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Constructivism Philosophy in Developing Prospective Educators on the Implementation of Merdeka Belajar in Vocational Schools

Ichsan [1]
[1] Politeknik Negeri Pontianak, Pontianak, Indonesia
Arif Saefudin [2*]
[2] Universitas PGRI Yogyakarta, Yogyakarta, Indonesia
Fitria Meisarah [3]
[3] Universitas Kutai Kartanegara Tenggarong, Kalimantan Timur, Indonesia

*Corresponding author: arifsae@upy.ac.id

Abstract

The development of the business world and the industrial world demands more hard skills, creativity and critical thinking from school graduates, including vocational school graduates. One of the efforts to achieve this is by implementing a Merdeka curriculum, where the learning process is constructivism, which means student-centred learning. For this reason, a prospective educator's understanding of the constructivism philosophy contained in the independent learning concept must be improved first. This article will explain the philosophy of constructivism in the concept of independent learning to develop the understanding of prospective educators so they can implement it in learning at vocational schools. The author uses the library research method to explore and collect relevant information and data from various sources. Constructivism is defined as learning that emphasises that knowledge is the formation (construction) of oneself. Constructivism emphasises the process rather than the result and has the principle of student centre learning, the teacher is only a facilitator, and students discover more on their own. This is very much in line with independent learning; students can determine the knowledge they need by emphasising the learning process. Prospective educators have an important role in building the competencies needed by students; these competencies are the 4C abilities (critical thinking, communication, collaboration, and creativity). Education that applies the 4C skills and gives the freedom to think critically will form learners with superior and adaptive characteristics.

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Keywords*: Constructivism Philosophy, 4C Skills, Independent Learning*

INTRODUCTION

The teaching and learning process is an activity to implement the curriculum in educational institutions so that students can achieve the goals that have been set. Education aims to lead students towards changes in intellectual, moral, and sociocultural behaviour (Biasutti et al., 2021). With education, students are expected to live independently as individuals and social beings. The learning process emphasises the interaction between students, teachers, methods, curriculum, facilities, and related environmental aspects to achieve learning competencies (Sariyatun et al., 2018). Competence will be achieved optimally if all components are fulfilled in accordance with their respective functions. The success of learning is influenced by many factors, both internal factors from within the student and external factors from outside the student. As one factor that influences learning, interest is a person's tendency towards a preferred object or activity accompanied by feelings of pleasure, attention and active action. Interest has a big influence on student learning outcomes; if the subject matter studied is not in the interests of the student, the student will not learn as well as possible because there is no attraction for him.

Constructivism is a philosophy of knowledge that emphasises that knowledge is our own construction. Knowledge is not a copy of reality nor a picture of the existing world of reality. Knowledge is the result of cognitive construction through one's activities by creating structures, categories, concepts and schemes needed to form knowledge. Constructivism is the foundation of thinking (philosophy) of contextual learning, namely that knowledge is built by humans little by little, the results of which are expanded through a limited context and not suddenly (Kobiljanovna, 2021; Shah et al., 2020). Knowledge is not a set of facts, concepts or rules ready to be taken and remembered, but humans must construct that knowledge and give it meaning through real experience (Sihombing et al., 2021). In the education process, constructivism requires that learners can use their abilities constructively to adapt to the demands of science and technology. Learners must actively build knowledge so that learners have the creativity to adapt to their environment; this flow prioritises the role of learners in taking the initiative.

Constructivism learning is student-centred learning, with teachers as mediators, facilitators and learning resources in learning. In constructivist learning, students construct knowledge through experience, social interaction and the real world (Cukurova et al., 2018; Mu et al., 2019). Therefore, the teacher's main task is to guide students to learn and develop

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themselves according to their abilities. In constructivist learning, the teacher's role changes from a learning source to a facilitator; that is, the teacher is more of a person who helps students to learn.

Merdeka Belajar is a Ministry of Education and Culture Research Technology policy which wants to create pleasant learning conditions for teachers and students. Merdeka Belajar can be understood as a curriculum implementation that prioritises a pleasant situation in the learning process, as well as an increase in innovative teacher thinking. Merdeka Belajar is a new breakthrough to change the national education system, which has been monotonous (Kurniawati, 2009). From this description, it can be concluded that Merdeka Belajar is a new programme from the Ministry of Education and Culture of the Republic of Indonesia that prioritises fun learning. With this programme, it is hoped that it can change the national education system, which has been monotonous. Therefore, it requires the development of innovative thinking by teachers so that the desired goals can be achieved. In Merdeka Belajar, teachers and students are given full confidence in the learning process. Merdeka Belajar can be used as a momentum for teachers and students to be able to innovate and be independent in improving the quality of learning (Hockings et al., 2018; Madrazo & Dio, 2020).

Teachers' resilience is very important to develop as it relates to the development of their professional identity, which is highly needed in the development of the industry. Teachers who have adequate competence and can apply "excellent standards" are needed in addressing school quality. Resilient teachers will be individuals with character (Thohir et al., 2021). On the other hand, teachers can develop constructivist education by developing the principle of equality needed to implement a Merdeka curriculum. Implementing constructivist education can be seen as a way to implement learning that prioritises the principle of equality to develop skills to explore and understand problems during learning. In addition, the skills of finding, managing and conveying information and skillfully using information. Some of the abilities that must be possessed in this Merdeka curriculum include Leadership, Digital Literacy, Communication, Emotional Intelligence, Entrepreneurship, Global Citizenship, Problem Solving, and Teamwork (Kivunja, 2019; Slijepčević & Zuković, 2015). Three Education Issues in Indonesia today are Character education, vocational education, and innovation. Therefore, it requires teachers with character and resilience to change their mindsets to develop a more effective and enjoyable learning process.

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With the mindset from fix-mindset to a growth mindset, teachers can be more creative and innovative in designing learning based on multiliteracy pedagogy planning. Teachers play a role in systematically developing students' 4C competencies (critical thinking, communication, collaboration, and creativity). With culture-based education, students with superior character will be formed who can adapt and are ready to implement a Merdeka curriculum in the industrial world (Apgrianto et al., 2021; Zakiah & Fajriadi, 2020). The concept of constructivism philosophy in developing the ability of prospective educators to implement a Merdeka curriculum is expected to be able to provide an understanding for prospective educators in developing their skills and character as an effort to prepare themselves to face increasingly severe challenges, as explained by (Dewantara, 2019) that the flow of constructivism in education prepares and develops an active and independent learning process related to the development of the industrial revolution.

METHOD

This research uses a type of research in the form of desk research. Desk research focuses on and deals directly with relevant literature texts without conducting data searches in the field (Yin, 2016). Desk research is an approach that uses library reference materials to collect information and research data as research material. Literature research explores data and information from various sources (Denzin & Lincoln, 2018). Literature data include textbooks, dissertations, research journals, research reports, seminar reports, theses, scientific discussions, and official government documents (Creswell & Creswell, 2018). This literature research uses a qualitative descriptive method. This method describes the things that need to be instilled in prospective educators to implement the concept of independent learning in vocational schools in terms of constructivism philosophy. The concept of constructivism philosophy becomes the basis of this research which will later be implemented in independent learning. The results of the research will contain the concepts of what concepts should be developed in literature research both theoretically and practically.

RESULTS AND DISCUSSION

This article contains the results of findings and analyses of literature studies that have been conducted. The discussion includes: Constructivism philosophy, Constructivism philosophy as a development of prospective teachers' abilities on the concept of independent learning and

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Developing Prospective Educators in Vocational Schools. These topics are explained as follows.

Philosophy of Constructivism

Philosophy of education is the application of philosophy to the world of education. Education needs philosophy to solve educational problems that are not only related to the implementation of education that can be overcome by experience but there are broader and more complex problems that cannot be explained by the facts of education and educational science (Jalinus et al., 2021; Purnamawati et al., 2019). Constructivism philosophy is one of the schools of philosophy that has been quite popular in recent decades. Constructivism comes from two words, namely constructivism and ism. Constructivism can be interpreted as fostering, improving, and building. At the same time, Ism means understanding or flow. Constructivism is a school of knowledge philosophy that emphasises that knowledge is the result of one's own construction. The constructivist view of learning states that students are given the opportunity to use their own strategies in learning consciously while teachers guide students to higher levels of knowledge (M. Kembara et al., 2019; M Nurhidayati & N Khasanah, 2021).

Constructivism is learning that gives learners the freedom to build their own knowledge based on the design of the learning model made by the teacher/educator (Artobatama et al., 2020; Oktoriyadi, 2020). Zulkarnain et al. (2020) defines the Constructivism approach as learning that emphasises the active role of learners in building understanding and giving meaning to the information or events they experience. Meanwhile, another opinion from Purwasih et al. (2021) explains that the Constructivism approach is a way of teaching and learning that aims to maximise student understanding. Constructivism views knowledge as non-objective, temporary, and based on experience and pre-existing knowledge (M. D. Kembara et al., 2019).

Constructivism theory understands that knowledge cannot simply be transferred from teachers to other people or learners because everyone has their own schema of what they know. Knowledge formation is a cognitive process where assimilation and accommodation processes occur to achieve balance so that a new scheme is formed (Supardan, 2016). Student-centred learning is the philosophy of constructivism which is the basis of many learning strategies. Students' activeness in constructing knowledge based on their learning experience is something that needs to be considered by lecturers and students (Avicenna, 2021; Daulay & Harahap, 2020). Students and their learning process become the main focus, while lecturers act as facilitators, and together students are involved in the learning process and knowledge construction process.

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Constructivism Philosophy in the Development of Merdeka Belajar

Addressing learning in the Merdeka curriculum is closely related to industrial development. This is stated in the published curriculum, so schools must be able to develop skills, creativity and critical thinking in their graduates. This is expected to start from the learning process where the learning process is constructivism, namely student-centred learning, as in the concept of constructivism philosophy, which is a philosophy of knowledge that emphasises that knowledge is our formation (construction). Knowledge is not a copy of reality nor a description of the existing world of reality (Tikkanen, 2016; Van Houtte, 2021). Knowledge results from cognitive construction through a person's activities by creating structures, categories, concepts, and schemes needed to form that knowledge. As discussed in the introduction, the concept of constructivism philosophy in developing the ability of prospective educators in the implementation of an independent curriculum is expected to be able to provide an understanding for prospective educators in developing their skills and character as an effort to prepare themselves to face challenges in the world of work later not only in working but also being able to give opinions ideas and communicate well in the environment in industrial places where this is contained in an independent curriculum (Supardan, 2016; Van Houtte, 2021).

Constructivism is a philosophy of knowledge that emphasises that knowledge is our formation (construction). Knowledge is not a copy of reality nor a picture of the existing world of reality. Knowledge results from cognitive construction through one's activities by creating structures, categories, concepts, and schemes needed to form knowledge (Shah et al., 2020; Supardan, 2016; Van Houtte, 2021) By developing critical thinking skills in an independent curriculum, learning approaches can be used to determine learning strategies and steps to achieve learning objectives. Each approach will involve learning subjects/students and teachers at their respective levels. There are several learning approaches. Students only listen to what the teacher says. Good students are silent students; they pay attention, do not ask questions, and do not express ideas or problems. All material provided by the teacher is swallowed raw, without being processed in his mind and is considered to have absolute truth. Learning concept, namely "Student-Centered Learning". The essence of the concept is:

1. We cannot teach others but we can only facilitate their learning,
2. A person will learn significantly only on things that can strengthen/grow "self",
3. Humans cannot learn if they are under pressure,

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4. Education will teach learners significantly if there is no pressure on learners,
5. If there is a difference in perception or opinion, it is immediately facilitated or accommodated by the teacher. The opportunity to do and be active is given more to students according to the expression written by Slameto, "Teaching is the guidance of learning".

Teachers, as an extension of the government in schools, implement 21st-century learning. In formal schools, learning is already required to apply 4C skills (Critical Thinking, Communication, Collaboration, Creativity); this can be realised quickly not only through demands on the performance of teachers in changing teaching methods but also through the roles and responsibilities of non-formal educators in getting children used to applying 4C in their daily lives (To achieve ideal learning conditions, teaching quality is always related to the optimal use of learning models, this means that to achieve high teaching quality each subject must be organised with the right organising model and then delivered to students with the right model as well (Apgrianto et al., 2021; Kivunja, 2019; Zakiah & Fajriadi, 2020).

1. Critical Thinking Skills

Critical thinking skills are not just for geniuses. Critical thinking skills are a necessity for every learner or young person today. In fact, this critical ability is expected to be developed alongside problem-solving skills. Many people are smart and can master a variety of information or knowledge, but only a few people can problem-solve something. Critical thinking is one of the Higher Order Thinking Skills (HOTS) in addition to creative thinking, problem-solving, and reflective thinking. Critical thinking is independent, self-disciplined, and self-monitored, improving one's own thinking process. It is seen as an important asset of standardised ways of working and thinking in practice. It requires effective communication and problem-solving as well as a commitment to overcoming egocentric and socio-centric attitudes and innate critical thinking skills, namely: (1) building categories, (2) finding problems, and (3) enhancing the environment. The characteristics of teaching for critical thinking include: (1) Increasing interaction among students as learners, (2) asking open-ended questions, (3) giving students adequate time to reflect on the questions asked or problems given, and (4) teaching for transfer (teaching to be able to use newly acquired skills to other situations and to the student's own experiences) (Jalinus et al., 2021).

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2. Communication Skill

We do not live alone, and to be successful people, we cannot be alone. In this day and age, to be able to realise life goals, communication skills are needed. The communication skills we are referring to can come in many forms, be it oral communication, writing, or direct and indirect communication (Slijepčević & Zuković, 2015). To be able to get the right information, one needs to have listening skills. Mistakes in action can be rooted in misunderstandings or failures to understand, and misunderstandings stem from a person's inability to listen or get the meaning or message conveyed by others. be wiser when communicating through technology or in person.

3. Collaboration Skill

To this day, improvements to learning models continue to be made. One of the needs of the millennial generation is to develop a collaborative learning model. Collaboration is the skill of working together in groups. Literacy activities of educational units cannot rule out the possibility of collaborating with other institutions, communities and society outside the school environment. Public involvement is needed because schools cannot implement their vision and mission alone. Therefore, various forms of collaboration and cooperation between communities and education units outside the school are needed to strengthen character education (M. Kembara et al., 2019). There are various forms of collaboration that can be done in order to develop the character education of students in facing 21st-century education, namely collaboration.

Students from an early age must be motivated to do an activity together or in groups; this is to avoid selfish attitudes in students. Pratiwi (2015) argues that emotionally there are still students who do not want to help their friends, and there are some students who are embarrassed because they are seen as weak if they ask for help from friends. Teachers, as facilitators and motivators, should provide direction and opportunities for students to work together to build cohesiveness and togetherness in learning activities at school.

4. Creative thinking skill

Creativity is the ability to provide new ideas and apply them in problem-solving. Creativity includes aptitude traits such as fluency, flexibility and originality in thought, as well as non-aptitude traits, such as curiosity, enjoyment of asking questions and always wanting to seek new experiences. Creativity produces high inventiveness and is appropriate when applied to obtain

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solutions (Creativity is a metacognitive thinking process through four stages, namely: (1) preparation (defining the problem), (2) incubation or contemplation (analysing the problem for some time), (3) illumination (the stage of getting new ideas or thoughts), (4) verification (the stage of applying the ideas found) (M Nurhidayati & N Khasanah, 2021).

Developing Prospective Educators in Vocational Schools

Implementing constructivist learning in the independent learning curriculum is a learning that reconstructs the national education system. We must welcome the changing times that are increasingly dynamic with the rearrangement of the education system. By returning education to its proper essence, namely humanising humans or liberating education. Teachers and students do mutual giving and mutual understanding - mutual benefit and mutual understanding of each other's desires. The teacher is no longer the source of absolute truth but only a facilitator in the learning process and a driver in the search for truth (Junaidin et al., 2022; Supardan, 2016).

It is no longer the time for teachers to indoctrinate all their students but for both teachers and students to explore the truth, be critical and see the world and its phenomena dialectically. Also, reforming the workload of teachers in schools that are too occupied by administrative matters (Kobiljanovna, 2021). Therefore, education organisers - policymakers, teachers, students and parents- can exercise the freedom to innovate and learn creatively. Both emphasise the aspects of freedom, independence and discretion of educational institutions in exploring the maximum competence of learners. If the two concepts - independent learning and constructivism education philosophy - are formulated together, they will produce similar meanings. Namely, the learner must be free and develop naturally; learning is based on direct experience; the teacher is not a giver but a facilitator; the institution is a provider of educational laboratories for learner change; activities at home and at school must be cooperative. "Freedom" is an important element in the learning environment (Mu et al., 2019).

In addition to freedom, to bring out the will to learn is realness - the realisation that the child as a learner has strengths and weaknesses, courage and anxiety, can be angry and can be happy. Realness is not only dependent and owned by the child but also by all education providers - teachers and parents. A free learning environment that is based on the realness of all parties involved will foster positive attitudes and perceptions towards learning. Learning will be seen as a fun and exciting endeavour. Therefore, teachers should guide children to develop positive attitudes and perceptions so that they feel at home and get pleasure from learning (Cukurova et

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al., 2018; Shah et al., 2020). A student who feels uncomfortable in the learning environment - the classroom - for example, will not feel at home following the learning process.

Constructivism learns in the process of internalising, reshaping, or forming new knowledge. This new knowledge is formed by using existing knowledge. Old knowledge and experiences are used to interpret new information and facts from outside, thus creating new knowledge. This constructivist approach is in accordance with Ausubel's meaningful learning. According to Ausubel, there are two types of learning: meaningful learning and rote learning. Meaningful learning is a learning process where new information is connected to the structure of knowledge that a person who is learning already has. A person learns by associating new phenomena with the schema that he already has (Kivunja, 2019).

Learning experiences are very influential in constructivist learning. Learning experiences, in principle, refer to the interaction between students and something that is outside themselves. The opinion of Cohen and Deer, quoted by Harjanto regarding learning, uses the term "learning experience as what is learned and how is to be learned" several characteristics of constructivist teaching, including Orientation (Madrazo & Dio, 2020). Students are given the opportunity to develop motivation in learning a topic, and students are given the opportunity to make observations on the topic to be studied. Elicitation: Students are helped to express their ideas clearly by discussing, writing, making posters, and others. Students are given the opportunity to discuss what was observed in the form of writing, drawings or posters. Clarification of ideas that are contrasted with the ideas of others or through discussion partners or through the collection of ideas (Supardan, 2016; Zakiah & Fajriadi, 2020). Faced with other ideas, a person can be stimulated to reconstruct his ideas if they do not match and vice versa, become more confident if his ideas match and can also build new ideas. This happens if, in the discussion, the idea is in conflict with other ideas or the idea cannot answer the questions asked by friends and also evaluate the new idea with experiments. If possible, it is better if the newly formed idea is tested with a new experiment or problem(M. D. Kembara et al., 2019). Use of ideas in many situations. Ideas or knowledge that students have formed need to be applied to various situations faced. This will make students' knowledge more flexible in accepting different students' ideas.

CONCLUSION

In the implementation of a Merdeka curriculum, it is closely related to industrial development, as stated in the published curriculum, so learning must be able to develop skills,

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creativity and critical thinking in expected graduates, starting from the learning process where the learning process is constructivism, namely student-centred learning as in the concept of constructivism philosophy, one of the philosophies of knowledge that emphasises that knowledge is our formation (construction). Constructivism theory is defined as generative learning, which means the act of creating meaning from what is learnt. Constructivism theory has an understanding of learning that emphasises process over outcome. The learning process in constructivism theory is student-centred, the teacher is only a facilitator, and students discover more on their own. With a mindset from fix-mindset to a growth mindset, teachers can be more creative and innovative in designing learning based on multiliteracy pedagogy planning. Prospective educators play a role in developing students' 4C competencies (critical thinking, communication, collaboration, creativity) systemically. With culture-based education, students with superior character will be formed who have the ability to adapt and are ready to implement a Merdeka curriculum in the industrial world. Knowledge is not a copy of reality nor a description of the existing world of reality. Knowledge is the result of cognitive construction through one's activities by creating structures, categories, concepts, and schemes needed to form that knowledge. The concept of constructivism philosophy in developing the ability of prospective educators in the implementation of a Merdeka curriculum is expected to be able to provide an understanding for prospective educators in developing their abilities and character as an effort to prepare themselves to face challenges in the world of work later, not only in work but also being able to give ideas and communicate well in an industrial environment where this is contained in a Merdeka curriculum.

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