to consume. And for that microlearning is the best tool where learning is consumed in short & small chunks and available to all. Micro learning is getting attention of learners, easy to accesses, available in anywhere and anytime, fast developed and changed. Because of these features, microlearning is the best way of learning today and the future.

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