MOH SJAFEI'S TAXONOMY: BRAIN, HEART, AND HAND LEARNING

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Abstract: This article aims to find the threads of Moh Sjafei’s educational concept, including the taxonomy of learning and its educational philosophy. The term learning taxonomy itself has been more popularly used by Bloom since 1956. However, far from that, in practice and the concept has been introduced by Moh Sjafei through the Kayutanam INS since 1926. The research method used is a qualitative research method with a type of literature study. This study found that there are three dimensions of Moh Sjafei’s taxonomy of learning, namely the dimensions of the brain, heart, and hands. The dimensions of the brain have several levels, starting from insight, habits, innovation, and production. Meanwhile, the heart dimension covers art, religion, and society. Whereas, the hand dimension covers the learning of skills that can liberate students' souls. These three parts must be balanced and applied in the learning process. Meanwhile, educational philosophy as the basis of Sjafei’s taxonomic concept is the philosophy of pragmatism. The conclusion of this article is Sjafei's taxonomy with the dimensions of the brain, heart, and hands, as well as the philosophy of pragmatism as the key concepts of his educational thinking.

Keywords: The Concept of Education; The Taxonomy of Education; Moh Sjafei; Philosophy of Education;
INTRODUCTION

Mohammad Sjafei is known as one of the educational thinkers in Indonesia. His name can be aligned with Ki Hadjar Dewantara, KH. Ahmad Dahlan, and other educational figures. However, the problem is the study of Moh Sjafei's educational thinking is specifically still lacking and impressed abandoned (Afdhal, 2016b, 2016a; Afdhal et al., 2022; Zed, 2012). Whereas its contribution to education in Indonesia is very real, with the INS Kayutanam education room which was established in 1926 and still exists today. The question is why policymakers seem to swallow the theory of education from the West which is not by the nation's character. Although the government launched the Independent Study (Merdeka Belajar) program, Freedom Campus (Kampus Merdeka), and other programs, the policy was increasingly colonizing students and teachers (Albab, 2022). Other criticisms also stated that the Merdeka Belajar program was not clear to liberate who (Yaqin, 2022). Even the irony is that the Merdeka Belajar program is a trading patent grant from a private school in Jakarta (Wuragil, 2020).

Apart from these problems, the study of Moh Sjafei’s educational thinking is not so much and massive. So far, the study has discussed more the history of the development of INS Kayutanam under the leadership of Moh Sjafei (Fauzi, 2022; Kurniasih, 1990; Marsidin, 2005; Raharja, 2008; Safitri W, 2001; Syafwandi, 2001). In addition, some studies are a bit offending the philosophy and education concept of Moh Sjafei (Isnaini, 2012; Triwiyanto, 2015; Zed, 2012), but the analysis they did was less deep and did not discuss in detail what is the important concept of Moh Sjafei’s thoughts. Some discuss the relevance of Moh Sjafei’s thoughts with an independent curriculum (Marjanis, 2021; Wati & Asri, 2021), but the article did not explain in detail Moh Sjafei’s concept of education. Only after that, someone discussed Moh Sjafei's thoughts in detail and deep (Afdhal, 2016b, 2016a; Afdhal et al., 2022), but the research still requires further studies.

For this reason, this article aims to continue research on Moh Sjafei in the field of educational concepts and neglected educational philosophy. This research also gave special attention to Moh Sjafei’s mind for several reasons, namely first, Moh Sjafei is a national education figure who has contributed greatly to education in Indonesia through the INS Kayutanam education space since 1926. Second, the philosophy, concepts, and curriculum used in INS Kayutanam have their uniqueness so it is worthy of being discussed in depth. Third, the results of their education philosophy, concepts, and educational curriculum have given birth to people who are experts in their fields and spawned educated generations who are enlightening and enlightened.

Based on the three main arguments that have been explained, the purpose of this article is to show a pedagogical-social context that allows Mohammad Sjafei and Ins Kayutanam to become a formidable and responsive educational institution to the challenges of his day. Furthermore, an understanding of the concepts and philosophy of Kayutanam’s education should be an important reference in analyzing national education issues today. In this way, this article also aims to reconnect the disconnected national education in history, so that it can find the common thread. The aim is to contribute to the development of national education thinking and practices, especially in formulating a more effective and inclusive educational model for the whole community.
METHOD

In writing this article, the authors choose to use qualitative research methods with a type of literature study or library research to collect data and information that is relevant to the concepts and philosophy of Moh Sjafei. The purpose of this study is to gather information relevant to the research topic, through a review process, synthesis, or summary of literature materials. This research involves various types of library materials such as books, journal articles, magazines, newspapers, the internet, a thesis, and other writings related to research problems (George, 2014; Mann, 2015). Through this research method, the author can collect quality data and information to support the arguments in this article.

Meanwhile, the authors apply the hermeneutic analysis method to interpret words and text to be relevant to the research objectives. The hermeneutic approach is used to give meaning to the concept and philosophy of education that is not explicitly explained in the writing of Moh Sjafei, especially in the work of “Dasar-Dasar Pendidikan INS Kayutanan” which is the main source writing this article. By doing this analysis, the author can more easily understand and apply the educational concepts and philosophy of Moh Sjafei in the theoretical and practical framework.

RESULTS AND DISCUSSIONS
Pragmatism Philosophy as Educational Philosophy of Moh Sjafei

In his thoughts on education, Moh Sjafei considers his views and understanding of Indonesian society. He acknowledged that Indonesian people tend to be weak and lack motivation, which is caused by the indulgent influence of nature and the condition of colonialism which impedes the progress of the nation. This increases social inequality and deepens poverty in Indonesia. Therefore, Moh Sjafei believes that education can be a tool to change this condition. Education should not only be theoretical but also have pragmatic values that are formed from the development of society and its cultural stages. The aim is to change people’s behavior and improve knowledge so that they can be independent and create better social justice. Moh Sjafei believes that education must be able to teach Indonesian people productive and independent values so that they can form a hardworking, honest, and solidarity mentality in society.

Moh Sjafei believes that education must involve and encourage active-creative community participation. Education must be a form of social investment for society, not just individual interests. Moh Sjafei views that the success of education is not only seen from the individual's ability to master knowledge, but also seen from the positive impact it produces in society. Therefore, education must pay attention to the needs of the community, and produce graduates who can help improve the quality of life of the community. In the view of Moh Sjafei, education is the key to opening the door to progress for the Indonesian people. He believes that through a good education, Indonesian people can get out of colonialism, oppression, poverty, and underdevelopment, and achieve a standard of living to become truly independent human beings.

Moh Sjafei’s opinion regarding education is based on the concept and approach of pragmatism. Pragmatism is a philosophical school that considers truth to be something that can be proven true through practical results (Garrison & Neiman, 2013; Sharma et al., 2018). Pragmatism sees reality as a process that continues to evolve, and philosophers who have a pragmatic view always focus on experiences that have practical benefits (Balzacq, 2016).
Although starting from the same idea, pragmatism experiences differences in its conclusions. There are three principles agreed upon by pragmatism, namely rejecting all forms of intellectualism, absolutism, and underestimating formal logic. This philosophical school developed in America and Europe, and famous figures such as Hans Vailhenger in Europe and Peirce and John Dewey in America continued the idea of pragmatism (Feinberg, 2015; Khasawneh et al., 2014; Pavlis & Gkiosos, 2017). This school of pragmatism philosophy inspired Moh Sjafei’s educational concepts.

Although Moh Sjafei did not explicitly state his philosophy of education, his educational philosophy tends to follow the philosophy of pragmatism. In previous research, Afdhal (2016b) dan Afdhal et al., (2022) explained that Moh Sjafei was influenced by John Dewey, a pragmatist philosopher from America. This educational philosophy argues that experience-based education, namely experience is not only related to knowledge but also human life about its environment (Illeris & Ryan, 2020).

When discussing the philosophy of pragmatism, it is inevitable to talk about the American philosophers who introduced it. Although Peirce first introduced it, this concept has also been discussed by many Greek and European philosophers such as Socrates, Aristotle, Berkeley, and David Hume. The origin of term pragmatism comes from the Greek word “pragma” which means deed or action, and “ism” here has the same meaning as another school of teaching or understanding. Therefore, pragmatism can be interpreted as teaching with a concept of thinking that must be in harmony with the action and the criterion of truth is “benefit”. According to pragmatism, a hypothesis or theory can be considered true if it can give the desired results or can be applied in life. In philosophy, pragmatism is better known as a method for developing concepts than as a doctrine (Shusterman, 2016; Stuhr, 2015).

The pragmatic philosophy method was originally introduced by Peirce, but this idea was further developed when explained by William James. Although James was influenced by Peirce in developing his thoughts on pragmatism, James's philosophical thoughts were born from the conflict between religious and scientific views during his lifetime. James felt that too abstract a matter of truth was useless to Americans who wanted to see concrete results (Ansell, 2016). Therefore, to know the truth of an idea or concept, it must be seen from its practical consequences. There is a difference between James's pragmatism and Peirce's pragmatism so James's pragmatism is also known as practicalism, while Peirce's pragmatism is known as experimentalism. Apart from that, another difference is in the approach. Peirce's approach tends to be mathematical and symbolic logic, whereas James's approach is more psychological. The definition of “practical” also differs between the two, where Peirce considers experimental research that is considered practical, while James considers practical to be that which can influence human thinking (Simpson, 2018).

In the debate between Peirce and James regarding pragmatism, John Dewey's views emerged, known as instrumentalism. This view develops the concept of pragmatism with a focus on biological and psychological roles. Dewey agreed with James that nothing is certain and humans are always moving in ever-changing seriousness. If someone encounters difficulties, then he will think about overcoming them. Therefore, according to Dewey, thinking is only a tool for action. He said that understanding comes from experience, and truth can only be measured by its effectiveness in influencing actual situations (Sikandar, 2015).

Smeyers (2018) states that one of the attractive aspects of the philosophical method of pragmatism is its focus on experience and its approach which is naturalistic but also provides
Moh Sjafei's Taxonomy of Education: Domains of the Brain, Heart, and Hands

The more popular educational taxonomy term was introduced by Benjamin S. Bloom and his colleagues (1956) in his book entitled Taxonomy of Educational Objectives. The concept of taxonomy itself is useful for grouping learning objectives into different categories at their level. This concept is a very famous reference in the field of education and teaching. Later, this taxonomy concept was revised by Anderson & Krathwohl (2001) in their book entitled A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objective. There are three domains in this taxonomy, namely the cognitive, affective, and psychomotor domains. Cognitive domain levels include remembering, understanding, applying, analyzing, evaluating, and creating. While the levels of the affective domain include receiving, responding, valuing, organizing, and characterizing. Furthermore, the levels in the psychomotor domain include perception, set, guided response, mechanism, complex overt response, adaptation, and origination.

The levels are considered to be increasingly difficult and complex from the first level to the last. This concept is used to help teachers and instructors develop more specific and clear learning goals, and measure student success in achieving these goals. However, this concept has several weaknesses, including 1) less contextual with social and cultural aspects; 2) too linear and assumes that students must follow each level sequentially; 3) too rigid and rigid thereby limiting the creativity of teachers and students in developing more innovative learning objectives; 4) less accurate in using operational verbs so that it can confuse the development of learning objectives.

In contrast to Bloom's taxonomy, Moh Sjafei emphasizes the balance between the brain, heart, and hands. This is in line with the educational goals of INS Kayutanam, namely to form Indonesian people who have intellectual intelligence, mental strength, good personality, practical skills, and the ability to work hard. Education in the brain domain is expected to be able to produce intellectual intelligence, while education in the heart domain can form a good and mentally strong personality. Meanwhile, education in the hand domain aims to develop practical skills and a high work ethic. All of this serves to achieve the ultimate goal, namely the formation of a quality society capable of contributing to the independence and progress of the nation (Ibrahim, 1978).

Education should pay attention to the interests of all human aspects, namely the brain, heart, and hands because these three elements form an inseparable unity (Sjafei, 1968). Moh Sjafei criticized that education focuses too much on brain intelligence, and if only the brain is sharpened, people will tend to take shortcuts to achieve their goals. Moh Sjafei also highlighted the importance of hand education, because various jobs require hands and their contribution to daily life is enormous. Without hand education, all activities that require hands, such as doctor's surgery, driving, and other jobs will stop and will cause serious problems. (Sjafei, 1968). Therefore, Moh Sjafei believes that education must pay attention to all human aspects, namely
the brain, heart, and hands because all these elements have an equally important position in life.

Moh Sjafei further emphasized that in achieving the learning objectives, there are at least six aspects that must be achieved in the ongoing learning process. These six aspects include 1) having a smart brain; 2) strong understanding of religion; 3) having a spirit of nationalism; 4) having a hardworking mentality; 5) having creativity and inventiveness; and 6) having a high social spirit (Ibrahim, 1978; Sjafei, 1968). The main goal of education is to form a smart brain in children. When a child has a smart brain, he can more easily absorb social values in society and can make a positive contribution to change. However, it is important to remember that brain intelligence must be balanced with a clean heart and good morals. If not, then the intelligence of the brain can be used for purposes that are detrimental to society. Therefore, education must also emphasize the importance of developing good personalities, such as integrity, empathy, and honesty.

In addition, in the teaching at INS Kayutanam under the tutelage of Moh Sjafei, students are taught to have a good understanding of religion. This does not only involve reading and memorizing the holy books of the Koran but also studying the meaning of the commands contained in it. To understand the verses of the Koran, Moh Sjafei believes that understanding Arabic is also very important because the Koran was written in Arabic. Therefore, religious subjects and Arabic must be included in the education curriculum. This action is considered the first step in developing spiritual and religious education at INS Kayutanam.

Besides that, in growing and fostering a spirit of nationalism, cooperation can be carried out. Moh Sjafei has set a simple example in cultivating a sense of nationalism, such as cooperation in building learning spaces and sports fields. During the construction, teachers and students worked together to transport stones from the river which were used to make the foundations for the study halls and sports fields. In addition, the spirit of nationalism can emerge through the awareness given by the teacher in learning, such as the understanding that the nation is experiencing colonialism both politically and economically. One concrete example of this action is to tell the history of a kingdom that once triumphed. According to Moh Sjafei, actions like this will help foster a spirit of nationalism towards the nation.

Teaching students to have the spirit of hard work is not easy, especially in a society that is being colonized and unable to maximize its intellectual abilities. Therefore, Moh Sjafei teaches students to think rationally and work systematically, regularly, and efficiently. According to Moh Sjafei, manual work skills are also important in shaping the spirit of hard work. To that end, students are given one to three hours of manual labor skills lessons every day, where they are given the freedom to be creative and develop their creative ideas.

Moh Sjafei designed educational goals based on his views on the conditions of Indonesian natural and human reality, with a philosophical foundation of pragmatism. In Moh Sjafei's concept of education, sixteen basic educational requirements must be met so that educational goals can be achieved. If we summarize these conditions, it can be concluded that the philosophy of “nature develops into a teacher” originating from Minangkabau became the basis for Moh Sjafei's concept of education. In this philosophy, nature is used as a source of learning. Nature that provides good conditions will make people lazy, while nature that provides difficult conditions will make people strong and hard-working. In Moh Sjafei's concept of education, education must be adapted to the needs and conditions of society. The purpose of education is not only to achieve intellectual intelligence but also to form good
character and personality. This can be achieved through a learning approach that is practical and relevant to everyday life.

In the view of Moh Sjafei, education must be directed at mastering science and technology that is useful for society, as well as the formation of good character supported by moral and spiritual values. In this case, the teacher plays an important role as a facilitator and motivator in the learning process. With the concept of education that is by the needs and conditions of society and balanced with moral and spiritual values, it is hoped that a generation that is intelligent, independent, and has noble character will be able to face the challenges of life in the future. (Sjafei, 1968).

From the explanation above, it can be concluded that according to Moh Sjafei, education is not only related to acquiring knowledge and memorizing facts but also involves developing skills and abilities to apply them in society. For Moh Sjafei, the essence of education is when the knowledge possessed can benefit society. Moh Sjafei stressed the importance of education that involves the heart, brain, and hands, and that there is no separation between world knowledge and religious knowledge. Moh Sjafei views balance as an important principle in education, a concept known in Minangkabau terms as “tungku tigo sajarangan”.

The domain of Moh Sjafei's Taxonomy of Education: Education of the Brain, Heart, and Hands

According to Moh Sjafei, in education and teaching, the three aspects of intelligence, namely the brain, heart, and hands are interrelated and equally important. All have an important role to play in the results of education and teaching, especially in producing changes in student attitudes and behavior. If the three aspects of intelligence have been properly trained, namely a smart brain, a clean heart, and good skills, then these students can be successful in society and will have no difficulties in living their daily lives.

In the context of education according to Moh Sjafei, these three aspects must be integrated to create quality students who can contribute positively to society. This does not only apply to increasing students' intelligence but also affects changes in their attitudes and behavior. The importance of balance between the brain, heart, and hands in education was recognized by Moh Sjafei as the main foundation for fostering a spirit of independence in students. In addition to intellectual intelligence, students must also be equipped with emotional abilities and practical skills to be successful in life. Moh Sjafei also emphasized that the results of education are not only shown by the success of students in mastering knowledge, but also by their ability to apply this knowledge in everyday life.

Moh Sjafei's taxonomy when juxtaposed with Bloom's taxonomy, the brain domain can be interpreted as cognitive, the heart domain is interpreted as heart, and the hand domain is interpreted as psychomotor. These three domains have their respective domains, starting from the domain of the brain to the realm of intelligence in general sciences. The heart domain has a domain on social intelligence, and the hand domain has a domain on life skill intelligence or expertise. These three educational domains can lead students to achieve success in their lives in the future. With these three education and teaching domains, students who have attended the lessons are expected to have a strong character, as well as be smart in socializing vertically and horizontally. Vertical, namely the relationship between the individual and God, while horizontal is the relationship with fellow human beings. The three domains of intelligence according to Moh Sjafei can be described in the diagram below.

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For more details, the writer will describe one by one the learning taxonomy domains of Moh Sjafei.

First, is the learning domain of the brain. Moh Sjafei argues that cognitive progress is related to individual intelligence levels, such as knowledge and thinking capacity. Cognition also includes the ability to recognize, know, analyze, organize, conclude, and formulate one's life goals. Essentially, according to Moh Sjafei, the intelligence function of the brain is to solve problems in life. In more detail, Moh Sjafei stated that

“...brain sharpness (intelligensz) comes from the alertness of the brain to solve problems that arise. In carrying out manual work, problems repeatedly arise that must be solved. That's why experts say that thinking and moving are closely related to each other (Sjafei, 1968).”

Moh Sjafei gave a more detailed explanation of the stages of brain intelligence. Although the explanations are irregular, they are sufficient to gain an understanding of the educational concept. According to Moh Sjafei, there are four levels of student intelligence, namely the level of inzicht (providing understanding), habits (application or habituation), level of integration or innovation, and level of creation or production. To clarify, consider the image below.

Figure 1. Educational Taxonomy Domain According to Moh Sjafei
(resource: Afdhal, 2016a)

Figure 2. The level of brain intelligence according to Moh Sjafei
(resource: Source: Afdhal, 2016a)
Moh Sjafei emphasized that giving understanding or awareness is more important than giving memorization to students. According to him, giving this understanding will increase student's awareness, which is referred to as inzicht. For Moh Sjafei, giving this understanding will have an important meaning in the student's brains. He explained that every work given to students must be accompanied by understanding (inzicht), so that knowledge will be embedded in the brains of children and not just mere memorization (Sjafei, 1968).

After giving understanding (inzicht) is complete, students are asked to apply what is learned in everyday life so that the knowledge gained is not easily forgotten. The teacher must monitor this habituation process, which grows from giving students understanding and awareness. Students cannot do this on their own without the support of the teacher. Moh Sjafei agreed with Ki Hadjar that the teacher's job is to be a good role model in front of students, provide enthusiasm during the learning process, and encourage students to come forward from behind. With internalization and supervision by the teacher, habituation will form a conditioned level of intelligence. Moh. Sjafei (1968) explained that habits that have been ingrained in children will run automatically, while understanding is closely related to the brain and mind of children.

In the level of brain intelligence, the level of integration or innovation is almost the same as the level of creation or production, but the difference lies in the result. At the integration or innovation level, students produce an innovation from what already exists, namely only updating and adding features to existing ones. However, at the level of creating or producing, that is the stage where students design and create something completely new. Moh Sjafei then said that we may imitate or imitate other people's productions, but with a note that there must be innovation in it. For example, Germany produces cars with engine quality that lasts 20 years. If we want to emulate German production, there must be better quality innovations. We have to make observations, imitate them, and modify them to make them better. Moh Sjafei emphatically said that we should not imitate only to resemble, there is no innovation, even worse than what is imitated. It will only degrade the nation (Sjafei, 1968).

Second, the domain of heart-based learning. Learning in the domain of the human heart or affective domain can be associated with a person's sensitivity towards others horizontally, and towards God vertically. This type of learning influences one's ability to interact with other human beings and with their God. Affective learning is based on moral and ethical values, such as how a person responds to their surroundings, their sensitivity towards others, their behavior in society, and their level of religiosity in daily life. This is related to the concept of hablumminallah (relationship with God) and habluminannas (interaction with fellow humans) in Islamic teachings. Heart-based learning is also related to feelings, emotions, value systems, and behaviors that demonstrate acceptance or rejection of something. Therefore, Moh. Sjafei (1968) gave special attention to art, religion, and society.

Thirdly, the domain of hands-on learning. Moh Sjafei argues that learning manual dexterity is related to learning life skills. Psychomotor education helps to develop individuals who possess discipline, perseverance, and responsibility. Gardening is a concrete example of the relationship between intelligence and psychomotor skills. Through gardening, children can learn to be industrious, disciplined, and responsible. The garden provides a tangible and material setting for learning. If students are not disciplined, industrious, and responsible in taking care of the garden, then the results will be poor, and they will experience the consequences of their actions firsthand. However, Moh Sjafei stresses that in this type of
learning, 'practical lessons involving the use of hands will achieve optimal results, as long as they are guided and directed with understanding and proper calculation by teachers and parents (Sjafei, 1968).’

In other words, psychomotor intelligence can be enhanced through learning handicrafts. According to Moh Sjafei, through learning handicrafts, students' spirits will become more independent. He emphasizes that 'Handicraft lessons strongly support independence, which encourages imagination. Making something independently provides a broader opportunity for the development of children's imagination. If they always work based on commands, it will suppress their activity and stimulate passivity. Although they may appear active on the outside, they tend to be passive inside (Sjafei, 1968).’

CONCLUSIONS

It is important to revisit the ideas of Indonesian education figures in the past. This is not only to remember the intellectual heritage of our nation but also to be aware that what is considered new in education has existed in our historical knowledge. Perhaps only the terms used are new, such as 'life skills' or 'student-centered education'. Ignoring history in our thinking can lead to a cyclical development of education that continues to repeat itself. The thinking and development of national education will not be separated from the influence of the times and interactions with dominant civilizations of that era.

According to Moh Sjafei, education aims to transform students' character to become more disciplined, responsible, persevering, tenacious, and independent. Every individual has different bits of intelligence, such as musical, logical-mathematical, linguistic, spatial, intrapersonal, interpersonal, and kinesthetic. To facilitate the development of this intelligence, teachers must understand the psychology of students, including the categories of their psyche, which consist of auditory, visual, motor, and mixed. With this understanding, teachers can direct learning according to student's interests and talents, so that students can achieve maximum learning outcomes.

Moh Sjafei used the term educational space (ruang pendidikan) to describe his school which allows learning to take place both in the classroom and the outdoors. According to his educational view, humans as active beings have interconnected qualities, namely self-awareness, free will, and creativity. In the learning taxonomy introduced by Moh Sjafei, learning consists of three aspects: brain, heart, and hand. Heart learning is used to awaken empathy and imagination, brain learning is used to make rational and logical calculations, and hand is used as a medium to channel brain and heart energy concretely in interacting with nature. Moh Sjafei argued that other human qualities are only derivatives of these three basic qualities. These three elements must be balanced and will influence each other.

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