

## REQUESTIONING POSITIVISM PARADIGM IN EDUCATION RESEARCH

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### ABSTRACT

*Positivism paradigm is a system of philosophy based on any knowledge, reality, facts, and general things. It means that positivism can be measured and seen from how it can express positive truth without any consideration and interpretation. Positivism paradigm approach in education research which mainly contains social phenomenon raises problem because it must pay attention to the social reality derived from human actions that are difficult to predict through positive law. In education research especially that includes social phenomenon needs different approach. Social phenomenon includes symbolic object and structure that it is difficult to predict by applying positivism paradigm. It is because of the symbolic object and structure in a phenomenon having its own value that is very subjective. Therefore it raises critics to positivism paradigm. The critics are conveyed because of the opinion of social scientist is not sufficient anymore. Many interpretations of problems or phenomenon that can be investigated, especially for the unique and specific problems, cannot be covered by positivism paradigm. This deconstruction, of course, aims to investigate the methodology related to the social-humanity aspect.*

**Keywords:** Positivism, education, social phenomenon

### INTRODUCTION

In talking about positivism, it is necessary to look flow of rationalism and empiricism. At the end of the Renaissance of the 17th century, achieved mature human thought. This period was seen as a source of scientific knowledge central based on reason (ratio) and experience (empiri). The flow of rationalism was pioneered by Rene Descartes, and behind a number of philosophers to follow. In the flow of rationalism mentioned that true knowledge can be expressed through the ratio (reason). Then the flow of empiricism was built by Thomas Hobes, and a number of philosophers who followed behind him. In the flow of empiricism can be mentioned that the true knowledge revealed through empirical observation, or based on experience.

The flow of rationalism mention that the knowledge gained through mind is a prerequisite to fulfill the formation of scientific knowledge. The position of experience is used to supplement the knowledge gained sense. In this connection, the logic applied is deductive logic, ie, take conclusions from general to more special or interesting knowledge that has been established to apply to the experiences of more specialized.

The flow of empiricism mention the knowledge gained through experience is a prerequisite to fulfill the formation of scientific knowledge. The position used to process raw materials derived from experience. In this connection, the logic is applied inductive logic, which is taking from the issues that are specific to the conclusion of a general nature. Also, taking a variety of experience to serve as a conclusion of a general nature.

Both rationalism and empiricism sought a way to gain scientific theories. It seems the thinkers that time was more turned on the flow of empiricism, ie the flow that put pressure on

experience as source of recognition or knowledge. However, they are not at all reject rationalism flow, because of the rationalism is needed in order to empiricism, and in the contrary the rationalism are reviewed in the context of empiricism. Through this theoretical stance, especially the natural science is then able to develop his theories, and to free themselves from the interests.

### **Re-understanding Positivism**

At the beginning, the philosopher studied natural phenomenon as an occurrence that shows regularities and routines, or it was regulated by natural law. Here, paradigm positivism was appeared based on positivism by Auguste Comte (1798-1857). The term of positivism is derived from the word 'positive'. The background of scientific positivism is as a critic toward negative philosophy in the middle age. Positivism based on any knowledge, reality, factual, and positive. Factors outside reality such as symbol, value, philosophy, interpretation toward natural phenomenon considered nothing, refused in positivism discourse. So, what we know positively are visible things. Those visible things are indications in any field of life. All indications are appearance, either natural symptoms or human deeds. We accept the facts from those symptoms as the way they are. Further, we try to regulate those facts become certain propositions or laws.

Referring to the implementation of propositions derived from natural science to social science, Comte then developed what we call as social physics. Of course the term of social physics is derived from two words; they are physics (natural science) and social science. Natural science shows regularities which happen on occurrence and natural symptoms. So social science, it shows the facts consist of facts and phenomenon collection which there are regularities inside. The combination of two words into social physics or we usually call it sociology. Due to his merit, Comte was considered as the first person who used the term of sociology, which had a great influence to the next theorists of sociology.

The use of social physics shows that Comte has tried to give contribution of sociology form after the dark age of the previous science. The new science would be a dominant science, especially when it is related to social statistics (social structure) and social dynamics (the change of society). Both problems were tried to get the social law of life, but for Comte, he felt that social dynamics were more important than social statistics. It shows on its demand in social reform after he saw reform destruction obtained by France Revolution and its reconnaissance. Comte was not happy with this revolutionary change, but he preferred with natural change (evolutive), which made everything run well. For Comte, reform keep needed to help the change process.

In the case of the natural change, Comte divided human thought development lasting in three phases or three eras. This assumption brings us to Comte's basic approach about his evolutionary theory, in three phases of human thought, starting from theology, metaphysics, up to positivism. The three phases mentioned by Comte are applied for individual thought and thought development of all human being. It is based on the change happened in the world, such as individual, group, society, science, all run into three phases.

Based on the three phases of thought, it can be applied as the phase of human thought development, since childhood until adult. As children, their thought belongs to theological phase. As teenagers, their thought belongs to metaphysical phase. As adults, their thought belongs to positivism phase. In other word, human thought basically will experience different development, respectively, theology (fictive), metaphysics (abstract), and positivism (scientific).

Thus in science, it can be applied as the three development thought phase. Sciences, in the beginning, were controlled by theological thought. The next step is annoyed by metaphysical phase, and at last science can be understood by clear positive law. According to Ritzer (2000), theological thought phase happened in the previous age of 1300, metaphysics was in 1300 up to 1800, and positivism was in 1800 and after, although this thought phases was considered conservative by some people.

Finally the three thoughts expanded social regularities. Therefore, Comte believed that the new regularities would exist in France at the right moment someday after he saw anarchism in social and intellectual field when France Revolution happened. In Comte's opinion, the new regularities are important aspects to overcome existing anarchism. But, revealing predictions of the future events demands an understanding of social dynamics law. Finally, the laws will be revealed by history. Considering this history, it can be concluded that the progress of human civilization has clear direction. Comte wanted to explain correctly about the great development inside human being, which the link had been found since human knew civilization until they were in the top of civilization.

### **Positivism: Natural Science versus Social Science**

In modern view, positivism refers to an empirical approach extensively toward science, such as: (1) monism methodology, that is a method which can be used for various researches, (2) there is methodology standard in science researches, and (3) it makes causal-effect. This relations are based on some indicators, such as: (1) two variables are in the same place, (2) therefore they always comes before effect, (3) the one's presence is always followed by another's presence, (4) cause must be able to be necessary sufficient condition, and (5) there is a logical explanation.

Of course, the criteria to determine the occurrence of causal-effect is suitable applied in natural science method, for example, following moments: anything must fall to the ground (gravitation law), water always flows from the higher land to the lower land, if iron has sun ray, it will be swelled, if there is sugar, there are ants, water boiled until 100 degree Celsius must be boiled up, and so on. Those examples mention before is something fixed. Or in other words, it has been formula, positive law, or principles which apply in natural science. Therefore, natural science is called as free value.

The discoveries of laws in natural science cannot be separated from empirical research method. A research has been experimented on regular symptoms through observation approach. Not all natural symptoms are observed and noted because Comte himself considered that at least there were some observations which could be used to make a conclusion as empirical data. Nevertheless, basically, those observations were directed by a set of theories that become the provision to monitor the symptoms that occur.

Positivism position itself is marked by the belief that empirical data is as a center of knowledge, although that knowledge is still temporary, means that it is not absolute. Here, positivism shows its open characteristic toward the arousal of new data. From those empirical data, it can be found general principles. Thus the presence of science approach dominated reconnaissance age should not be hesitated.

Generally, science can be differentiated into two categories; they are natural and social science. Natural sciences are: biology, chemistry, physics, and their branches such as mathematics, astronomy, zoology, botany, sanitation, ecology, microbiology, climatology, vulcanology, and all existing natural symptoms. Social sciences are sociology, anthropology, philosophy, humaniora, politics, archeology, history, psychology, religion, art, education, and all existing social symptoms.

Natural science field should be able to cover natural symptoms, such as tide and subsided sea water, the fall of stars from the sky, the sea wave in a sea, the process of digestion inside the body, the water flows from the higher place to the lower place, everything falls to the ground, the system of human body, the explosion of the mountain, the menstruating woman, the rotation of the earth, the planting season, the migration of animals, trial rabbit, and so on. In considering those symptoms, the observer or the researcher must conduct it with patience, means that he or she is not influenced by subjectivity, such as afraid, and disgusted no confidence, etcetera. It aims to get succeed in observing those symptoms, from planning, anticipating, predicting, as well as things related to laboratory practice and field work. If the natural processes are examined accurately, it will always find the causal-effect relationship. Through deductive logics, or according to particular data, it can make a general conclusion, then form general principles in natural science, and here positivism always prevail for natural science.

In modern era, positivism becomes a dominant view. Most positivism experts consider a scientific method make all science being objective. Here, positivism experts believe that an observation and an empirical testing which are free-preconception can be used to explain a fact and a phenomenon. The ways used by positivist, of course, can be conducted by measurement obtaining statistical data.

Positivists believe that natural laws controlling human and social symptoms can be used to make social reforms. It is because the society considered as a part of nature, so empirical observation prevails in natural science also can be used to observe empirically in social science. It means that general laws prioritized through various generalizations of empirical facts as the result of accurately measured observation can be used to generalize social symptoms. In positivism method, indeed, mentions that the truth is universal and objective.

In positivism, Auguste Comte intends to explain positive knowledge. Knowledge is called as positive, if it focuses on real symptoms without any consideration and interpretation. It means that a content of knowledge can be measured and seen from how far it can reveals its positive truth. On the contrary, in social field needs different approach. Social field contains objects and symbolic structures. It cannot be seen just in a matter of causal-effect relationship or implementing general laws of natural science into social science. It is important to know that objects and symbolic structures have their own values which are very subjective.

## **DECONSTRUCTION POSITIVISM PARADIGM: EDUCATION CASE**

So far, most education aspects are measured from effective-psychological matter in positivism. Causal effect is mostly found in education research. For instance, the correlation between achievement motivation and the achievement of students' outcome, the high interest of student's achievement, the learning effectiveness of final marks, the degree of art appreciation with art marks, the frequency of writing exercise with poetry mark, and so on. The result of the research mentioned is easily predicted, that is, there is a correlation or there is not any correlation. The conclusions from this research can be seen based on causal effect relationship. For example, if the learning motivation is high, it certainly obtains high achievement. In the opposite, if the learning motivation is low, the learning achievement must be low too.

That matter is the same as natural laws adopted from various natural occurrence, such as the water flows from higher land to lower land, the swelling iron if it is in a hot temperature, if there is sugar there, there is an ant, the boiled water if it is heated in 100° Celcius. In other

words, so far the education research is only about certainty process between one variable with another variable.

Whereas in education research can be easily found social facts which the meanings inside are necessarily revealed. For example, Sutrisno is a university student of Architecture Major, Faculty of Engineering, Gadjah Mada University. Sutrisno is declared to repeat the subject of “Room Design”, or indeed, he is not passed that course. Most his friends are surprised, why Sutrisno cannot pass the course. Isn’t he an excellent student! He was determined as a model student because he is very diligent in studying, his marks are excellent, and his achievements are being champion in various Olympiad of science. What’s wrong with Sutrisno?

After research conducted toward Sutrisno, the answer is obtained as follow. Actually Sutrisno did not follow the semester test. He just relied on his mid-semester marks. It is because he got order from a contractor from Jakarta to finish design of ten-floored building. To make the design, he had to take his time that was in Thursday, whereas that day is the day of the “Room Design” test.

In that case, Sutrisno had to choose between two interesting options, they are doing the test or accepting the order. If he chose doing the test, he would not get the worthy experience designing ten-floored building. He thought, that test would still be followed in the next semester although he would be left from his friends. Moreover, his parents were lack of money in the village. His parents belong to the poor. They worked in a market. At that time, they had not work anymore because they had been old. Sutrisno himself had been three months didn’t have money from his parents. Knowing his parents’ condition and for the sake of his future, finally Sutrisno surely chose the order. He did not follow the semester test because he spent his time to do the order. The contractor come to his boarding house and gave him 150 million rupiahs according to their agreement. That money was sufficient to help his parents in the village. Sutrisno also felt proud because although his position was still as a university student but he had been trusted to design ten-floored building. He felt having a worthy experience.

The research of this case definitely cannot be measured with natural principles/laws like the case of water flows from higher land to lower land. It is because there is actual data mentioning that the diligent student will certainly have high marks, but it is not proved. So, if this case is analyzed by positivism, it will not be correct. Therefore, Sutrisno’s case cannot be analyzed by positivism, and it is necessary to try qualitative research (Strauss and Corbin, 1997). Qualitative method tries to reveal the uniqueness of individual, group, society, and organization in daily life comprehensively, detail, and scientifically accurate (Miles and Huberman, 1994: 6-7).

Recently, many critics to conventional paradigm or usually called as positivism arise. Those critics are given because for social and humaniora experts, that ideology is not sufficient anymore (Lincoln and Guba, 1994; Dimiyati, 2000; Fatchan, 2001). Here, it is necessary to conduct a deconstruction toward positivism paradigm. Related to this case that Sutrisno does not pass “Room Design” Course belongs to social phenomenon. In social phenomenon, researcher is not more than one person.

According to Franz Budi Hardiman (2003), a social researcher must enter with a particular way to explain symbolic object, it is by understanding the meaning. But to understand it, he has to participate in a process of obtaining object and symbolic structures. This participation supposes that the researcher has enter this area, a researcher is only a foreigner who wants to understand everything in this area. Therefore, he has to speak, ask, respond, conclude, and see the change, listen the experiences, and following all of them with his awareness. Here, there is a cognitive interest that encourages the whole processes in a social research. In this

case, Franz Budi Hardiman citing Habermas, which mentioned that there is a practical interest aims to get reciprocal understanding between the researcher and the subject. The researcher's position in reciprocal understanding is not to control other people as object, but to understand as the same subjects. If in natural field, the researcher conducts monologue, but in social science, the researcher conducts dialogue. The practical interest mentioned by Habermas encourages to do communication, and with reciprocal understanding, that expects to form a social consensus.

Art education is more difficult. Nowadays, art education is still oriented on ratio development (Giri, 2004), and therefore the developing research on art education also intends to rationality research whereas the purpose of art education especially focuses on its art field and more oriented on the feeling development aspect, not on the ratio. This feeling experience in this relationship is meant as esthetical experience, that is an experience which most influenced by imaginative effort, creativity, subjectivity, intuition, instinct, and political-social-cultural situation. In short, art research mostly includes social science rather than natural science.

It is also important that to describe the characteristics of social science can be conducted through some steps. First, observing human actions as well as their social relations (Castro, 2015). Social science is a knowledge learning about human actions, individually or social. So, which actions? They are actions which a person or a group of people that has been routines or patterns. The regular action will arouse more extending symptoms such as: poverty, prostitution, sexual acts outside marriage, robbing, suicide, feudalism, social exploitation, social conflict, migrant, and so on. There are many various existing problems in a social symptom. For example, poverty has complex problems. They are derived from background causing poverty, the processes during the poor life, the struggle to overcome the poverty, the relationship between the rich and the poor, and so on. The example of those complex problems can be seen based on following factors: state (advanced state or the third world), area (industry or agriculture), profession (farmer or fisherman), ethnicity (Javanese or Maduranese), time (before or after independence), and so on. Thus, if we want to see poverty problems, actually they have factors that influence each other as the causal of poverty social symptoms.

Second, every social phenomenon is dynamic, unique, and specific. Although all regularities in different time are not similar but almost all of each occurrence has specialty (uniqueness). If in natural phenomenon, the relations between causal and effect is deterministic, for example "if there is sugar, there is an ant", but it is not so in social phenomenon. The example of society's impression toward fishermen's life so long are often analogized as poor society. A social scientist will not say "if there is a fisherman, there will be poverty". It has been so long. Now it is not, because if we see the fishermen's residence area in Tuban coast (southern coast of Java), their life are luxurious. Their life level is marked by more than one floored-houses, parabol antenna, cars, and new models of motorcycles owned by fishermen. So, it can be generalized that "if there is a fisherman, there will be poverty", although generally a fisherman lives in poverty. Causal effect relationship in such social phenomenon proves that generalization in social science is difficult to be achieved in high level as that in natural science.

## **CONCLUSION**

Based on that explanation, empirical proof will not be sufficient to reveal a social phenomenon. The empirical method conducted by a researcher either by direct observation or by interview to the informant, actually, can only reveal about existed or visible reality data. As in Sutrisno's case, it is very difficult to be analyzed using positivism. It is because

positivism can only reveal surface phenomenon whereas to reveal what behind that phenomenon cannot be revealed (Basrowi, 2002). In other words, empirical method cannot be able to reveal the meaning, value, symbol outside the reality. Therefore, positivism paradigm needs to be deconstructed for revealing the meaning behind someone's social phenomenon.

Social phenomenon as social reality at least can be seen from the pattern of behavior and someone's transformation toward other people and the natural environment (Collin, 1997). It has been explained previously that if we see social phenomenon of poverty in the society of fishermen with empirical method, it will definitely obtain visible data, such as houses made from wood, the fishermen's children who have low education, unavailability of motorcycle, and so on, whereas, in social phenomenon, we can see the meaning behind that poverty.

To reveal the meaning behind the poverty, we need interpretation method. So, in social phenomenon, the empirically observation will not be enough and it must have the description of reality and the interpretation behind the reality (Elatia, 2012). In the case of poverty, the fishermen as they have been observed that their wooden houses, their children who have low education, unavailability of motorcycle, all are the description of reality. The interpretation about this poverty must raise varied interpretations, such as what background causes the poverty, how the fishermen's society give the meaning of their life so far, is there any effort to release from poverty, and other interpretations.

Many interpretations of a problem, especially the unique and specific one, cannot be reached by positivism paradigm. Therefore, the positivism paradigm should be criticized. Of course those critics aim to investigate the methodology related to the humaniora aspects. Many critics intends to deconstruct positivism paradigm, considering the general laws have not been sufficient yet to see humanity aspects which they contain many uniqueness inside.

The implementation of natural science into social science raises many problems because in social science, it should consider social phenomenon derived from human actions which are difficult to predict through regularities laws as they prevail in natural science. Therefore, when positivism started to develop, the German experts started the discussions to release social science methodology from empirical natural science methodology.

It becomes the clustered background between natural science and social science which are finally separated. Natural science considers natural phenomenon is repeated regularly so that it obtains laws, and it is called 'nomotetis'. Social science considers those occurrences, either conducted by individual and in group, are unique.

## REFERENCES

- [1] Basrowi, S. (2002). *Qualitative research method: Micro perspective*. Surabaya: Insan Cendekia.
- [2] Castro, R. G. (2105). Social sciences' learning outcomes: Mapping course intended learning outcomes to computer science undergraduate student. *Asian Journal of Social Sciences & Humanities*, 4 (1), 2015-224.
- [3] Collin, F. (1997). *Social reality*. USA: Routledge.
- [4] Dimiyati, M. (2000). *Qualitative research: Paradigm, epistemology, approach, method, and application*. Malang: Universitas Negeri Malang.
- [5] Elatia, S., Ipperciel, D., & Hammad, A. (2012). Implications and challenges to using data mining in educational research in the Canadian context. *Canadian Journal of Education*, 35(2), 101-119.
- [6] Enamhe, B. (2014). Art management: A versatile tool for managing and developing visual art education in Nigeria. *Journal of Arts and Humanities*, 3 (2), 81-86.
- [7] Fatchan, A. (2001). *Qualitative research method* (unpublished paper). Surabaya: PPs Universitas Airlangga.
- [8] Giri, E. S. P. (2004). Mengurai benang kusut topik penelitian seni dan pembelajarannya. *Imaji: Jurnal Seni dan Pendidikan Seni*, 2 (2), 215-224.
- [9] Hardiman, F. B. (2003). *The post of positivism and modernity: Philosophical discourse of the scientific method and the problem of modernity*. Yogyakarta: Kanisius.
- [10] Lincoln, I., & Egon, G. G. (1994). *Naturalistik inquiry*. London: Sage Publications.
- [11] Miles, M. B., & Huberman, A. M. (1994). *An expanded source book: Qualitative data analysis*. London: Sage Publications.
- [12] Ritzer, G. (Ed.). (2000). *Handbook of sociological theory*. Singapore: Mc. Graaw-Hill.
- [13] Strauss, A., & Corbin, J. (1997). *Basic of qualitative research: Grounded theory procedures and techniques*. Surabaya: Bina Ilmu.