



Saintific Approach in 21st Century Learning in Indonesian Language Learning Vocational School of Pharmacy

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Abstract

The current learning process has reached the 21st century where information is widely spread and technology is developing. The characteristics of the 21st century are marked by the interrelation of the world of science so that it synergizes faster (BNSP, 2010). The 21st century is also marked by the number of (1) information that is available anywhere and can be accessed at any time; (2) faster computing; (3) automation that replaces routine jobs; (4) communication that can be done from anywhere and anywhere (Litbang Kemendikbud, 2013). The things above are also in line with learning in Vocational High Schools (SMK). Muhadjir Effendy (Mendikbud) conveyed that the Vocational curriculum is in accordance with the needs of the business and industrial world (DUDI) and the Indonesian National Work Competency Standards (SKKNI). These things are also applied in learning Indonesian. Learning Indonesian based on a scientific approach aims to increase intellectual ability to think high-level students (Lutfiyah, 2015: 3). Indonesian subjects in the 2013 curriculum use a text-based approach (Lutfiyah, 2015: 4).

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INTRODUCTION

The progress of information and communication technology has changed the lifestyle of humans both in work, socializing, playing and learning. The current learning process has reached the 21st century where information is widely spread and technology is developing. The characteristics of the 21st century are marked by the interrelation of the world of science so that it synergizes faster (BNSP, 2010). The 21st century is also marked by the number of (1) information that is available anywhere and can be accessed at any time; (2) faster computing; (3) automation that replaces routine jobs; (4) communication that can be done from anywhere and anywhere (Litbang Kemendikbud, 2013).

21st century learning is simply interpreted as learning that gives 21st century skills to students, namely 4C which includes (1) communication, (2) collaboration, (3) critical thinking and problem solving, and (4) creative and innovative. Based on Bloom's Taxonomy, which was revised by Krathwohl and Anderson, the ability that students need to achieve is not only LOTS (Lower Order Thinking Skills), namely C1, C2 understand, C3 apply, and C4 analyze, but also HOTS (Higher Order Thinking Skills) C5 evaluate, and C6 creates (Apani, 2018).

Meeting the demands of the 21st century the government changed and renewed the curriculum used in learning. 2013 Curriculum is a curriculum that is currently used as a learning platform for all levels in Indonesia. As explained in Permendikbud Number 81a of 2013 namely, Curriculum 2013 (K13) adheres to the view that knowledge cannot be moved away. This is in line with the thoughts of constructivists. Starting from this constructivist thinking, there is a 21st century learning paradigm shift. One of the consequences of this learning paradigm shift is the promotion of the scientific approach (Abduh, 2018: 307).

The scientific approach is intended so that students know, understand, and build knowledge through scientific methods. So the role of the teacher is absolutely necessary not only as a notifier, but rather to guide students to complete the process skills in learning (Abduh, 2018: 307).

This scientific approach is to provide understanding to students in recognizing, understanding, various materials using a scientific approach that information can come from anywhere, anytime (Lutfiyah, 2015: 3).

The application of scientific / scientific approaches to learning requires changes in circumstances and forms of learning that are different from conventional learning. Through a scientific / scientific approach can make students more active in constructing their knowledge and skills. In the learning process students are taught and accustomed to discover scientific truths, not only invited to take an opinion in seeing a phenomenon including learning Indonesian (Lutfiyah, 2015: 3). Learning Indonesian based on a scientific approach aims to increase intellectual ability to think high-level students (Lutfiyah, 2015: 3). Indonesian subjects in the 2013 curriculum use a text-based approach (Lutfiyah, 2015: 4).

The things above are also in line with learning in Vocational High Schools (SMK). Muhadjir Effendy (Mendikbud) conveyed that the Vocational curriculum is in accordance with the needs of the business and industrial world (DUDI) and the Indonesian National Work Competency Standards (SKKNI). He said, the Ministry of Education and Culture is conducting industrial cooperation in an effort to revitalize SMK. Ministry of Education and Culture noted, as many as 3,574 industries cooperated with Vocational Schools. He also affirmed that the former Chancellor of the University of Muhammadiyah Malang (UMM) described the government's 2020 target, namely, first having 5.5 million vocational students with IT education through 1,650 vocational schools, 850 regular SMKs, 3,300 vocational alliances, and 750 consortium Vocational Schools. Second, 80 percent of graduates work in their fields, 14 percent are self-employed, eight percent go to vocational higher education. The explanation is in accordance with the formulation of the Vocational Education and Skills Roadmap according to the mandate of Presidential Instruction No. 9 of 2016. He explained, the Roadmap for Vocational Revitalization encourages good relations between the world of education and industry (REPUBLIKA.CO.ID).

Scientific Approach

The learning process in Curriculum 2013 for all levels is carried out using a scientific approach. The learning process must touch three domains, namely attitudes, knowledge, and skills. In the scientific approach based learning process, the attitude domain takes on substance transformation or teaching material so that students know about 'why'. The realm of skills is to take substance transformation or teaching material so that students know about 'how'. The realm of knowledge takes on the transformation of substance or teaching material so that students know about 'what'. The end result is an increase and balance between the ability to become good people (soft skills) and people who have the skills and knowledge to live properly (hard skills) from students who include competency aspects of attitudes, skills, and knowledge. The 2013 curriculum emphasizes the modern pedagogical dimension of learning, namely using a scientific approach. Scientific approach (scientific approach) in learning all subjects includes digging information through observation, asking questions, experimenting, then processing data or information, presenting data or information, followed by analyzing, reasoning, then concluding, and creating. For certain subjects, materials, or situations, it is very possible that this scientific approach is not always appropriately applied procedurally. In conditions like this, of course the learning process must continue to apply values or scientific traits and avoid values or non-scientific traits.

21st Century Learning

The characteristic of the 21st century according to the Ministry of Education and Culture is the availability of information anywhere and anytime (information), the implementation of machine use (computing), being able to reach all routine work (automation) and can be done anywhere and everywhere (communication). It was found that in the last 20 years there had been a shift in the development of education towards ICT as one of the 21st century education management strategies which included institutional governance and human resources

(Soderstrom, From, Lovqvist, & Tornquist, 2011)

1. This century requires a transformation of education as a whole so that the quality of teachers is built that is able to advance knowledge, training, student equity and student achievement (Darling-Hammond, 2006; Azam & Kingdon, 2014).

The characteristic of the 21st century according to Hernawan (in Hidayat and Patras) 2 is the increased interaction between citizens of the world both directly and indirectly, the increasing number of available and obtainable information, widespread intellectual horizons, the emergence of a stream of openness and democratization in both politics and economics. cultural distance between the older generation and the younger generation, increasing concern for the need to maintain the balance of the world, increasing awareness of economic interdependence, and blurring the boundaries of certain cultural sovereignty because of the unstoppable information.

Hidayat & Pat ras 3 further explains the educational needs of the 21st century according to Patrick Slattery in his book entitled "Curriculum Development In The Postmodern" namely education based on the following concepts:

1. Education must be directed at social change, community empowerment, liberation of mind, body and spirit (referring to the concept developed by Dorothy)
2. Education must be based on 7 main things (referring to the concept developed by Thich Nhat Hanh), which is not bound to theory, ideology, and religion; do not think narrowly that the knowledge possessed is the most effective; do not impose the will on others either with power, threats, propaganda or education; care for others; do not maintain hatred and anger; don't lose your identity; do not work in places that destroy humans and nature.
3. The learning context, curriculum development and research are applied as opportunities to connect students with the universe (referring to the concept developed by David Ort)
4. Make teachers feel prosperous in learning activities (referring to the concept developed by Dietrich Bonhoeffer)
5. Education that implements the vision of 21th century.

21st century readiness is a readiness in welcoming the 21st century. UNESCO has made 4 (four) pillars of education to meet the 21st century, namely:

1. Learning to how (learning to know)
2. Learning to do (learning to do)
3. Learning to be (learning to actualize yourself as an independent individual with personality)
4. Learning to live together (learning to live together)
5. Education that builds the competence of "partnership 21st Century Learning", namely the 21st century learning framework that requires students to have skills, knowledge, and abilities in the fields of technology, media and information, learning skills, innovation, life skills and

The competence of "partnership 21st Century Learning" refers to the 21st century education format promoted by Hermawan (2006), namely:

1. Cyber (e-learning) where learning is done by optimizing usage
2. Open and distance learning where 21st century learners can be done with a distance learning model, unlimited and carried out by utilizing information and communication technology assistance
3. Quantum Learning, which is applying learning methods that are adapted to the way it works
4. Cooperative Learning, which is learning that uses groups as an effort to foster collaboration between
5. Society Technology Science, an interdisciplinary concept that is applied to integrate problems in science, technology and society.

Accelerated Learning, which is developing the ability to absorb and understand information quickly so that it can improve learning skills more effectively.

The Nature of Vocational Learning

Vocational education is secondary education that prepares students primarily to work in certain fields as stated in the Law of the Republic of Indonesia Number 20 of 2003. Similar to the Republic of Indonesia Government Regulation Number 17 of 2010 which states that vocational secondary education is education that provides

students with the ability of science and technology and vocational skills of the profession according to the needs of the community.

Vocational education is education that provides provision of various knowledge, skills and knowledge to students so that they are able to do certain jobs needed, both for themselves, the world of work, and the development of their nation (Tri Atmadji, 2013: 87). According to Dwi Jatmoko (2013: 2), Vocational High School (SMK) is an educational institution that has the potential to prepare human resources that can be absorbed by the workforce, because applicative theoretical and practical material has been given since the first time entering vocational school, with the hope that vocational graduates have competence in accordance with the needs of the workforce. In line with Dwi Jatmoko, Husaini (2012: 8), explains that vocational education is also called technical education, occupational education, and vocational education. All goals are the same, namely to prepare graduates to work in their respective fields.

Rupert Evans (in Hadi Yanuar: 2013) formulates that Vocational Education aims to: (1) Meet community needs for labor; (2) Increasing education choices for each individual; (3) Encourage motivation to continue learning. In addition to the objectives, vocational education must also have a reference to success as expressed by Lesgold (in Yusuf Wibisono: 2013), which must pay attention to: (1) Product goals must be well-defined, accurate, and clear which is an intense interaction between school and society ; (2) the equipment (facilities and infrastructure) needed to achieve what has been determined must be sufficient, so that it is the guarantor element that the targets set can be achieved properly; (3) the specifications of the success team or program implementation team that will be responsible for the success of the target must be complete and clear; and (4) continuous and continuous research or assessment so that it can be identified, so that corrective and mitigation steps can be established immediately. Based on the explanation above, it can be affirmed that Vocational High Schools are institutions that prepare students to have competency in certain vocational fields with

theoretical and practical material in order to meet the needs of the community and the world of work.

METHODS

This research is a type of qualitative research with descriptive design, namely research that gives a careful description of certain individuals or groups about the conditions and symptoms that occur (Koentjaraningrat, 1993: 89). This research will give a complete picture of the scientific approach in Indonesian language learning in the SMK majoring in pharmacy. Qualitative research relates to ideas, perceptions, opinions, or beliefs of the person being studied and all of them cannot be measured by numbers.

Subject and object of research

The research subjects were the intended subjects to be investigated by researchers (Arikunto, 2009: 107). The object of research can be stated as a research situation that wants to know what happened in it. In the object of this research, researchers can observe in depth the activities of people in a particular place (Sugiyono, 2015: 215). The subjects in this study were vocational students majoring in pharmacy. While the object in this study is the scientific approach in 21st century learning.

Data Collection Techniques

Data collection technique is a method used by researchers to obtain data in a study. Data collection techniques can also be interpreted as ways used by researchers in collecting research data (Arikunto, 2009: 136). Data collection techniques in the study used the observation, interview, and documentation study techniques, as follows.

Observation

Observation is the activity of loading research on an object. According to the implementation, observations are divided into two, namely participant observation and non-participants. The observation used in this study was non-participant observation. This study conducted observations in the teaching and

learning process of Indonesian language majoring in pharmacy, class X at Bhakti Kencana Vocational School.

Interview

Interviews are a process of oral questioning between two or more people in individual face-to-face meetings (Sukmadinata, 2006: 216). Interviews can be conducted in a structured or unstructured manner, and can be done face to face or by using a telephone. In this study using unstructured interview techniques, namely interviews that only prepare an outline of the questions to be asked. This interview is done face to face. Interviews were conducted with Indonesian language teachers in the SMK majoring in pharmacy.

Documentary Study

Documentary study (documentary study) is a technique of collecting data by collecting and analyzing documents, both written, image and electronic documents (Sukmadinata, 2006: 221). The documents collected in this study are documents of vocational learning devices in the form of syllabus, lesson plans, and textbooks used.

Research Instrument

Research instrument is a tool or facility used by researchers in collecting data so that their work is easier and the results are better (Arikunto, 2009: 136). Based on the data collection techniques used in this study, the research instrument uses observation guides, interview guides, and documentary guidelines.

Data Analysis Techniques

This research is descriptive research with more description from the results of interviews and documentation studies, the data that has been obtained will be analyzed qualitatively and described in descriptive form. The main principle of qualitative research is finding theory from data. Data analysis techniques carried out in this study used steps such as those used by Miles and Hubberman (Sugiyono, 2015: 204). The steps are (1) Data reduction (data simplification done by

selection), (2) Data presentation, (3) Drawing conclusions.

Furthermore, the data that has been analyzed, explained, and interpreted in words to describe the facts in the field which are then taken into account. Based on this information, each stage in the process is carried out to obtain the validity of the data by examining all existing data from various sources that have been obtained from the field, personal documents, official documents, photographs through observation, interviews, and documentary studies.

DISCUSSION

The application of the scientific approach in the learning process is a characteristic that is the strength of the 2013 curriculum. The learning process in the scientific approach, students are taught and accustomed to discover scientific truth, not opinion in seeing phenomena (Abduh, 2017: 308). Through Permendikbud 81A In 2014, it was stated that in the scientific approach there were five steps to learning, namely: observing, asking, gathering information, associating, and informing. The learning steps are related to learning activities so that the competencies developed are raised.

The scientific approach comes from the word saint which means science (Permatasari, 2014: 14). Then the scientific approach is a scientific approach that is logical and systematic. The process starts from the students asking, because there are objects that are seen and heard, the students respond so that questioning activities appear which are then answered by the teacher by relating the material being taught.

The data from the study came from the observation of Indonesian teachers as the subject of research and the results of interviews. Observations and interviews were conducted at the Bhakti Kencana Kendal Vocational School. In accordance with the initial design stated that the data collection methods used are observation, interviews, and documentation, then in the discussion will describe the data from observations, interviews and documentation.

The results of observations, interviews, and documentation at the Bhakti Kencana Kendal

Vocational School, which were carried out during the teaching and learning process that was ongoing both in class and outside, provided a clear picture that Indonesian language teachers at SMK Bhakti Kencana could apply the scientific approach to learning Indonesian. The teacher teaches learning actively and interactively. Selalul students immediately asked to practice. As for example in speaking learning students majoring in pharmacy class X immediately asked to compile words containing an explanation of a drug to the patient then after that students are asked to speak in front of each other alternately.

CONCLUSION

Based on the research that has been done can be concluded that Indonesian teachers of SMK Bhakti Kencana has been able to apply a scientific approach to everyday learning in class X majoring in pharmacy. 21st century demands active student with a scientific approach already appears in the learning process in the classroom. The linking of learning with the department has also been seen with the choice of discourse topics in accordance with the pharmacy department.

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