

PROCEEDING INTERNATIONAL CONFERENCE OF ISLAMIC EDUCATION:
"INFORMATION TECHNOLOGY AND MEDIA: CHALLENGES AND OPPORTUNITIES"
FACULTY OF TARBIYAH AND TEACHING TRAINING
UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG
NOVEMBER 23-24, 2018
P-ISSN 2477-3638/ E-ISSN 2613-9804
VOLUME: 3 THE YEAR 2018

THE CHALLENGES OF ISLAMIC EDUCATION IN THE INDUSTRIAL ERA 4.0

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Abstract. Today, the world has come into the Industrial Era 4.0. Everything is digital. Important information is very much provided, including the information related to Islamic Education (PAI). There have been changes and shifts on both sources and methods of learning PAI. This paper discusses the problems and challenges of PAI in the industrial era of 4.0. It is carried out in the interpretive paradigm with a qualitative approach through document study and content analysis. Industry 4.0 is the development of digital information technology which results in vertical and horizontal interconnectivity within one and among organizations, inter-region, and inter-continents with a no-time-limit in the flow of information and decision making. Technology becomes an unconscientious giant, a human creation which controls over human beings. There are major changes on the concept of values and teachings which will mainly become the focus of PAI.

Keywords. Islamic Education; Industrial Era 4.0

A. INTRODUCTION

In case somebody wonders what in this life is eternal, one of the answers is a change. Changes keep happening and they cannot be resisted. Charles Darwin argues that only survivors can adapt to change. Living things evolved to adapt to environmental changes. If PAI is such a living creature, it has to adapt to the changes to survive and to be relevant for every era. We all realize that Islamic Education (PAI) is highly important. Thus, we need to understand the stages of change and identify the threats, problems, challenges and opportunities.

Observing today's changes, Poli (n.d.) divides the stages of change into four. Phase 1 is production mechanization through water and steam power. Phase 2 is mass production, the application of assembly line, and the use of electricity. Phase 3 is the use of computer and automation. Phase 4 is the development of a cyber-physical system which results in vertical and horizontal interconnectivity within one and among organizations, inter-region, and inter-continents with no-time-limit in the flow of information and decision making.

B. METHODS

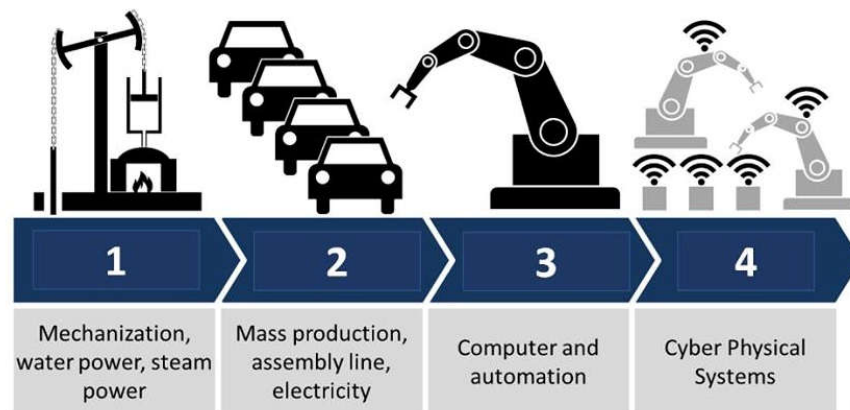
This research is carried out under the interpretive paradigm. It employs Qualitative approach. This type of current research is the document study. Data analysis is conducted through content analysis. The analysis steps are: 1) collecting references related to research themes, 2) understanding the important points of each reference, 3) comparing them among one another, 4) categorizing several important points over the reference, 5) linking categorization results, 6) writing down the result of the categorization for the discussion, and finally making conclusion. A validity test of the data analysis result is conducted by comparing the research sources and data analysis. Data presentation is provided in the form of word and sentence descriptions.

C. RESULT & DISCUSSION

The term "Industry 4.0" first appeared in the Hannover Fair 2011. Then, in the Hannover Fair on April 8, 2013, the Working Group 4.0 explained the term 4.0 in more detail. The term refers to the stage of development of the industrial revolution which is now reaching the 4th stage.

Industry 4.0 is the development of the previous three stages. Phase 1 is the stage of production mechanization with water and steam power. Phase 2 is the stage of mass production, the application of the assembly line, and the use of electricity. Phase 3 is the stage of computer use and automation. Phase 4 is the stage of cyber-physical system which raises vertical and horizontal interconnectivity within one and among organizations, inter-regions, and inter-continent, with no-time-limit in the flow of information and decision making (Poli, n.d.).

Four Stages of Industrial Development



Poli (n.d.) writes that the knowledge of human beings in the XXI century to continue and improve their life has increased tremendously. The information that has been collected can no longer be managed by the human brain. Humans need "extra brain," and they created it called "artificial intelligence."

Computers can be programmed to play chess and defeat humans. Doctors use computer services to diagnose patients' disease and cure them with high accuracy. A large number of products with "artificial intelligence" are spread everywhere, which can be uploaded and downloaded from any places by anyone in seconds. Interconnection is a reality with a variety of possibilities in the future that no one can imagine now. In this system, there are billions of information producers and consumers, and no party can control it.

If we have a look at the recent development, we can identify the following challenges of PAI in the industrial era 4.0:

1. The separation between the sacred and the worldly fields. For example, the separation between religion and the state, religion, and politics, or the separation of material and spirit manifested in a physicist or economist who will not speak about religion in their scientific work. Physics and economics are reduced to numbers, while materials and spirit seem incompatible on their eyes (Shimogaki, 2012).
2. The tendency towards reductionism. Materials and goods are reduced to their elements. This is explained in Newton's physics and homo-economic in modern economics.
3. The separation between subjectivity and objectivity. For example, the social sciences refer objectivity into the necessity that leads into definite reality, (the influence of positivism which leads to the status quo and the domination of truth).
4. Anthropocentrism. It appears in the concept of democracy and individualism (this is the influence of Rensdescartes rationalism with free individual jargon or human subjects which will become the center of world civilization).

5. Progressivism, represented by Marx, and also widely believed as what happens to the advancement of science and medicine.
6. There include many producers and consumers of information in decision making that go over national sovereignty. They are not responsible to any government. There is no national or international legal system that can control the sovereignty of the vast information over the areas in which it is spread. The national confidential information system can be easily hacked by young hackers.
7. Technology becomes a giant who is not conscientious, an unconscientious giant, a human creation which controls over human beings. The situation is not similar to that in the first three stages, where humans are creators and controllers over the technology created.
8. The fundamental questions in the "Industry 4.0" environment are whether happiness is a sign of a more meaningful life and whether the 4th technological societies are happier than those in the first three. Happiness can indeed be influenced by the 4th technological environment, yet the source of human happiness is more subjective. Happiness is a spiritual atmosphere in which humans can act according to their will and ability, based on certain values they hold, which actions are accepted by others, and who they interact with. Happiness is in the relationship of "I AND You" as the relation of a subject and conscientious subject. It is not static, but dynamic, a changing relationship from time to time (Poli, n.d.).

Industrial humans in the stage 1, 2 and 3 undergo environmental destruction, hunger, inequality of prosperity, population explosion, racial discrimination, inequality over technology and knowledge development, world polarization, economic crisis, domination of powerful state power, the threat of nuclear war, and so on.

According to Koruda (Shimogaki, 2012), the cause is the existence of dualistic thought, such as the large-scale technology development and the combination of anthropocentrism and progressivism including rationalism and scientism.

Dawam wrote that it is the impact of the understanding of the *Aufklärung* (enlightenment) movement developed in Europe. This movement rewards reason, spiritual freedom, and secularization of religion and the state. The implication of education is the handover of education management to the state, not religious institutions (mosques, surau, churches, etc.).

Furthermore, even though the door of *ijtihad* has been widely opened (many also argue that it is basically never closed), religious knowledge, especially that of *fiqh* and *kalam*, is and has not been brave enough to approach the door. Strictly speaking, jurisprudence and *kalam* influence the way of thinking and believing, while social institutions of Muslim communities are not yet brave to come over. They refrain from touching and having direct dialogue with new sciences that come up in the 18th and 19th centuries such as anthropology, sociology, culture, psychology, philosophy, and so on (Abdullah, 2002).

Abdullah (2002) continued that the academic anxiety of scientists, especially contemporary Islamic Studies, can be illustrated through the perspective of social theory, Great Tradition and Little Tradition and history of continuity and change. Social, economic, cultural, scientific and legal changes in Islam related to that of non-Islam international always involve an intensive dialectic process between "Great Tradition" in the realm of thoughts, concepts, ideas, theories, beliefs, and "Little Traditions", which are areas of practical application in the concept and ideas and presentations and ideas. It happens in the concrete areas of life over certain cultures and historical pieces. The change will occur when the upcoming new traditions have greater strength and impetus. If the new tradition only has the strength while the driving force is smaller than the previous scientific trades, what happens is the absence of change (Status Quo).

It works the same as that in religious science and Islamic studies, even more. Even though there has been a great change, it is not simply cut off. It is closely related to the old scientific traditions. This is the advantages and complexity of discussing reasoning in Islam. There is still ongoing sustainability with the old scientific tradition despite the emergence of a new paradigm. Thus, the process of continuity and changes is still visible within religious knowledge.

At the same time, the lecturers or teachers who teach Islam in the elementary school (SD/MI), junior high school (SMP/MTs), senior high school (SMA/MA), and higher education still do not understand well the fundamental issues, such as the theoretical framework, paradigm, approach and related aspects. They might teach scientific branches of Islam (Direct Islamiyah) which can be very detail, but they lack understanding the basic assumptions and theoretical framework used by the science building as well as the implications and consequences over the religious social praxis. Moreover, to be able to do comparisons among various epistemological systems of Islamic thought and auto-criticism of scientific buildings commonly taught for further development. Not to mention the ability to relate the basic assumptions, theoretical frameworks, paradigms, approaches and epistemologies possessed by scientific discipline and that of others to expand the horizon of scientific analysis.

Moreover, it is also related to the development of philosophical discussions of science in the post-positivistic era. In this era, there is no single scientific building in any area, including religious area, detached and not related at all to the cultural, social and even socio-political issues underlying the emergence, compilation process, and the work of scientific paradigm. Thus, today the philosophy of science cannot stand independently. It needs to be side by side and discussed with the sociology of science.

The absence of contact and dialogue between the philosophy and sociology of science will result in the sanctification of religious thought (*Taqdis al-Afkar al-Diniyah*) within the Muslim community among lay people, activists of social and religious movements, and teachers in SD/MI, SMP/MTs, SMA/MA, religious colleges, and public universities. It may happen only due to differences of the theoretical, methodological, and epistemological frameworks and the depth of literature employed by Muslim leaders. Through different thought, they easily apostate, accuse, or even justify the blood of others. The phenomenon of *taqdis al-afkar al-diniyah* is easier to ignite the emotion of individual and group than their ability to ripen personality, foster integrity, and improve their scientific thought.

The greatest possibility which might be proposed as a reason for the drought of Islamic scientific sources as previously discussed is due to the lack of studies and books specifically compiled for the area of scientific philosophy and epistemology of Islamic Studies or *Ullumuddin*. The discussion is deliberately avoided because the area is more conceptually philosophical (Pure Science). The discussion is more complicated and simple than that in teaching of the well-established practical science which only needs a simple effort to memorize and practice in everyday life. It is common that the discussion of scientific philosophy is very much avoided by the fuqaha and *mutakallimun* because they believe it will bring people into confusion.

D. CONCLUSION

1. People in the industrial era 4.0 has relied heavily on digital technology. The formation of noble living values for which religion is responsible has been taken over by the digital system because religious teachings are obtained from digital information, not the teacher. The students of PAI do not feel positive energy directly from the teacher who is full of prayer.
2. Islamic Education emphasizing on the habituation of noble values will be difficult to achieve because students come into the preoccupied world whose laws are like a jungle. They are free to talk about what and to whom they want regardless of age, group, expert or, even layman.
3. Even though the industrial era 4.0 has come over, the reasoning of PAI tends to be *binary opposition*, which conceptualizes values only from two dimensions, such as white-black to the point of not recognizing other colors (incomprehensive). This kind of distortion may let the participants never understand that this life problem is not only two dimensions but diverse and many.
4. Even though it has entered the industrial era 4.0, the practice of PAI is dominated by a particular group of people. The school we imagine as a 'friendly park' to learn instead

becomes a tense and even frightening source. Moreover, the teacher who is sometimes killer with monotonous, shackling, and out-of-date teaching method. It leads students to be restricted to develop their potential. They will only become the followers of all the less-creative teacher's speeches.

5. Even though the industrial era 4.0 has been right living with us, PAI teaching materials are lack of dialogue, touch and respond to the development of modern sciences, including the science of the industrial age 4.0.

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