

# Student-based Learning in The Perspective of Constructivism Theory and Maieutics Method

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**ABSTRACT:** Maieutic is a Socrates midwifery method that helps deliver babies from their mother's wombs. This education method provides a position to students as subjects who explore their potential by interacting with the outside environment to gain knowledge. Constructivism is a learning theory about knowledge that outcomes from human construction. These methods and theories are essential in education to produce quality human resources. In line with the government's freedom of learning policy, this study aims to determine the constructivism theory and Maieutica method applied in the learning process. Students realize their potential and are oriented to determine their future. The method used in this qualitative research is the library research method through the study of references related to the theme of the problem to obtain a comprehensive understanding of the research with the quality output of human resources. Based on the analysis of this research that the constructivism theory and the Maieutica Method can shape students as learning subjects and determine the creation of quality human resources.

**Keywords:** Maieutic; Constructivism; Student; Learning; Subjects and Human Resources

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## INTRODUCTION

The outcome of the education process is to improve the quality of human resources (Darmi & Suwitri, 2017; Pratiwi, 2020). These education outcomes are not always the same between one student and another, even though they come from the same academic institution. That is a problem for all those involved in education (Hidayat et al., 2022; Kioupi & Voulvoulis, 2019; Rieckmann, 2018). Internal and external factors affect educational outcomes (Hidayat & Perdana, 2019, 2021; Yu et al., 2018). Is it external factors such as teachers, parents, or internally because of the students themselves?

Humans are unique creatures, different from other God creatures such as animals (Marizal & Sudibjo, 2020; Supriadi, 2018). Animals with instincts can be trained repeatedly to do what the owner asks of them. Animal actions can sometimes amaze humans; however, they cannot perform actions based on concepts, plans, or activities related to intelligence or moral values. In other words, animals do not know that an effort is considered rational, right or wrong.

As multidimensional beings with reason and five senses, humans can take actions according to plans and knowledge, whether an effort is good or bad (Fadli, 2021; Subakti et al., 2022). With Intelligence Quotient-IQ (cognitive aspect), humans can think to find the truth (knowledge-science) (Sutarman et al., 2017). With Emotional Quotient-EQ (affective sense), humans can know and perform excellent and beautiful actions (Faliyandra, 2019). With the anatomical structure of their bodies, they can be trained (psychomotor aspects) creatively to produce valuable cultural work (Mursid, 2013).

Human actions planned to produce a work cannot be separated from an educational process. According to article 1, paragraph 1 of the Law of the Republic of Indonesia number 20 of 2003 concerning the national education system, education is a conscious and planned effort to create a learning atmosphere and learning process (Hakim, 2016). Students actively develop their potential to have religious-spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation, and state (Kurniawan, 2015).

Learning is a conscious effort made by individuals to make three changes. 1) From not knowing to knowing (cognitive aspect). 2) From not having the right attitude to being right (affective aspect). 3) Being unskilled to being skilled at doing something (psychomotor aspect) (Emda, 2018; Zein, 2016). Learning always involves students actively making or revising the learning outcomes they receive into a beneficial experience for themselves (Hamdayama, 2022). In Indonesia, in line with the policy of the Minister of National Education of the Republic of Indonesia regarding Freedom of Learning, the learning paradigm in the Industrial Revolution 4.0 era is student-oriented (Student Oriented), not teacher-oriented (Teacher Oriented) (Simarmata et al., 2020). This proportionality of the target aspects of education and learning centres is a characteristic of implementing the curriculum.

Humans obtain knowledge through a learning process. It can explore through the interaction of their potential with the environment to reveal phenomena based on the criteria of truth or referred to as "theory". Measure the level of scientific validity, consisting of at least three fundamental theories: the theory of Correspondence, Coherence or Consistency and Pragmatism (Etuk, 2022; Godler, 2020). In Indonesia, since the implementation of the 2013 Curriculum, the era of the Industrial Revolution 4.0 and the challenges of education, learning as part of the educational process must be oriented to a student-based paradigm (Muhsin & Ahmad, 2019). On the other hand, the outbreak of the Covid-19 Virus forced the change of the learning system from face-to-face (Offline) to a distance learning model (Dhawan, 2020; Perdana et al., 2021). This learning model can be carried out in situations where it is impossible to do it face-to-face, which philosophically cannot be separated from learning methods and theories. Recommendations to support learners are constructivism theory and the Maieutics method (D Drljača, 2020; Ulazia & Ibarra-Berastegi, 2020).

The theory of constructivism and the Maieutics method is critical to be applied to students to create human resources to adapt to the demands of an increasingly advanced era in science and technology. It is in line with the design of education according to UNESCO, namely: (1) Learning to know; (2) Learning to do; (3) Learning to be; and (4) Learning to live together (R. Huang et al., 2020; Nurhayati, 2018).

## METHOD <sup>1</sup>

The method used in this qualitative research is the library research method through the study of references related to the theme of the problem to obtain a comprehensive understanding of the research with the quality output of human resources. The analysis used is content analysis (Kholil et al., 2022) to explore and find substance in constructivism theory and the Maieutics method. The references are sources from international journals, national journals, national proceedings, international proceedings, and books relevant to constructivism theory and the Maieutics method.

## RESULTS AND DISCUSSION

### A. Constructivism

Rusman (2017) said that Piaget, Bruner and Vigotsky pioneered the theory of constructivism in the early 20th century. According to them, knowledge and understanding are not acquired passively but actively through personal experience and experimental activities.

Constructivism holds that science and culture result from construction (social-cultural activity) and are not given (Cetina, 1995). This view is contrary to structuralism and positivism that socio-cultural is a reality. Constructivism is a flow of Epistemological Philosophy that assumes that knowledge results from construction or human formation (Candy, 1989; Saputro & Pakpahan, 2021; Yusuf & Arfiansyah, 2021).

Constructivism assumes that humans can construct or build knowledge after interacting with their environment (Amineh & Asl, 2015; Ginting, 2018). Constructivism is concerned with how individuals learn, not how teachers teach (Suparlan, 2019). Knowledge is subjective and relative. The experience of the subject forms understanding. Therefore, knowledge will forever experience dynamics according to the subject's experience interacting with the socio-cultural environment (Rusman, 2017). The constructivism paradigm of learning is an alternative paradigm that emerged due to the scientific revolution of the learning system in the industrial era 4.0 (Miranda et al., 2021).

The outline of the principles of constructivism is: (1) Knowledge is built by the student themselves, both personally and socially; (2) Knowledge is not the result of being transferred from teacher to student but through student reasoning activities; (3) Active students construct continuously, so that there is a change towards a more complex, complete, and following scientific concept; (4) The teacher acts as a facilitator, helping to provide facilities and situations so that the student construction process runs smoothly (Gordon, 2009; H. Huang, 2002; Masgumelar & Mustafa, 2021; Murphy et al., 2005; Nursikin, 2016).

In applying the theory of constructivism, teachers must have the following characteristics: (1) Respect the autonomy and initiative of students; (2) Prioritizing primary data and manipulative materials with an emphasis on thinking skills; (3) Prioritizing student performance in classifying, analysing, predicting and creating; (4) Include student responses in learning and change learning models or strategies according to the characteristics of the subject matter; (5) Exploring students' understanding of the concepts to be studied before sharing their understanding of these concepts; (6) Provide opportunities for students to discuss both with themselves and with other students; (7) Encouraging students' inquiry attitude with open-ended questions that require them to think critically and discuss among their friends; (8) Elaborating students' initial responses; (9) Include students in experiences that can contradict their initial hypotheses and then encourage discussion; (10) Provide opportunities for students to think about and do assignments; (11) Growing students' curiosity through the use of various learning models (Beerenwinkel & von Arx, 2017; Kaufman, 1996; Koohang et al., 2009; Rusman, 2017).

### B. Maieutics

Maieutics is the dialectical philosophy of Socrates' thought (Leigh, 2007). A fundamental rationale method for exploring human knowledge. Like a midwife whose role is to help give birth to a fetus from a mother's womb (Mjaaland, 2016). This method is very appropriate to be applied in education as an educational learning process to gain knowledge (Jung & Latchem, 2011). In the process of transfer of knowledge, then people can find the truth as knowledge (Westfall, 2009). According to the Maieutics method, the genuine truth exists in the human self in the form of potential (Longo, 2020). Humans are not empty glasses that can only be filled by drink connoisseurs (Yahdi, 2010). Humans are independent and have a lot of potentials to be explored to become human beings who are knowledgeable, creative, independent, cultured, and have personalities. Meanwhile, other people's position outside of themselves (teachers or parents) plays a role in helping or facilitating to revealing of all potential. Children or students need the knowledge as individuals and social beings in carrying out their lives in a society. Education is essentially aimed at forming independent human beings aware of their potential, strengths and weaknesses (Rini & Tari, 2013).

### C. Constructivism Theory in Student-based Learning

The implementation of constructivism learning theory on a student basis uses five learning models: 1) Reasoning and Problem-Solving; 2) Problem-Based Instruction, 3) Conceptual Learning; 4) Group Investigation; 5) Inquiry Training (Rusman, 2017).

#### 1) The model of reasoning and problem-solving

Problem-Solving is the process of solving a problem, an effort to choose one of several alternatives or options that are close to the truth of a certain goal (Maulidya, 2018). Problem-solving is an individual or group effort to solve the problems they face based on their knowledge, understanding and skills (Goltz et al., 2008). Problem solving ability is solved through reasoning ability.

#### 2) The model of problem-based instruction <sup>5</sup>

This learning model involves students in the learning process and authentic problem solving (Fujiah et al., 2016). To obtain information and students' understanding of the topic of the problem, students learn to construct a problem framework, organize, investigate, collect and analyze data, compile facts, make arguments about problem-solving, and work individually or collaboratively in problem-solving (Suharti et al., 2020; Wulandari, 2021).

### **3) The model of conceptual learning**

A person's knowledge results from interaction with his environment (Kadir, 2013). Meanwhile, new knowledge can be sourced from the intervention of educational institutions, both of which can lead to cognitive conflict (Faizah, 2020). In conditions of cognitive conflict, students are faced with three choices, namely (a) maintaining their original intuition; (b) revising some of their intuition through the process of assimilation; and (c) changing their intuitive view and accommodating new knowledge (Jufri, 2013; Juwantara, 2019; Susilawati et al., 2019). Thus, teaching does not transmit knowledge but facilitates and mediates so that the process of negotiating meaning leads to conceptual change.

### **4) The model of group investigation**

According to Dewey (2011), the concept of education is that the classroom should reflect a society that functions as a laboratory for learning about real life. Dewey's idea was finally realized in the Group-Investigation model, which was later developed by Herbert Thelen. Thelen states that class should be a miniature democracy that aims to examine interpersonal social problems (Darman, 2020).

### **5) The model of inquiry training**

The inquiry has defined proses as asking and finding answers to scientific questions posed (Constantinou et al., 2018). Scientific questions can lead to investigation activities on the object of the question. In other words, inquiry is a process to obtain and obtain information by observing and experimenting to find answers or solve problems to questions or problem formulations by using critical and logical thinking skills. The inquiry learning model can be implemented in an integrated manner with other strategies to help students develop knowledge and understanding and the ability to carry out inquiry activities (Rusman, 2017).

### **D. Maieutics Method in Student-based Learning**

Knowledge is the relationship between the subject who knows and the known object (Suriasumantri, 2007). The relationship between the subject and object is unified or holistic, meaning that it is a unity between the subject who knows and the object known to be inseparable. It is said a knowledgeable person because he knows the object of something and can describe the object's reality. On the other hand, the person is ignorant because he does not see the object's existence. If a person is said to be knowledgeable, then they have proven the truth of the object is disclosed. On the other hand, if a person is said to be uninformed, they have not been able or unable to reveal the truth of the reality of the object being studied. Thus, knowledge and truth are like two sides of a coin that cannot be separated. Namely, one side is truth, and another side is knowledge.

The inseparability between knowledge and truth is according to the power of three theories as a measure of truth. 1) the Correspondence theory says that it is said to be true if there is a match between the statement and reality, meaning that there is a match between the subject's statement and the object. 2) the Coherence or Consistency Theory, something is said to be true if there is a later statement that follows the agreed initial statement 3) the theory of pragmatism, which is said to be true if a statement has a practical value (Bakhtiar, 2012; Etuk, 2022; Godler, 2020).

In subsequent developments, knowledge is an effort to find the truth through critical and rational thinking. Experience and thinking skills are used to solve a problem by thinking analytically and thinking synthetically (Banasuru, 2013).

Based on these theories of truth, the implementation of Maieutics as a midwifery method in learning to gain knowledge with student orientation as a learning resource (Jung & Latchem, 2011; Mjaaland, 2016; Westfall, 2009). Participants to conduct dialogue with other people about various things, either directly or through the media. Other people in question are those who have qualified knowledge, are broad-minded and are needed by students. With dialogue, people can talk about various things and pour out their hearts to find solutions to the problems they face. Dialogue is an activity that at least involves cognitive (intelligence) and affective (taste) aspects (Turnbull, 2003). With this concept, learning does not only occur in the classroom. Still, it can happen in the family environment, office, and the community, even in this digital era and in the atmosphere of the Covid-19 Pandemic. People can use social media to get various knowledge.

### **CONCLUSIONS**

Since implementing the learning system at home or remotely online because of the Covid-19 Virus pandemic forced students to adapt to the distance learning system, the theory of Constructivism and the Maieutic Method became a solution to students' learning problems, even the teacher. The blessing of Covid-19 is what forces humans to be independent and creative and make product innovations as works needed in the world of education, both in the era of the industrial revolution 4.0 and the period to come.

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