BUILDING A VIRTUAL LEARNING ENVIRONMENT IN THE NEW NORMAL ERA: ASSISTANCE TO ELEMENTARY SCHOOL TEACHER

Sri Sukasih[1],
Alfi Laila[2],
Hilmiati[3]
[1]Primary Teacher Education Faculty of Teacher Training and Education
Universitas Negeri Semarang
srisukasih@mail.unnes.ac.id
[2]Primary Teacher Education Faculty of Teacher Training and Education
Nusantara University PGRI Kediri
alfilaila@unpkediri.ac.id
[3]Departement Teacher of Education Mataram Islamic University
hilmiati@uinmataram.ac.id

Introduction

The Covid 19 pandemic is the spread of the coronavirus worldwide for all countries. The Covid 19 outbreak are first discovered in Wuhan, Hubei, China, on December 1, 2019. Starting March 20, 2020, Covid 19 has been declared a pandemic by the World Health Organization (WHO). This pandemic has caused widespread disruption in all aspects of life, one of which is in the field of education. The impact of this pandemic has changed the face of education and new life behaviours in schools, madrasas, universities and other educational institutions.

Learning activities during a pandemic are carried out virtual or online methods. The government determines this based on the Ministry of Education and Culture Decree No. 4 of 2020 concerning education policies during the COVID-19 pandemic emergency. This online method is an educational and teaching solution, but it becomes a burden for most people because they have to prepare infrastructures such as laptops and android cellphones. Due to the Covid 19 pandemic, it is a heavy burden for the community to carry out education and teaching at home during difficult economic conditions. This is a challenge in itself for society to carry out education in the New Normal Era.

The new standard era changes people's behaviour and habits to carry out educational activities while still paying attention to health protocols during a pandemic. Likewise, learning changes that could initially be done face-to-face in the classroom must switch online at home, of course, with the supervision and assistance of parents. To carry out ideal learning to achieve the objectives of a lesson is a challenge in itself for schools, teachers, students, and parents. Therefore, it requires harmonious cooperation between parents, teachers, and the school. This, of course, requires modification in the learning process, for that we need solid and professional teachers in the new standard era.

The teacher is one of the pillars in educating the nation's children. The management of learning and education during a pandemic has been disrupted so that other alternative assessments are needed. Virtual learning is the best choice in the learning process. Virtual learning is a learning activity between students and educators that takes place via the internet network. Learning can be done using distance learning (hybrid learning). Therefore it is necessary to have a virtual learning environment that both parents, teachers and students can access. In other words, a virtual learning environment is an online system that allows educational material to be sent over the internet to transfer knowledge from teachers to students. Examples of virtual learning environments that can be accessed through an online or computer-based system are instructional videos, podcasts, books, articles or other writings.

In order for this virtual learning to be maximally achieved in the new normal era, the things that the teacher in implementing learning must prepare include: 1) an appropriate virtual learning platform and according to student conditions; 2) the assignment or evaluation is not burden some to students and is following the learning objectives; 3) learning outcomes can be conveyed by e-learning; 4) assessment methods and platforms appropriate for each outcome; 5) time adjusted to the level of affective and cognitive abilities of students; 6) motivating students to keep their enthusiasm for learning by giving awards; 7) active communication with parents of students; 8) create creative and innovative assignments.

Based on the problems that arise during the implementation of virtual learning, it is necessary to rethink how to train and assist elementary school teachers in building a virtual learning environment to achieve learning objectives. Mentoring here aims to motivate and encourage teachers to develop learning strategies that are easily accessible to students. To optimize the mentoring strategy for teachers, it must be adjusted to the developing learning trends. Distance learning is a very urgent

need in this pandemic. Therefore it is necessary to prepare professional teachers in building and creating fun virtual learning.

The description above shows that the main problems faced by SDN Sidorejo Ambal during the new normal era are: (a) How manage learning by Virtual Learning, (b) How to build Environment Learning Environment (VLE) in schools, and (3) How maximize deep parental support system support the virtual mode at school during its lifetime the Covid-19 pandemic.

The teacher assistance strategy in building a virtual learning environment in the new normal era includes the following: (1) Virtual learning reality; (2) Materials and tools for distance learning that are effective and easily accessible to students; (3) Continuous learning trend; (4) The trend of distance learning through engaging virtual learning and its impact on the student experience; and (5) The impact of mentoring in building VLE for teachers.

Figure 1. Community Service Implementation Team
In SDN Sidorejo Ambal

Discussion

The teacher mentoring strategy in building a virtual learning environment consisting of 5 things is discussed in detail.

1. Virtual Learning Reality

The concept of VR is not new; in the early 1990's speculation on its potential already existed. VR promised to bring an exciting future – where everyone would wave their hands to travel through strange neon geometric places, converse with virtual people, and experience adventures in perfectly simulated worlds or times (Steinicke, 2016). However, at the time, VR did not go far. Other than primarily military and industrial uses such as combat training and 3D visualisations.

VR is a part of a more prominent family of technology-mediated experiences involving a varying degree of blends of reality with virtual components. Related areas along this continuum of reality and virtuality are augmented reality and mixed reality.

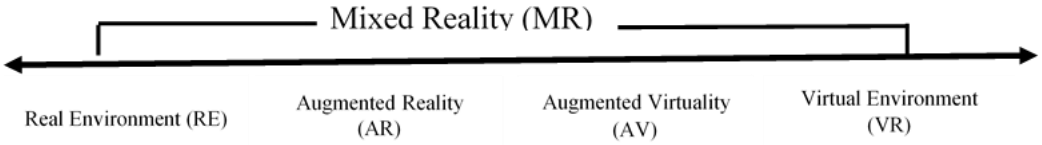

Figure 1. Milgram's reality – virtuality continuum
(Source:Theodorou, Kydonakis, Han, Tsagaki-Rekleitou, & Skanavis, 2019)

Augmented reality (AR) can be described as an integration of digital information onto a view of the real-world environment, such as using a smartphone camera to view a live translation of characters into a foreign language or scanning a QR code on a card to see a 3D image of an animal. In between a real and virtual environment, mixed reality is an overlay of synthetic content onto the natural world that is anchored to – and interacts with – the real world, such as interactive holograms. In this paper, we are primarily concerned with the affordances of VR, any form of digital media that creates a 3D visually immersive experience simulating a different reality.

The impact of the Covid 19 pandemic students and teaching staff face problems that require teaching and learning activities to be carried out online or online, which makes students unable to absorb material provided by teaching staff, so that it can have long-term effects such as decreasing the quality of education in Indonesia.

The use of conventional media such as books as learning media is now being abandoned with various media platforms, youtube. Lately, students prefer to learn via YouTube because learning using book media without a teacher or supervisor is very difficult; using videos, students can better understand the material presented even though it is only one-way communication. This may be based on several aspects such as laziness to read, the difficulty of studying on their own, to the media of books that tend to be "boring" for most Indonesian students. For this reason, it is necessary to have a media that can attract students' attention so that they can learn without being bored so that they can understand the material even though the learning is carried out without face to face. Virtual reality (VR) can be a breakthrough as a solution to this problem.

Many benefits can be obtained by using VR as a learning medium, but various obstacles still hinder the use of this technology in Indonesia, including:

1. Expensive VR devices. The most important thing is the VR device because this device is priced quite expensive, for one package in the range of 8-10 million rupiah, this is a problem in itself for schools/colleges who want to use it.
2. Making learning applications. Application/software becomes the second problem because creating a complex VR application can cost up to tens or even hundreds of millions of rupiah.
3. Human resources are still lacking. In the application of VR itself, the teaching staff, in this case, the teacher, must accompany students in using this technology, but due to the rarity of this technology in Indonesia, knowledge of this technology is still lacking, both among the teaching staff.

Figure 2. Assistance in Skills Improvement Activities to Build Virtual Learning

2. Material and Distance Learning Aids that are Effective and Easy for Students to Access

Distance learning is designed to serve many learners with diverse educational backgrounds, ages and living spaces. Thus, distance learning to overcome the limitations of distance, place, time in carrying out the learning process. Therefore, distance learning has different characteristics or characteristics that are different from the conventional face-to-face education system. This characteristic is the physical separation between teacher and learner activities, and there is no face-

to-face presence, so there is a limitation of the learning process, which is carried out in a face-to-face forum. The separation of teachers and learners is due to the distance between the learner's residence from the educational institution or because their place of residence is close to the educational institution but cannot participate in direct learning activities.

Some things that can help teachers implement distance learning effectively and efficiently are as follows.

1. Have interactive discussions with your class, 'share' screens to present your lessons and encourage students to ask questions using the chat feature.
2. You can show movies using your system's audio feature during a meeting session.
3. During the lesson, you can guide a class discussion by muting the student's audio, making them the material giver, or, if necessary, removing them from the meeting. Finally, you can record the ongoing lesson so students can listen to the session one more time.
4. Record a class session if some students are unable to join during the live session.
5. For grading, you can easily create and grade quizzes in Teams using Microsoft Forms.
6. Let your students know your hours of work and when they can contact you for questions.
7. Encourage your students to use Immersive Reader in Teams to help them read messages and understand assignment requests, enabling them to continue learning and contributing.
8. Create a Fun Channel. Create a virtual science fair or reading group. All of these features can be used by various students without age restrictions.

Launching the official website of the Ministry of Education and Culture of the Republic of Indonesia, here are 5 platforms or applications that students can access to study at home. This application is a common form of dealing with corona.

1. Rumah Belajar is an online learning application developed by the Ministry of Education and Culture to provide alternative learning resources using technology. There are various features such as Learning Resources, Virtual Laboratory, Digital Classroom, Question Bank, Electronic School Book, Cultural Map, Language and Literature Work, and other features that teachers and students can use for free.
2. Meja Kita The presentation of the material is carried out thematically and is equipped with a discussion forum that can be used for questions and answers. Meja Kita provides free and quite complete learning materials from elementary and high schools and thousands of notes that students in student communities have uploaded throughout Indonesia. Meja Kita supports students who have to study at home to discuss homework, questions and assignments, and share notes and other learning materials.
3. ICANDO is a children's education application with a learning program that is by the 2013 Revised Curriculum, which was developed comprehensively with hundreds of minigames that will increase children's learning motivation at the PAUD level.
4. Google for Education to support online learning, especially those applied by various regions on the issue of the Covid-19 pandemic, Google for Education provides services using Chrome books and G-Suite that allow virtual learning even with low internet connectivity.
5. Smart Class is one of the providers of educational support systems in the digital era that uses the latest technology to help students and teachers create the best teaching and learning practices.

Figure 3. Club House Program/Rumah Belajar

3. Continuous Learning Trend

a. Informal Learning

Informal learning refers to learning that occurs away from a structured, formal classroom environment. Informal learning comes in many forms, including viewing videos, self-study, reading articles, participating in forums and chat rooms, performance support,

coaching sessions and games. Informal learning is the name given to learning unstructured and takes place away from traditional, formal learning settings, like a classroom. It has no clear goals or set objectives as it's often unplanned and self-directed by the learner.

b. Curation and User-generated Content

It is officially defined as any form of content, such as images, hashtags, videos, and text posted or displayed by unaffiliated or unpaid online users about a particular brand or company. A perfect example of user-generated content is social media fans of a brand or product. Instead of a brand promoting itself by sharing content created by the brand's internal team or marketing agency, UGC marketing involves fans of the brand generating authentic user-generated content through posts and hashtags.

Anyone can write an ad or produce a beautiful video commercial, but people want genuine proof a product or service does what a company claims it will. If you can get your customers excited about your brand, the benefits of UGC created content are significant. Now we'll look at some different types of user-generated content campaigns and how to use them.

UGC is a phenomenon in Indonesia. When the number of print media readers falls, it is estimated that reading habits will shift to online news media. In fact, to this day, the public reads more media with UGC characters. This is due to the phenomenon that many readers want their work to be published in the press. They feel proud of their writing becomes a headline or is shared with thousands of other readers. Some don't think he will benefit materially from it.

c. Social learning.

Social learning is based on a theory developed by psychologist Albert Bandura that proposes learning is a cognitive process that takes place in a social context and occurs purely through observation or direct instruction, even in the absence of motor reproduction or immediate reinforcement. Emphasizes the importance of observing, modelling, and imitating the behaviours, attitudes, and emotional reactions. Social learning theory considers how both environmental and cognitive factors interact to influence human learning and behaviour.

First, the child is more likely to attend to and imitate those people it perceives as similar to itself. Consequently, it is more likely to imitate behaviour modelled by people of the same gender.

Second, the people around the child will respond to the behaviour it imitates with either reinforcement or punishment. If a child mimics a model's behaviour and the consequences are rewarding, the child will continue performing the behaviour.

d. Self-Directed Learning (SDL)

Self-directed learning is a process by which individuals take the initiative, with or without the assistance of others, in their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning (Griffin, 1989). SDL also promotes and sustains learning how to learn and life-long learning. Through SDL, adults can gain new metacognitive skills about their learning effort (Kasworm, 2011).

Tree main goals for SDL (Merriam, Caffarella, & Baumgartner, 2007) enhance the ability of learners to be seft-determined in their studies; 2) foster transformational learning; and 3) promote emancipatory learning and social action as an integral part of SDL

Teaching top out line key component of four key stages to independent learning, known as self-directed learning as follows:

Step 1: Asses readiness to learn; student need various skills an attitudes towards learning for successful independent study: study habits, family situation, and support network both at school and at home.

Step 2: Set learning goals; teacher could developed a set of questions for student to consider as they map out their learning goals about: (1) goals for the unit of study; (2) structure and sequence of activities; (3) timeline for completion of activities; (4) resource materials for each goals; (5) feedback and evaluation.

Step 3: Engage in learning process: student need to understand themselves as learner in order to understand their needs as self-directed learning student about: a) what are my needs; and b) who was my favourite teacher?

Step 4: Evaluating learning: student must be able to engage in self-reflection and self-evaluation of their learning goals and progress in a unit ao a study. They should: a) regularly consult with the advising instructor; b) seek feedback; and c) engage in reflection of their achievement.

4. Trends distance learning through virtual learning and its impact on the student experience

a. Gamification

Gamification is a learning approach using elements in a game or video game to motivate students in the learning process and maximize enjoyment and engagement with the learning process. According to Kapp (2012) in (Kebudayaan, 2018: 16), gamification is a way to use game-based mechanics, aesthetics and game-based thinking to arouse interest in motivation to act, promote learning, and solve problems.

The main elements of a game that are part of gamification for learning can be seen in the following figure 3.

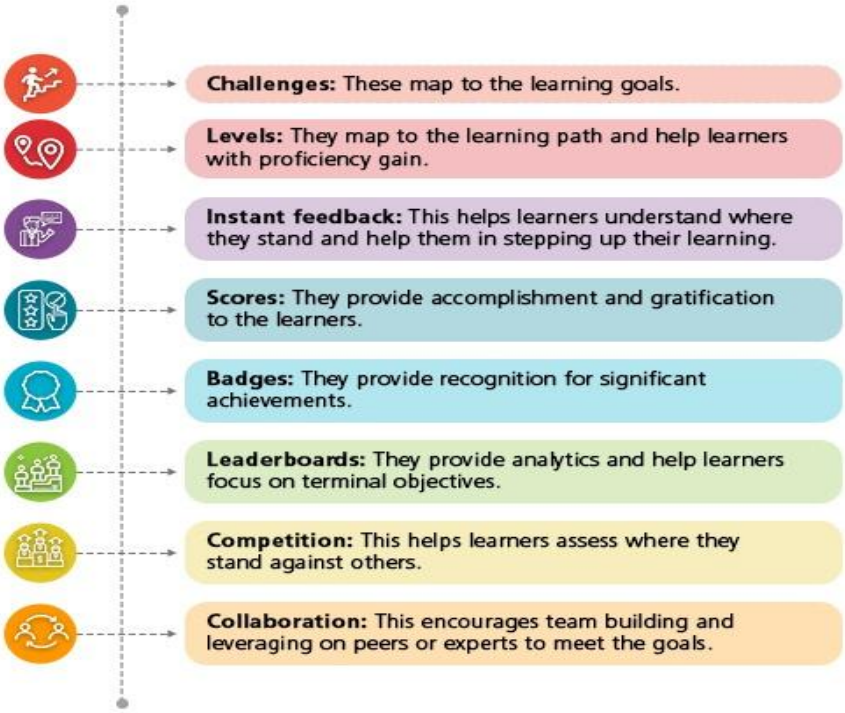

Figure3. The main elements of gamification in learning.
(source: https://binus.ac.id/knowledge/2019)

b. Scenario-Based Learning (SBL) and Interactive Story-Based Learning (IS-BL)

Scenario based learning as a combines the benefits of problem-based learning and goal-based scenario to create a powerful, experience-centered learning environment. SBL uses interactive scenarios to support active learning strategies such as problem-based or case-based learning. It normally involves students working their way through a storyline, usually based around an ill-structured or complex problem, which they are required to solve.

In the process students must apply their subject knowledge, and critical thinking and problem solving skills in a safe, real-world context. It is often non-linear and can provide numerous feedback opportunities to students, based on the decision they make at each stage in the process. SBL is a great way to present more interactive and compelling skill-based training

c. Video-Based Learning

Video-Based Learning is a method learning using video has been recorded to assist in the process learning. By using video-based learning approach, we can provide stimulus in three essential parts in learning that is emotional, intellectual, psychomotor (Robet, 2013). Video-Based Learning is used in learning for design the knowledge or skills that are acquired by being taught via video. Video in this case, there are two elements, namely audio and visual, audio is used as elaborating information verbally, whereas visual as providing the primary source or presentation of the content in writing or picture.

Video-Based Learning is one method learning that is deemed suitable for generations digital today for the following three reasons this:

a. Creating a learning environment fun and make it even more student motivation to learn
b. Make it easier for students to learn and understand a learning material

c. Make students more interested in make instructional videos according to the material they want to present (Robet, 2013).

d. AR/VR and MR or Immersive Learning

Immersive learning is the process of learning with the usage of simulated or artificial environment. The environment enables the learner to completely get immersed in the learning and in a way that feel like experiencing an actual learning environment. Immersive learning is a digital approach to education that addresses the issue of student interest and engagement. It's allows students to immerse themselves in interactive digital environments. The programs use sounds, images and other sensations to give students a full sensory experience, causing them to get an actual "feel" for the environment (https://k12teacherstaffdevelopment.com).

Immersive learning technique help student to experience, explore and navigate real world subjects and destinations within the comfort of their classroom, it's develop skills and maximize learning while engaging in enjoyable, relevant learning experiences. Immersive tools and strategies can make learning exciting for student, and clarify concepts that are best learned hands-on (Board et al., 2021).

Teacher can use immersive learning techniques to create a technology-assisted active learning process which helps students to:

1. Gain knowledge through exploring and manipulating objects and environment.
2. Learn at their own pace
3. Enhance their understanding of abstract concepts and their relationships by providing them with a context
4. Develop skill and apply learned concepts to challenging real-world problems

Virtual programs helps teacher to:

1. Supplement lectures
2. Create a safe and controlled learning environment
3. Present a lesson that free from distractions
4. Facilitate the development of collaboration and team building skill.

e. Next-Gen Learning Strategies

Next gen learning strategies are a combination of multiple successful strategies and will help you achieve a manifold increase in the impact. Teacher can match the way modern learners are learning today or would prefer to learn.

Key aspect of the next gen strategies includes a combination of m-learning, micro-learning, and gami-fication to create an immersive learning experience and achieve sticky learning, its effective application on the job, skill building, and reducing proficiency gap.

5. The impact of mentoring in building VLE for teachers.

a. Learning Analytic

Learning analytic is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing and the environment in which it occurs. In the other words LA has been defined as a particular case of analytic, in which decision making aims to improve learning and education. According to (Puskur, 2013) La is carryout on the premise that learning in a course occurs with the stages of learning to achieve students' abilities measurable, systematic and planned.

There are four types of stated structure formulation learning stages in the course, namely: hierarchical structure, procedural systems, grouping structures (cluster) and the structure combination (Creswell, 2012).

b. Learning Experience Platform (LXPs)

LXPs is a consumer-grade learning software designed to create more personalized learning experiences and help users discover new learning opportunities. It delivers personalized-learning experiences, facilitates access to content and incorporates innovative learning methods to optimize employee skill development.

c. Artificial Intelligence (AI) in Learning

AI as a part of computer science that studies how to make machines (computers) can do a job like and as well as that of a human being could be even better than humans do.

The advantages of artificial intelligence:

1. More permanent. Natural intelligence can change because human nature is forgetful. Artificial intelligence doesn't change as long as computer systems & programs don't change it.
2. Easier to duplicate & distribute. Transferring human knowledge from 1 person to another requires a very long process & expertise will never be
3. Repeated completely. So if the ability lies in a computer system,

4. Knowledge can be copied from the computer & can be transferred easily to another computer.
5. It's cheaper. Providing computer services will be more accessible & more affordable than bringing in someone to do several jobs in a certain period very long.
6. Be consistent because artificial intelligence is part of computer technology meanwhile, natural intelligence is constantly in flux
7. Documentable. Decisions made by a computer can be easily documented by tracking every activity of the system. Natural intelligence is complicated to reproduce.
8. Faster
9. Better

Figure 4. One of Sample of Artificial Intelligence in Learning

Conclusion

Based on the implementation of community service activities by the MBKM implementation team, KM1 in Ambal District, Kebumen Regency, Central Java. SDN Sidorejo Ambal shows the achievements that: Teachers at SDN Sidorejo can adapt to changing situations due to the new normal era and can design both online and offline, schools build Virtual Learning Environment (VLE). Schools get parental support during the new normal era. As a follow-up to this community service activity, it is hoped that policymakers and related institutions will provide assistance and support for teachers in managing learning and monitoring and evaluating the learning process during the Covid-19 pandemic and adapting education to the new normal era.

References

1. Board, P. L., Development, O. P., Courses, F., Requirements, S., Us, A., & Us, C. (2021). *Implementing Immersive Learning in Classrooms*. 1–5.
2. Creswell, John W. (2012). Educational research: planning, conducting, evaluating, quantitative and qualitative research (Fourth Edition). United State of America: Pearson Education Inc.
3. Griffin, V. R. (1989). Self-directed Learning: Theories. In C. J. B. T.-L. E. for A. TITMUS (Ed.), *Advances in Education* (pp. 254–256). https://doi.org/https://doi.org/10.1016/B978-0-08-030851-7.50081-3
4. Kebudayaan, K. P. dan. (2018). *model gamifikasi.PDF* (pp. 1–43). pp. 1–43. Retrieved from http://direktori.pauddikmasjabar.kemdikbud.go.id/MODEL/TAHUN 2018/2 model gamifikasi/model gamifikasi.PDF
5. Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Book reviews 269*. 269–270.
6. Puskur. (2013). Analisis Pembelajaran. *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699.
7. Robet. (2013). Pembuatan Materi Belajar Dengan Pendekatan Video-Based Learning. *Time*, *II*(2), 39–41.
8. Steinicke, F. (2016). *Being Really Virtual*. https://doi.org/10.1007/978-3-319-43078-2
9. Theodorou, P., Kydonakis, P., Han, G. J., Tsagaki-Rekleitou, E., & Skanavis, C. (2019). *Waste Management Education tailored to Tourists' Interests through Augmented Reality*. (January).
10. https://binus.ac.id/knowledge/2019/09/tren-dan-tips-gamifikasi-untuk-pembelajaran-online
11. https://k12teacherstaffdevelopment.com/tlb/implementing-immersive-learning-in-classrooms/
12. https://en.wikipedia.org/wiki/Learning_analytics
13. https://www.valamis.com/hub/learning-experience-platform