

# Constructive Learning Model Assisted by ICT for High Order Thinking Skills Education in Democracy

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**ABSTRACT**--- Democracy education as the content of Pancasila and Citizenship Education has increased the content, not only about strengthening the existence of a national civic awareness, but also the global nature. The breadth of the scope of the content of citizenship values, demanding high order thinking skills in order to be able to adapt constructively with the dynamics of social change continues to change. It underlies the importance of learning that focuses on the paradigm of "intellectual skills" and "social problem". This study aims to find a picture of the impact of the use of this paradigm through constructive models aided contextual information technology. research using mixed methods research qualitative and quantitative. The results showed that the model of contextual constructively in a democratic education, able to develop higher order thinking skills, with good grade.

**Keywords**—Constructive, Contextual, High Order Thinking Skills.

## I. INTRODUCTION

High order thinking skills very important to be developed in democratic education. The importance of thinking skills is not just a process of thinks but the impact on the ability of thinking in responding to problems and adapt to social life critically. The response to social problems in the education of democracy, which was developed through civic education today, not only in the national context but also in a global context. Citizenship Education calls this renewal with the term "a new conception of citizenship education" using a model approach that is "multidimensional", including personal development, commitment to think and act taking into account the local community, national and global. Citizenship education not only as a subject in school but is furthermore seen as a comprehensive education in the form of content and handling[1].

In curricular contents 2013 democratic education curriculum on civic education subjects accommodate creative and critical thinking skills as well as skills constructively participate in civic life This is in line with the purpose of the Citizenship Education formulated Jennifer Rietbergen-McCracken[2], Civic skills refer to citizens' ability to analyze, Evaluate, take and defend positions on public issues, and to use Reviews their knowledge to Participate in civic and political processes.

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To develop civic skills, learning must focus on the paradigm of "intellectual skills" and "social problem". Intellectual skills in learning citizenship include the following critical thinking skills, skills to solve problems as well as skills to make intelligent decisions in response to the information or respond to something. While social issues relating to various gaps in the community in many aspects of life as a part of real life that must be faced by all members of society.

Through education, democracy, the students are prepared to learn, understand, appreciate, have responsibilities and participate democratically in social life. Thus the education of democracy should be practiced through a learning process based on a constructive approach, contextual and collaborative. Learners are trained to cooperate to solve the problem by stimulating the development of thinking skills, and the social problems that occur in the environment, thus allowing meaningful role in community participation.

This study aims to find a description of the implementation of contextual learning model constructive democratic education; and the impact of the implementation of constructive learning model contextual to higher order thinking skills of students in secondary school education. Indicators of higher order thinking skills include critical thinking skills and problem-solving skills in the form of the ability to apply knowledge, ability to analyze, assess ability and creative ability.

## II. METHOD

This study uses a mix of research approaches (mixed method), between qualitative and quantitative research, in the form of sequential exploratoris of [3]. Research procedures are done at an early stage by collecting and analyzing qualitative data, then the second stage, collecting and analyzing quantitative data. The study took a purposive sample was conducted in class XI IPS 3 senior high school 20 in Bandung. This class is taken because it has its own uniqueness among them. The students in this class have different abilities from the other classes besides that this class has the most fond features in using technology and is suitable to be sampled in this study. Data collected by the technique observation, interview, test and analysis of documentation. Data analysis techniques used qualitative analysis and quantitative. Qualitative data analysis is done

through a phase of data reduction, data presentation, drawing conclusions, verification. While quantitative data analysis was done by descriptive quantitative analysis to find the value of the percentage of the tendency of learning outcomes.

### III. RESULT

There are three main things that are the focus of this research study, namely: 1) conceptual framework reference constructive contextual learning model development in democracy education; 2). implementation of contextual learning model constructive democratic education; and 3). the impact of the implementation of the model of the high order thinking skills of learners.

#### *The Implementation of Contextual Learning Constructive Democracy Education*

Constructive learning model in this study, based on the framework of the philosophy of John Dewey constructivism who put the teachings of child-centered educational philosophy (Child center), Brunner cognitive theory, Piaget, and Anderson. View constructive John Dewey, placing education is not just a place to acquire content knowledge, but also a place to learn how to live (learn how to live). Education promotes the integration of environment with experience to develop the potential of learners. John Dewey (1916) showed the importance of reflective factor in the process of experience[4].

In line with the philosophy of John Dewey is constructive Jean Piaget laid the foundation constructive through the cognitive map that lays aspects of intelligence as an integral part of every organism, ie cognitive structures (schemata)[5]. To develop cognitive or intellectual power structures needed a process of assimilation and accommodation to stimulation from the environment. Furthermore, Jerome Brunner assumes that man is an active individual who can build his own knowledge. The system uses a heuristic approach, namely learning activities centered on developing the internal potential of the individual. Brunner emphasizes learning as a process to develop Curiosity[6].

Constructive learning is also inquiry-based teaching and learning, Inquiry, "the process of asking about something or examining something in order to get more information"(Macmillan Dictionary, online). An inquiry is a process of obtaining information through a "question" and through "investigation".The inquiry-based curriculum is learner-centered, based on student interests and curiosity of inquiry emphasized as an active process, driven by student interest, with knowledge of construction as the main goal while building hypothesis formulation and problem-solving skills[7].

A second approach that leads to this research is teaching Contextual Elaine B. Johnson. Contextual teaching and learning is a conception of teaching and learning that helps teachers relate subject matter content to real-world situations; and motivates students to Make connections between knowledge and its applications to Reviews their lives as family members, citizens, and workers; and engage in the hard work that learning requires[8], Facilitate contextual learning students understand the material being

studied, because it connects the content of the material in the context of everyday life, to find meaning. A contextual approach using learning strategies: problem-based, using diverse contexts, considering the diversity of learners, active learning, learning through collaboration, using authentic assessment.

Conceptually, democracy is highly relevant education developed using constructivism and contextual approach for the following reasons: 1). democracy is a concept related to the decision-making process in a social context; 2). democratic skills require practice and guidance; 3). democratic educational purposes inculcate responsibility, honesty, solidarity and constructive participation in the public sphere. Therefore, the learning is constructive and contextual indispensable. Constructive and contextual learning, emphasizes learning: student-centered, active learning, integrated environment, and experience, presenting social issues and the social environment in learning, develop curiosity, building hypothesis formulation, and problem-solving skills.

This study aims to discover the impact of the use of constructive and contextual learning model in the education of democracy against higher- order thinking skills. According to Brookhart "higher-order thinking as falling into three categories: (1) Reviews those that define higher-order thinking in terms of the transfer, (2) Reviews those that define it in terms of critical thinking, and (3) Reviews those that define it in terms of problem-solving. The transfer is the ability to think not only acquire knowledge but also applying knowledge to a new situation. While critical thinking is reasoning, questioning and Investigating, observing and describing, comparing and connecting, finding complexity, and exploring the Viewpoints[9]. The indicator used in this research-based taxonomic theory Anderson and Krathwohl include dimensional thought processes: "apply, analyze, Evaluate and create"[10].

Implementation of contextual learning model of constructive and democratic education through civic education subjects include activities conducted initial, core activities and weekend activities.Early learning activities: 1).establish an atmosphere conducive towards learning activities to engage learners in an interactive experience; 2). motivate and convince the critical value of the material to be learned; 3).communicating and connecting-purpose learning important values with the aim to study the material, with the problematic question; 4).show step process of learning during the learning takes place.

Core activities of learning, include 1). conditioning learners read a resource book (student book) within the specified time, to determine the overall picture of the contents of the materials studied (literacy); 2). encourage learners to submit material that is not understood; 3). ask learners to observe video, and find any problems in the video (illustration problematic legislative the democratic process at the institution), (stimulation); 4). explore the question relevant to the issues in the video and its relationship with the practice of life learners (problem statement); 5) condition group learning activities to analyze



the problem, in a collaborative discussion groups (data collection); 6) present report the results of focus group discussions (communication); 7). observe and give an assessment of the content of the material presented (verification); 8). Make a statement truth value concept/meaning according to the materials studied (generalization).

End Activity Learning includes 1). concluded concepts and values are important materials that have been studied; 2).reflection, confirmation of understanding and attitudes of learners to material learned; 3).evaluating learning; 4) doing follow-up, ask the learners to learn and prepare materials the next meeting, planned citizenship skills (eg, designing leaflets "election", policy studies and contextual with the ongoing democratic process, to be disseminated to prospective voters).

*Ability Achievement of High Order Thinking Skills*

The achievement of learning outcomes by using a contextual constructive model of learning democracy through civic education manifested in the form of learning methods that are inquiry-based troubleshooting. In the qualitative achievements of the ability of learners is shown as follows: 1). learners are able to respond to the interactive learning activities because they understand the learning goals and contextual material studied by the background of social life; 2). learners are able to actively construct knowledge with information discovery that earned individually or in groups; 3) students are able to build knowledge supported by facts and data that are contextual, dug through the media stimulation and discussion; 4). learners are able to solve problems together and responsibly in group activities; 5). students are able to express the skills to ask and argue logically and systematically; 6). learners are able to argue critically to issues regarding the material being studied; 7). learners are able to demonstrate democratic behavior in taking decisions together.

In quantitative terms, the picture of the impact of the use of the learning model constructive contextual aided communication technology (stimulation of learning materials through a power point and video contextual teaching materials), to the ability to high order thinking skills, shown in the form of learning outcomes, obtained through the ability of learners to take tests in the form of essay.

**Table 1: Acquisition of Learning Outcomes**

Aspect	Indicators	Average Value (%)			
		Lofty (100-90)	High (80-70)	Moderate (60-50)	Low (40-30)
Ability to implement (apply)	ability to interpret	9	66	20	5
	the ability to use the concept	25	69	6	0
The ability to analyze (analyze)	the ability to compare	6	74	17	3
	the ability to build behavior	6	69	17	8

	to assess				
	ability contrasts	6	68	20	6
The ability to evaluate (Evaluate)	the ability to give argument s	11	69	14	6
	the ability to provide ratings	6	78	13	3
The ability to create (create)	ability to formulate their programs	9	71	17	3
	the ability to design work	8	70	18	4
	the ability to build behavior	6	72	18	4
<b>The mean percentage the value of learning outcomes</b>		9%	71%	16%	4%

The data shows that the acquisition of learning outcomes of students by using constructive and contextual learning model, capable of developing higher order thinking skills, with an average of 9% in the category grade very high value, 71% in the high category. It can be said that 80% of learners are able to obtain high order thinking skills, at the level of "high". In the aspect of the ability to apply the knowledge obtained percentage value of 84.5%, the ability to analyze the obtained value of 76%, 82% and the ability to evaluate the creative ability of 79%.

Thinking ability is measured by the ability to apply knowledge, ability to analyze, evaluate capabilities and the ability to create. Indicators to measure the level of ability to think, the ability to apply aspects include the ability to interpret and the ability to use the concept. An indicator of the ability to analyze, measured by the ability to compare, the ability to assess and contrasting abilities. While the viability rate, measured by the ability to provide arguments and the ability to give an assessment. Last on aspects of creative ability, measured by the ability to formulate their programs, the ability to design work, and the ability to build behavior.

**IV. CONCLUSION**

Constructivistic and contextual learning model has a big hand in developing higher order thinking skills. The learning model is developed by using literacy, inquiry-based problems with technology-assisted communication. Measurement of the achievements of learning in the aspect of high order thinking skills include the ability to apply knowledge, analyze, evaluate and develop the creativity of thinking after learning the concepts, principles, and values of the materials studied. The achievement of the ability of learners to develop higher order thinking skills, at the level of "high" (80%).



Constructive learning provides an

opportunity for students to learn actively, involving mind, construct/build his own knowledge.

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