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The Integration of Values and Science Education in Learning to  
Strengthen the Existence of Muslims in the Industrial Age 4.0

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**Abstract:** Such integration is bringing together various sciences into one that is mutually supportive, balanced and sustainable to compile learning. By providing integration in the fields of education, economics or whatever, it is hoped that there is no knowledge that groups knowledge itself, because integrating knowledge with each other will be a sharp unit in the educational process that leads to learning. The reality of integrating value education with science in learning is still experiencing some problems related to the lack of understanding on how to combine values and science education in learning. Science will complement our interactions in society. Both must be interrelated. For this reason, the rapid flow of world development in terms of technology and information has led to the birth of the industrial revolution era 4.0 which exists when the large technology occurs by significant socio-economic and cultural changes. The existence of an industrial revolution 4.0 brings up to the phenomenon of new industries which result is disruptive innovation. With the current industrial revolution that has placed on all aspects, especially in the aspect of education, education is intended to humanize humans. The methods of integration include five models, namely the value-planting approach, cognitive development approach, value analysis approach, value clarification approach and action learning approach.

**Keywords:** *integration, value education, science, learning*

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#### A. Introduction

Education is something important and needed in every human being. Without education, people become left behind and don't even have the knowledge in living every life process (an inseparable part of life and human life). Education is a reference that an educational process must exist and develop following the development in various countries, including Indonesia. Today's education seems to reap a lot of polemic and criticism from sharing circles, agencies and even society as a whole. It was said like that because education at this time has not been

able to fully educate students in the realm of moral values. Current education seems to experience more moral and social dimensions. The supposed moral values are realized and implemented into the behavior and attitudes of students, in understanding each behavior of moral values themselves. Therefore, there is a close relationship between value and education. In each action there are always educational and value factors, which these two factors will always be involved. For educators it can be used both in choosing and deciding everything in learning needs, values can also evaluate

students. So that students can measure the level of value presented by the teacher or educator in each process of education and learning.

The current actions of students that are often seen in acts of violence, pornography, drugs and various other kinds of social ailments including moral crises that are clearly displayed, such as strife, fights even end in murder. The problem and the case that has been worrying if the accusation is overcome will further exacerbate the moral and future of each student or even the community. Even though at this time every student should have been prepared to meet the development of the 4.0 industrial revolution, how to receive and utilize the industrial revolution 4.0 if the morals of students are very bad or immoral. And how education or learning is better if in learning alone there is no value education. The phenomenon is too focused on the direction of education which is dichotomy. Education is also an important part that is often forgotten in the educational process that has existed so far. Even though all this time we know the essence of education is a process in which to develop the existence of optimism in human beings, providing a critical awareness so that humans are able to develop reasoning (thinking), calling upon humans about strong truths and giving enlightenment of faith reason that is in human beings. Education that strongly emphasizes the delivery of value education in learning is expected to give birth or create human beings who have high sensitivity to the enforcement of values, including the enforcement of values of justice, humanity and progress which is the soul in human life on earth.

The most fatal educational failure is when an educational product or student product does not have the sensitivity of conscience based on morality (sense of humanity) the essence of education value itself is a sense of humanity. If the value

education process can be implemented or well-integrated between the interaction of value and science education in each learning, then it will at least realize education in a format that is good and valuable in accordance with fogaty. Responding to the development of industrial revolution 4.0 in this case which is a challenge in the era of industrial revolution, namely the provision of value education in learning. Having good skills to be able to compete in the development of the industrial revolution must be based on good morals, which humanize humans and the existence of adequate scientific knowledge.

An illustration of all of these things, for this time I have begun to be overcome with an integrated learning. Which education and learning do not dichotomize or mengkotak - Kotakan one knowledge with another, so that at least education now has begun to improve itself to support improvements in the development of the current period, in the era of industrial revolution 4.0 so that the content of this paper is on the right of integration of value education and science in learning to strengthen the existence of Muslims in the industrial era 4.0.

## **B. Meaning of Integration, Value Education and Science.**

Before discussing more about the meaning of integration, value education and science. First, the discussion described here is about integration.

### **1. Definition of Integration**

A term that is being prioritized for developing education that is capable of presenting one knowledge with another knowledge of science, where one science with another knowledge becomes one and the same entity, not stand alone as a whole. The meaning of integration actually comes from the term integrated. This term relates to the psychology and organization of knowledge. The term integration in the

world of education is associated with a democratic education movement. Democratic in terms of concentrating actual issues as the core curriculum. According to Beane, the center of integrative education or integration is to organize important issues between the school curriculum and the wider world. The real meaning of the understanding of integration, that is integration, will connect the problem with one another, connecting problems with one another so that it forms a unity (understanding) of knowledge that will present the unity of parts - all of which fill the sources of knowledge.

Centered on organizing which states the existence of knowledge - curriculum knowledge. The goal here is that learning (science and knowledge) is more easily accepted (captured) and has meaning for students to develop what is in each of themselves, as well as the wider world. After we know the meaning of the term integration in the world of education, it is time for us to underline the notion of integration in Learning. Integration in learning is expected to be able to give birth and print a This is directly related to the understanding that self is a part of the world whose scope is very broad. Based on self because it cannot be released from the world around it, self and knowledge need each other. comprehensive understanding of every human being (students and their environment).

Integration of value and science education in an effort to unite knowledge theorized by educators based on data (objects) that are tangible with conceptual value education from norms while problems in science can be understood in the view or perspective of norms inherent in a person, so that students have good foundation. The norm perspective is expected to carry

out more complete and comprehensive knowledge and understanding of this life (a life that cannot be separated from humans and its development of science) Integration of value and science education in learning is a unification of two different things between branches of education and science. Of which there are elements of organizing knowledge or actual problems. The implementation of the problem between value education and science is made into the core curriculum of the embodiment of comprehensive learning material so that the understanding gained by students is more meaningful and valuable.

## 2. Meaning of Value Education

Value education itself consists of two meanings, between education and value. Because the notion of value education is inseparable from these two elements, value education is derived from two meanings of education and values which then become one understanding, namely value education. Education is basically a human endeavor; the effort aims to foster a human personality in accordance with the values that exist in society and culture.

While value is an essence (which is needed by society) that exists and is inherent in human life. This is where the essence of the meaning of education is value after the understanding of education and the value is explained. From the definition of value education, as we know the definition of value education is interpreted differently, then the definition of value education can also be interpreted differently according to the emphasis and formulation of the problem given to the two meanings.

From the long description it can be concluded that value education is a conscious and planned effort that aims to create a learning atmosphere and

learning process so that students are active in developing their potential, develop the potential to have religious spiritual strength, personality, self-control intelligence, skills needed himself as well as noble character for the people of the nation and state through learning in the ability to weigh things in an affective and rational manner.

Definition of value education is the cultivation of the development of values in a person. Value education is also not only a special program taught by education through all subjects, but here covers the whole process of education, including preparing for education now that has begun to be prepared towards value education in industry 4.0.

One of the aims of education is for students to be noble, capable of being creative and independent. This is healthy with the aim of value education. Bahwasannya value education aims to understand, realize, experience values - values and students are able to maintain it integrally in every process of life. From these objectives, there is also a specific matter, as stated by APEID (Asia and the Pacific Programmer of Educational Innovation for Development) that value education is aimed at;

- a. The pattern of value formation is applied to children.
- b. There is an attitude that embodies the desired values.
- c. The supervisor of children's behavior that is consistent with the existing values.

The purpose of the second value education is the overall growth and development of students. From this, it is expected that they (students) will become mature and well-established adults (so that they are able to deal with various problems and conflicts in their

daily lives, needed in coming generating skills). The third educational objective here is that the Participants sit directed towards education that humanizes humans, develops into a more human, more useful, responsible and proactive and cooperative person in all components of society, nation and state.

### 3. Meaning of Science

The next discussion is related to science. The word science itself comes from English "science" while the term "science, taken from the Latin "scientia") in which the word scientia is derived from the word "elite" which means learning and knowing. The results of learning and knowing manifest in knowledge. So simply science means scientific disciplines consisting of physical sciences which include branches of astronomy, chemistry, geology, mineralogy, meteorology and physics. Science in the branch of biology consists of zoology, cytology, embryology, anatomy, and physiology. Phenix is to find the truth in finding the truth, there are several categories (concepts that are close together to understand) that include generalizations, hypotheses, arguments, laws and theories that exist.

Science as knowledge has two objectives, that is, it will not be separated from the goals of general education. This is based on the science of science or science aimed at and given to develop whole people. In education science or education experts have the opportunity to be able to develop thinking skills of students. developing the ability to think in terms of honesty, various skills about hard work, discipline and making innovations about science as technology knowledge. And the aforementioned categories which can be underlined here are those categories which are tools for

understanding the body of understanding of the events of the whole theoretical universe.

4. Integration of value and science education in learning. Integration referred to hear How values exist in education to be associated with science as science. These values are not dichotomous but are mutually integrated.

### **C. Urgency of Integration of Value Education and Science in Learning**

Constructivism learning theory assumes that in the educational process in which there are certainly learning activities, in constructivism theory learning here includes exploring, discovering concepts and principles that are carried out continuously in an active and independent manner. This process is the integration of entry. Because integrative learning is one model of behavioristic theory. Integrative learning is expected so that learners obtain knowledge authentically and meaningfully not just theories but presented widely and real in society in accordance with existing norms and conditions.

In this paper how the urgency and description of integrating value and science education in learning. As explained above about how important and the relationship between value education and science is to prepare the younger generation in preparing generations that have good values in their lives. That values are always present, coloring, ready and the actions of every human being that must always be owned. In short, a smart and skilled person in various aspects and fields but still humanist. This is the giving of the value of education that gives birth to attitudes, the manifestation of that attitude itself is value. So, the need here is to explain about the integration of value education and science

In general education is not yet far from growth, this can be seen and compared to

social sciences and behavioral sciences, so from that point the importance of the value of education is as a human being. In interpreting Education and science, we need to look at that not only value education can be integrated here. Like Religion and other sciences can also be integrated.

In the absence of a science dichotomy, educators must be able to try to do synergistic learning integration. It does not dichotomize and categorize knowledge. Adanha value and science education integration to remind the importance of the attitude that humanizes human beings in humanist life. But now there are not so many educators who implement integration or integrative learning. See and examine three basic integrative principles namely;

1. Quality of education personnel

We are dichotomic products, so if dichotomic products develop non-dichotomic it will be difficult. The quality of teaching staff greatly determines the quality of existing teaching staff, the existence of an integrated education of an educator must have a concept and culture. So integrative learning is indeed done by people who already understand.

2. Curriculum

An education that is the most important is a curriculum. Ranging from basic to high. Existing formal institutions must have a curriculum.

3. Actualization process

When the actualization process is used it will be easy. All of these processes require tools that are no longer dichotomous. Important points here have not been realized because they are still in the trial stage. Running an integrative learning process must not be natural and cannot be forced.

Viewed from the negative side, non-integrative education includes partial and sectoral. The emergence of partial and

sectoral diversity of humans who have no scientific background. The science itself becomes the benchmark of a developed country. A person who does not master science knows no dichotomy. The urgency of integration also involves the existence of khilafah. It was said like that because Muslims are busy with khilafah. The urgency here, value education that should be a human being and integrated with science is actually almost forgotten because of the factor of educators who have not been trained. Developed countries are hard to master science. A thought about integration should not only be discourse but must be done. so that it does not cause public polemic. Mastering science and technology is categorized as advanced.

When integration in the world of schools or formal institutions exists, the value of the situation is certain. Culture, systems and concepts of integration. the three points that are the most difficult are the system points. Because it is not structured from top to bottom. Which is related to various things that are not easy but clearly, we must know as education personnel and not educators here, namely we must have a deep awareness that integration is something that can no longer be delayed - delay again.

The integration of value and science education in learning is the view in this paper, first the value education that takes its value is based on the value structure. Based on the category of value structure includes logical, ethical and aesthetic values. Both categories based on the study area consist of economic, political, social, religious and cultural values. Third is based on clarification of values that include objective values. Finally, or the fourth is based on a value hierarchy that includes the values of pleasure, psychology, life and spirituality.

Educational value is inseparable from the religious word, it is still included in the religious component. The following is an outline of the integration of value and

science education in learning. For example, in Islamic religious education material. How to familiarize the behavior of protecting the environment (Al-Qur'an Al-A'rof verses 56-59). Value education here includes education of social values, beauty values and moral values. Which will be integrated with science in the realm of physics (natural events), chemistry (as energy sources, layers of the earth) and biology include the life of flora, fauna and the preservation of nature.

Your description as in Qurban and akikah material including fiqh material. Value education that is integrated here is religious values, divine values and social values which are then related to science (biology talks about animal health).

#### **D. Integration of Value and Science Education in Learning Strengthens the Existence of Muslims in the Industrial Age 4.0.**

The industrial revolution became a hot conversation in all circles. Which is currently underway in the industrial revolution era 4.0 After the first phase marked by the discovery of steam engines, the second phase with quality control, the third phase of the emergence of computerization, this fourth phase is being carried out, namely industry 4.0. the fourth phase emphasizes the mastery of technology. We can observe a lot of companies engaged in online fields such as online motorcycle taxis and so on. As we know the term industrial revolution itself was introduced in Germany (officially born in Germany) which was introduced by two people namely by Louis Auguste Blanqu and Friedrich Engels where it occurred in the 18th century.

The rapid flow of world development in terms of technology and information has led to the birth of the 4.0 industrial revolution era. the definition or definition of industrial revolution exists when large technology occurs which is accompanied by significant

socio-economic and cultural changes. The existence of an industrial revolution 4.0. Brings up to the phenomenon of new industries which result in disruptive innovation. With the current industrial revolution that has placed on all aspects, especially in the aspect of education. Education is intended to humanize humans. How can humanize humans if learning is not given a value education process that will be characteristic of students.

Responding to the industrial revolution 4.0 that requires every human being to have life skills in technology. This directly encourages people to compete. The background of these rights does not make humans to forget the main foundation of human beings in terms of good manners. By integrating value education with science in learning it is hoped that the old concepts will emerge and form new concepts to support the educational process so that students become better. Developing new concepts here in the cognitive and affective domains of students, this is education not only pursuing the target of formalities, it still falls into the real element of education.

In learning, the important thing to note is the understanding of the internal characteristics of educated individuals. The learning process itself is an integrated aspect of an educational process. Another understanding related to the notion of learning is the direction of educators to develop the potential that exists within students to be more actual. So that conclusions can be drawn learning is a waste activity in which there is a design to make individuals learn certain skills.

A developed country is supported by high scientific progress. In the sharing of fields there must be a change that follows the 4.0 industrial revolution movement. preparing in dealing with it is certainly not an easy and quick thing to solve. Well-prepared and directed preparation is needed. Starting from the most basic and

basic thing is directing good education so that even following the development of the Industrial Revolution 4.0 remains a virtuous person. The process leads to education that is currently being implemented, namely integrative education.

The world needs someone who is competent in the academic field who includes skills, expertise as well as noble character (intelligent and yet humanist). Developed countries are characterized by high scientific progress. For this reason, the development of educational development needs things that are not dichotomous. The dichotomy discourse which then creates a map in the branch of science. Science that is so fast developing makes it necessary to integrate value education into learning to strengthen the existence of Muslims in the era of industrial revolution 4.0. this includes the mindset and nature of students who have begun to be displaced by the ease of accessing technology so that it is easy to behave that is not in accordance with the norm.

This is due to a lack of value education. It is important to restore the moral character of students. One of the values that has begun to disappear is the value of going up religiously. Religious value is Suko and obedient behavior in carrying out his religious teachings and living in harmony with fellow believers of other religions. The school must be able to develop the talents and interests of students in equipping changes in the Industrial Revolution 4.0. Another step that can be taken in strengthening the existence of Muslims in the industrial revolution era 4.0 is to make changes to the learning model that is in line with the development of education.

The real challenge of the world of education is preparing and facing the industrial revolution, namely the planting of values. This value is the values of education. In preparing it, a good person is needed, both in attitude. Value education is focused

on aspects to help students grow and develop into more human beings. This is very useful and influential in the community so that it is proactive and cooperative. The existing theoretical sciences have been developed very well. Theoretically, the science of education that is currently available is very complete, but the value of education itself has begun to be forgotten. Increasing globalization is something that cannot be scanned. Globalization is the openness of the world that is beginning to be connected without anything that divides the region and country. This is caused by several factors such as;

1. Science and overall development.
2. There is a cultural exchange
3. Use of technology globally.

With the existence of these three factors about the problem of education, it must be able to prepare students for graduates to accept existence in the era of industrial revolution 4.0. the hope to prepare graduates or output in the industrial revolution era 4.0 is aimed at achieving the relevance of the industrial revolution era by still having a humanizing attitude to human beings and the existence of good values in each student's behavior.

That's where we understand the development of globalization and technology that can no longer be rejected, making people have to think well. The rapid development of technology has made every individual to use technology from the use of technology, humans must be able to distinguish between humans and machines. So that the need to plant values that are inherent in someone to respect dignity and dignity. Both in education and community. As we know value education is human being, humanizing humans. To respond to this, a professional educator is also required, where special expertise is available

So, the capital is to strengthen the existence of Muslims in the era of industrial revolution 4.0 especially in the field of

education by conducting an integrated learning direction, one of which is integrating value and science education in learning. The importance of integrating educational values in learning provides and gives rise to existence to educators or teachers. an educator must be able to develop the science of science itself. Developing science as one of the media in shaping the personality of Didikj participants so that students can examine the values that exist Integration and science-based learning practices in the Development of industrial revolution 4.0 are expected to be able to compete to adjust the development of the world by being a human being. Weaknesses that exist and occur so far that education values have only been done verbally so that the value of education is verbalism. It is said that verbalism is the concept of value among the community or students. Regarding the integration of value education and science in learning, it is to maintain the existence of Muslims in the era of industrial revolution 4.0 by carrying out such integration. From this description values education emerged through a conceptual approach, the approach includedt in science so that they are useful in community life with good values.

1. Approach to value planting

He values management approach is an approach that places emphasis on planting social values that exist in each student. According to Superka, the purpose of value education based on this approach is the acceptance of certain social values by students so that the values of students are not appropriate to the value of the social values desired by students. The role of teachers in learning is providing a learning environment (Safar, 2018, p. 82). Exemplary, strengthening (positive negative) the role of games and simulations is a method in value-based value education approaches. The value-



planting approach is said to be a traditional approach.

## 2. Approach to cognitive development.

This approach was born on the basis of a dilemma between hypothetical moral and factual morals accompanied by the use of group discussion methods. Hypothetical and factual moral dilemmas are always related to the processes of daily life.

Important objectives that exist in this approach to cognitive development include three things. First, this approach helps students to make moral, moral balances that are more complex based on rising values that are higher than any value. the second encourages students to be able to discuss reasons for when students choose their values and position values in a moral problem. This approach leads to the encouragement of students to think actively about moral problems in making moral decisions.

## 3. Value analysis approach.

The value analysis approach gives emphasis to students. The emphasis is expected so that students think logically by analyzing problems. the problem is related to social values. In contrast to the cognitive development approach the value education approach to the cognitive development approach places more emphasis on individual moral aspects while the value analysis approach is based on the social domain. The purpose of this value analysis approach helps the ability to think logically from scientific discoveries in analyzing social problems. Social problems here are related to certain moral values. The second is related to the important goal in this approach, so that students are able to process rationally and analytically (thinking) that will be used in connecting and formulating concepts about their own

values. The value analysis approach uses the method of field investigation and library investigation, learning (individuals or groups related to social problems whose problems contain moral values) and discussions based on rational thinking

## 4. Value clarification approach.

The emphasis given in the binary approach is to help students examine their own feelings and actions and increase their awareness of their own values. The purpose of education is the value of this version of the clarification approach so that students are able to realize and identify their own values and the values found in others. Another goal is so that students are able to use thinking together to think rationally. The ultimate goal of this approach is to bring out rational awareness (about understanding their own feelings, values and behavior patterns).

## 5. The learning approach does.

This approach places emphasis on schools to provide opportunities for students. Opportunities are like opportunities through individual moral actions or together in groups. God education value in this approach provides opportunities for students to do good to others. Providing an opportunity to self-introspect about the nature of life in society on the basis of a person not having absolute freedom but someone must take part in a democratic process. The methods used in the learning approach do using project methods and practices. Projects are carried out within the school or community institutions while the process is carried out so that they are skilled in organizing with others.

The long description of the value education approach above places a conclusion regarding what approach is

considered most appropriate to use in the value education approach, namely the use of value-planting education because the value-planting approach contains elements of noble values of Indonesian culture and the Pancasila philosophy. The story method can be used in value-based learning because it is able to touch the soul. The point is that being smart in advanced technology is supported by science but remains good in the appropriate norm, this is the essence needed.

Examples of depicting the integration of value and science education in learning.

Religious values in learning, integrated with habituation, namely praying before and after learning. Religious values are instilled by motivating students to increase their faith in Allah SWT. This also concludes many methods and models used to integrate value education. Integration of Science and Religion here as in the realm of Science such as Biology takes precedence over animal health to be consumed. In the realm of Agama it is healthy, not sick, lost or deformed in part of its body. All of these are combined and mutually integrated, other cases such as in the realm of sociology about human-human relations (dividing sacrificial animals). Qs. Al - Hajj: 28 concerning qurban which reads "So that they may witness various benefits for them and so that they call the name of Allah SWT on the appointed day (Hari Adha and Tasyrik) for the blessings that Allah SWT has given them livestock. Then eat part of it and (partially) give it to the people who are miserable to eat." (Surat al-Hajj: 28).

### **E. Conclusion**

From some of the descriptions described above, this paper concludes the following conclusions;

*First*, education and value are inseparable things that these two elements will always be attached to one connected entity. Value education is a conscious and

planned effort that aims to create a learning atmosphere and also a learning process, so the students could be active in developing their potential to have religious spiritual strength, personality, self-control intelligence, skills needed and noble character. Whereas science is a scientific discipline that consists of physical science which includes branches of astronomy, chemistry, geology, mineralogy, meteorology and physics. Science in the branch of biology consists of ziology, cytology, embryology, anatomy, and physiology.

*Second*, the urgency of value and science education includes the quality of teaching staff, curriculum and actualization processes.

*Third*, integration of value and science education in learning strengthens the existence of Muslims in the industrial era 4.0, especially in the field of education by conducting an integrated learning direction, one of which is integrating value and science education in learning. The point is that being smart in advanced technology is supported by science but remains good in the appropriate norm, this is the essence needed.

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