Crossword puzzle-based utilization of ICT as an innovation in learning in primary schools

Rohmah Suciningrum1*, St. Y. Slamet2, and Hartono3

1Pascasarjana Pendidikan Guru Sekolah Dasar, Universitas Sebelas Maret, Jl. Ir. Sutami 36A, Surakarta 57126, Jawa Tengah, Indonesia
2Pascasarjana Pendidikan Guru Sekolah Dasar, Universitas Sebelas Maret, Jl. Ir. Sutami 36A, Surakarta 57126, Jawa Tengah,
3Pascasarjana Pendidikan Guru Sekolah Dasar, Universitas Sebelas Maret, Jl. Ir. Sutami 36A, Surakarta 57126, Jawa Tengah, Indonesia

*rohmahsuci82@gmail.com

Abstract. Challenges in education is very diverse, with challenges in the digital era that is going on now. Innovation in learning is very necessary to make the students feel meaningful learning. The purpose of this research is to find out the latest innovations in learning in primary schools. The study conducted in SDN 01 Mojoreno, Sidoharjo subdistrict, Wonogiri district. The results of this study show that teaching elementary school in SDN 01 Mojoreno, Sidoharjo subdistrict, Wonogiri district is not maximized in learning, especially ICT-based innovation. Elementary school-based learning in ICT is indispensable in innovative learning in primary schools.

1. Introduction

The quality of human resources is an absolute necessity, especially in facing such rapid changes and developments in various fields. The development was very significant in the field of knowledge and technology. Entering the 21st century is a challenge for educators. Educators born in an all-manual era (digital imigran) while learners from birth are aware of technological development (digital native). The challenge of an educator to prepare students especially at the elementary school level in the face of the future that is to have the skills to survive in the 21st century. The skill stated by Wagner (2008:14) there are 7 skills needed to survive well in the 21st century, namely: (1) critical thinking and problem solving, (2) collaboration across networks and leading by influence, (3) agility and adaptability, (4) initiative and entrepreneurialism, (5) effective oral and written communication, (6) accessing and analyzing information, (7) curiosity and imagination.

In 21st century learning, teachers are required to always be creative and carry out innovative learning. Innovative learning according to Huda (2013:5) are as follows: 1. innovative learning can change the behavior of students. Learning innovations carried out create
257

an atmosphere that was initially not a concern to be the learning that was done.

2. innovative learning can create learners who are initially afraid that certain lessons will be very confident in completing the lesson. Innovative learning according to Rusman (2010:10) is learning that provides positive changes for students. Innovative learning includes:
   1. Giving motivation to students
   2. Monitoring student behavior
   3. Monitoring students learning activities
   4. Guiding students in discussions

   In line with the development of science and technology, especially in the field of assistive devices or learning media is becoming more widespread and interactive, this is due to the growing development of computers and the internet. Setyorini (2015: 90) stated that the use of ICT as a learning media can take the form of files, slides, power points, video, audio, images, animation, internet, and so on.

   According to Rusman, et al (2013: 87) Information and Communication Technology (ICT) in a very short time has become an important building material in the development of the lives of modern society. Whereas according to the ministry of research and technology, ICT as part of science and technology in general are all technologies related to retrieval, collection, processing, storage, distribution, and presentation of information.

   According to Indrajut (2004), ICT function in education is divided into 7 functions, namely (1) as a storehouse of knowledge, (2) as a learning aid, (3) as an educational facility, (4) as a competency standard, (5) as an administrative support, (6) as a tool for school management, and (7) as an educational infrastructure. Referreing to the seven functions, the teacher is required to have the skills to realize learning with the use of ICT especially the internet.

   The challenges of education in the 21st century, educators must innovate in learning by following technological developments. Innovation in learning must be a student center so that learning is more meaningful and can hone critical thinking skills in students. Critical thinking skills are very essential abilities, and function effectively in all aspects of life. Therefore, this critical thinking ability becomes very important and must be instilled early in school, at home and in the community. In the inspection process to achieve optimal results, it requires active thinking. This means that the optimal learning process requires critical thinking from the learner. Therefore critical thinking is very important in the process of learning activities.

   Michael (Fisher, 2009: 10) recently argued that, critical thinking is an academic competency similar to reading and writing and almost as important. Therefore, he defines critical thinking as a skilled and active interpretation and evaluation of observation and communication, information and argumentation. According to Wahidin (Mahanal: 2007), there are several benefits derived from learning that emphasize the process of critical thinking skills, namely:
   a. Learning is more economical, namely that what is obtained and the teaching will last long in the minds of students.
   b. Tend to increase the enthusiasm for learning and enthusiasm for both the teacher and the students
   c. It is expected that students can have a scientific attitude, and
   d. Students have problem solving skills both during the teaching and learning process in the
classroom and in dealing with the real problems they will experience. Learning that is able to attract creative, innovative and fun motivation is to learn to use crossword puzzles. By using this media, students are expected to be able to think critically and solve problems through the medium of crossword puzzles. There is a theory that discusses learning crossword puzzles. Zaini (2008: 71) stated that crossword puzzles can be used as a good enjoyable learning strategy without leaving the essence of continuous learning. It can even involve active participation from the beginning. Learning with media crossword puzzles is expected to improve student learning outcomes, making learning more meaningful and fun and expected to show ways to become better teachers.

According to Silberman (2013: 247) crossword puzzles included in the reviewing strategy. Crossword strategies relate to ways to recall what they have learned and test the abilities and knowledge they have acquired. Khalilullah (2012: 15) stated that crossword puzzles function to wake up the brain nerves which give the effect of refreshing the memory so that the brain’s work function returns to be optimal because the brain is accustomed to continuing to learn relaxed. Farih (2012: 2) stated that crossword puzzles are one of the learning media in the form of an activity filling empty spaces (in the form of white boxes) with letters that form a word based on the instructions given.

Based on previous research conducted by Yuniarti (2016: 8) stated that there are differences in social studies learning outcomes using crossword puzzles and without using crossword puzzles in class V SDN 03 Pontianak city and learning activities using crossword puzzles influence the learning outcomes of social studies students with criteria in the medium category. And also the results of research from Setyawan (2015: 294) showed that the media of pictorial crossword puzzles influence the vocabulary mastery of 4th grade deaf students.

The crossword puzzles that we have known so far is a crossword puzzle in the form of a print. As technology develops in learning, technological development is also needed in innovation in the learning process. Based on relevant research, the crossword puzzle that has been in the form of crossword puzzles. The novelty of this research is that digital crossword puzzles can be used as an alternative for educators to innovate in the use of learning media. The formulation of the problem in this study is how innovations have been made in schools in the face of learning in the 21st century. The purpose of this study is to find out the innovations that have been made in schools in the learning in the 21st century.

2. Methodology

This study uses a qualitative-descriptive method, which is a research procedure that produces descriptive data in the form of written or verbal words from the respondent or people whose behavior is observed (Cut Suryani, 2015: 25). This research describes various things related to the media of crossword puzzles for innovative learning. Data is collected through observation and interviews. The subjects in this study were SD 01 Mojoreno teachers. Data sources are determined intentionally. The purpose of sampling is to take technical data sources with certain considerations (Sugiyono, 2017: 53). This research was carried out in SD Negeri 1 Mojoreno by involving teachers as the main source of research.
3. Results and Discussion

3.1. Results

Based on the results of interviews conducted at Mojoreno 01 Elementary School, there are several findings first, many teachers have not innovated using learning media when delivering subject matter. Secondly, the teacher has obtained diklat, seminars, and training on innovation in the use of learning media. Third, teachers have not innovated in the use of ICT-based learning media, only in accordance with those in the teacher’s thematic book.

3.2. Discussion

Technological development requires teachers to be active in innovating so that they can equip students with skills that can be used to survive in the 21st century. One of the abilities that must be developed is critical thinking. Critical thinking can be sharpened using crossword media included in the learning process. However, according to current technological developments the crossword puzzle media that has been used is in the form of print and has not taken advantage of technological developments. The challenge of using crossword puzzles that we have encountered so far is in the form of print, so that it is less attractive to students. There needs to be innovation in the use of crossword puzzles in accordance with technological developments, namely crossword puzzles ICT-based.

4. Conclusion

The government has made changes in the education system so that students are able to compete to face technological developments in the 21st century. In facing the development of the 21st century, students must have the provision of critical thinking skills in order to survive in the 21st century. But in school, teachers remain the spearhead in the implementation of learning. The teachers must be able to innovate in learning process so that the learning process is meaningful to students and is a student center. But in reality, teachers still have not innovated using ICT-based media according to technological developments. One of the innovations that can hone critical thinking skills is by using crossword puzzles. However, what is commonly found is only the crossword puzzle media in the form of prints. Many teachers have not applied the use of crossword puzzles in learning, which have been shown to be able to improve students critical thinking. Based on the results of the study it can be concluded that the crossword puzzle media can create an innovative learning atmosphere for elementary school students. Innovative learning requires thinking that is able to compile this crossword puzzle. Students can produce ideas and creative attitudes in learning for students. This media supports learning to be more meaningful and innovative.
5. References


