

Development of Educational Media Based Educational Character In the XXI Century

Muhammad Riza^{1,*}

¹Chemistry Education, Faculty of Science and Technology, Walisongo State Islamic University

*email : muhammadrizakhoirullah@gmail.com

Abstract

In the XXI century, Indonesia must face global challenges, so it needs to be done in the development of the ability of education. Based on a survey of the International Student Assessment Program (PISA) released last year 2015, Indonesia's education ranks 64th out of the 72 countries of the Organization for Economic Cooperation and Development (OECD). In this case Indonesia should be able to improve the quality of human resources not only the quantity of human resources. In realizing it, education is needed as a basic foundation that becomes the responsibility of educators. Teachers as educators have an important role in the transfer of knowledge to learners in learning. Learning will be a problem if students only memorize concepts without understanding the intent and content of material delivered, including chemistry. Learning media can be an effective tool to overcome students' difficulties in learning chemistry. The purpose of learning media is to create a good communication between teachers and learners, so that learning becomes effective, consequently the concepts of matter can be understood by students. The development of learning media is expected to facilitate students in studying chemistry and facilitate the delivery of materials by educators. In addition, chemical learning media can also instill and cultivate the character of learners, so that formed a generation of intelligent.

Keywords: learning media, development, character education

Introduction

In the global era, education is in the days of knowledge with an extraordinary increase of knowledge. In the XXI century, Indonesia must face global challenges, one of them with education. Based on the United Nations Educational, Scientific and Cultural Organization (UNESCO) Survey, on the quality of education of developing countries in Asia Pacific, Indonesia is ranked 10th out of 14 countries (edukasi.kompasiana.com). Education becomes one of the efforts to face global challenges, so it is necessary to develop the ability in the world of education. In addition, education becomes an important element for learners. The term learning and learning is a term that has a very close relationship and can

not be separated from each other in the educational process. Learning is an activity undertaken to create an atmosphere or provide services for students to learn (Sugiharto, 2013). In Law no. 20 Year 2003 on Sisdiknas Article 1 Paragraph 20 "Learning is the process of interaction of learners with educators and learning resources in a learning environment". So, the meaning of learning is the activity between educators and learners in the learning process. Learning activities there are several factors that influence. Muhibbinisyah (1997) divide factors that affect learning into 3 kinds of internal factors, external factors and learning approach factors. Henich, (1996) in his book *Intructional Media and Technology for Learning* states that education can be influenced by the whole history, media, and technology (Erman Suherman,2001).

Teachers as educators have a very important role in the transfer of knowledge to learners in learning. Currently the learning of chemistry is more focused on students or centered on students rather than on teachers as educators. Learning chemistry is the process of constructing concepts and principles that are related to each other (Dwi Retnowati, 2012). In chemistry, examples always underlie many concepts. It means that the examples must be mastered in the students' thinking so that the concept can be mastered by the students (Richard R. Skemp, 1971). Understanding the concept is a student's ability to perform procedures in a flexible, accurate, efficient and appropriate (Asep Jihad and Abdul Haris, 2010). Learning will be a problem if students only memorize the concept of chemistry without understanding the intent and content of the material presented. Chemical learning seems to have not succeeded in improving students' understanding of concepts. There is one important thing is how students understand the concept of chemistry as a whole, so if applied in solving chemistry problems students have no difficulty. Learning media has become an effective tool to overcome students' difficulties in learning chemistry. Media learning becomes one element to achieve the learning objectives, because with the media learning materials can be easily understood students. Interesting learning media of chemistry and embed the character education of learners can serve as one of the learning alternatives so as to change the view of chemistry as less interesting subjects (Maulana, 2010).

Therefore, the authors want to review about the development of educational media-based education of character education in the XXI century.

Material and Method

The method of writing used in this idea is the collection of data by doing literature study taken from various sources such as books, journals, newspapers and etc. The presentation of the concept is explained by qualitative descriptive so it is expected to be able to explain the concept briefly and clearly.

Result and Discussion

The Need for Character Based Learning Media Every citizen has the right to education. The regulation of the right to be regulated in Article 5 of the Constitution of 1945 paragraph (1) affirms that every citizen has the same right to obtain quality education. Quality education is intended that education not only educate smart learners intellectually, but also instill the values of character education in learning. One of the government programs, especially the Ministry of National Education, in order to improve the process and output of education at elementary and secondary education level is the development of character education (Marzuki, 2011). Character education can not only be fostered through certain subjects, but character building can be done in other subjects including chemistry. This is done so that character development can produce maximum results and satisfactory.

Chemistry is a center of science that supports the development of modern technology, has an important role in the various development of human cultivation. To master and create technology in the future required mastery of chemistry. The consequences in the implementation of chemistry learning in schools should be able to organize and lay the groundwork of students' reasoning that can help clarify solving problems in everyday life and the ability to communicate with numbers and symbols, and further develop a logical, critical, disciplined, disciplined, open, Optimistic, and appreciative of chemistry. However, the development of chemistry learning at this level of school is still very considerate. The factual indication is the very poor interest and achievement of the students. Chemistry becomes a very scary subject. This is caused by the

influence of less enjoyable education, so it takes a fun learning media. An interesting learning media can be one of the learning alternatives so that it can change the view of chemistry as less interesting lesson (Maulana, 2010). In reality, learning media is needed as a means to bridge students in studying chemistry. In addition, the media of learning chemistry can instill character education in teaching, so that students can understand the chemistry as well as foster the values of the characters in students through the media of learning chemistry. For that, it takes a learning media that can develop students' potential optimally so that the learning process becomes more meaningful.

A Glimpse of Chemistry Learning Media

Media is an intermediary for delivering messages. Based on the Association of Education and Communication Technology (AECT) states that the media is any form or channel used to channel / convey information (Djumadi, 2012). Media is a tool that can be used as a message channel to achieve the purpose of teaching. One main thing in determining the teaching design is using media that can convey learning (Dick & Carey, 1985) in what will be taught, how it is taught, how it will be evaluated, and who is the student (Djumadi, 2012).

Each media has different capabilities with other media or has certain specifications. The media chosen in the learning activity needs to consider the curriculum factor. The use of media to support learning activities to facilitate students in achieving the competencies set in accordance with the curriculum. Learning media can be said to be good, if the media can enable students in providing feedback, feedback, and encourage students to practice properly. Learning media can be classified and divided into several types, Leshin, Pollock, and Reigeluth (1992) classifies media into five groups:

1. Human-based media (teachers, instructors, role-playing, and group activities).
2. Printed media (guidebooks, exercise books, work aids, and loose sheets).
3. Visual-based media (books, work aids, charts, graphics, maps, pictures, transparencies, slides).
4. Audio-based visual media (video, VCD, movies, slide-tape programs, television).

5. Computer-based media (computer-assisted teaching).

In chemistry learners will study various materials in the form of chemical objects and understand chemical concepts. Chemical objects are objects of thought that are abstract and can not be observed with the senses. Abstraction in chemistry is not simple, so it is not easy to learn chemistry, consequently learners find it difficult learning chemistry. Understanding concepts at a higher level can not be communicated to a person by definition (Skemp, 1971). The purpose of media utilization is to create good communication between teachers and learners. The key in the utilization of instructional media is to improve the quality of communication between teachers and learners that ultimately improve the effectiveness of learning. Effective learning can facilitate the delivery of materials and understanding of concepts to students. Conversely, inappropriate utilization often disrupts communication and reduces the effectiveness of learning, so that the delivery of materials and understanding of student concepts can not be conveyed thoroughly. Utilization of appropriate learning media can improve the quality of communication, so that learning becomes more effective.

Learning media became one of the means used by teachers to facilitate the delivery of materials to students. Students can learn chemistry directly with the learning media so that the chemical concepts related to the learning media are easily understood by the students. Students intellectually by facilitating students' understanding in learning chemistry, chemical learning media is expected to instill the values of the characters in the students.

Development of Character Based Learning Media

The cultivation of character education in chemistry learning does not take a minute. It takes time, strategy, and effort to form a tough learner's character. These efforts can be, recognition, planting, and melting character to the mind and heart of learners. According Furco (2006) there are three main steps in the application of character education, namely knowing, feeling, and practice.

The most important and immediate step in the implementation of character education in chemistry is the implementation of character education in the

chemistry learning process. Implementation of character education in the learning process, one of the learning media. Implementation of learning process selected and implemented so that learners practice character education values.

The use of instructional media as a means to facilitate learners in understanding the material presented by educators in learning. Learning according to Sudjana (in Educational Psychology) is any effort made deliberately by educators can cause learners to do learning activities. Biggs (in Educational Psychology) divides the concept of learning in 3 terms:

- A. Quantitative learning
- B. Institutional learning
- C. Learning in qualitative

Chemical learning is an effort done by deliberate educators to convey the chemistry that can cause learners to learn effectively. In learning chemistry educators can use instructional media as a means for learners to understand chemistry. The learning process of learners can be embedded character values through activities in learning. For example, the process of learning chemistry that uses learning media with the method of discussion. Discussion method is a method of learning through giving problems to the students and learners are asked to solve problems in groups. The learning process can encourage students to be able to express opinions constructively and familiarize learners to be tolerant of the opinions of others (Sugiharto d., 2013). Learning process in discussion can be embedded some character education values for learners, such as:

1. Democracy
2. Thinking logically and critically
3. Bring your opinion
4. Respect the opinions of others
5. Modesty

Chemical learning with character-based learning media needs the role of educator as facilitator. Educators must design learning steps to facilitate learners during the learning process. Educators are required to master active learning activities so that the steps in the implementation of learning can run well and correctly. The

process of learning chemistry, educators can make an assessment of the learning process that takes place, especially regarding students' understanding of the chemistry material through learning media and the character of learners.

Evaluation or assessment is one part of the educational process. Assessment is done not only judge the intellectual side, but the assessment is also done from the moral side of learners as well. Character education, assessment must be done properly and correctly. Assessment should include three aspects of cognitive, affective, and psycho-motor achievement of learners. Assessment conducted by educators is expected to take into account several things, namely the understanding of learners about the chemicals through the media learning and character assessment of learners viewed from affective achievements and psycho motorik.

Educators need to understand the principles of appraisal appropriately in accordance with the assessment standards set by the assessment experts, in order for the assessment to be conducted by the correct and objective educators, such as the educational appraisal standards established by the Minister of National Education Regulation No. 20 of 2007. In conducting the assessment A character-educator-based chemistry study is expected to create an assessment instrument with a rating rubric to avoid subjective judgment. According to Wuradji (1974) the function of evaluation for educators serves to select the learners which are then useful to predict the success of further studies, to guide teaching, and to know the causes of learning difficulties learners (Sugihartono, 2013).

Conclusion

The use of learning media can as a means to facilitate learners in understanding the material presented by educators in learning. The use of character-based chemistry learning media can instill character education in teaching, so that students can understand the chemistry as well as to foster the values of character in students. The learning process is required by the role of the educator as a facilitator who can design the learning steps that facilitate the learners during the process of learning achievement that lasts include three sapek namely cognitive, affective, and psycho motoric achievement of learners.

References

- Depdiknas. 2003. Pedoman Khusus Pengembangan Sistem Penilaian Berbasis Kompetensi. Jakarta: Depdiknas.
- Djumadi, S. d, 2012. Pedagogi Khusus Bidang Studi IPA Surakarta: Badan Penerbit FKIP-UMS.
- Furco, A. 2006. Unpacking the Nature of Values Education in Primary School Setting, Internasional Center for Research on Civic Engangement adn Service-Learning. Barkeley: University og California.
- Jihad, Asep dan Abdul Haris. 2010. Evaluasi Pembelajaran. Yogyakarta: Multi Pressindo.
- Marzuki. 2011. Integrasi Pendidikan Karakter dalam Pembelajaran di Sekolah Menengah Pertama. Disampaikan dalam seminar pendidikan karakter yang diselenggarakan di SMP N 5 Wates tanggal 25 juli 2011.
- Sugihartono, dkk. 2013. Psikologi Pendidikan. Yogyakarta: UNY Press.