

PHENOMENOLOGY OF DIGITAL CULTURE IN THE EDUCATIONAL AREA

An Epistemological Review

Muna Yastuti Madrah

Dosen Prodi Sejarah dan Kebudayaan Islam, Fakultas Agama Islam
UNISSULA

munamadrah@unissula.ac.id

Ahmad Muflihin

Dosen Prodi Tarbiyah, Fakultas Agama Islam, UNISSULA
a.muflihin@unissula.ac.id

Abstrak

Teknologi digital telah membawa budaya baru ke kehidupan manusia. Salah satu budaya yang terbentuk oleh teknologi digital adalah *cyberculture*. Sebuah dunia baru yang lahir dari teknologi digital, ruang yang dipenuhi dengan manusia yang saling terhubung satu sama lain. Teknologi digital telah memungkinkan dunia untuk dimampatkan dalam sistem, jaringan, dan koneksi yang memaksa manusia modern untuk tetap selaras, ini termasuk juga dalam dunia pendidikan.

Bagaimana fenomenologi melihat budaya digital dalam pendidikan? Artikel ini mencoba untuk memberikan gambaran umum tentang epistemologi budaya digital dalam perspektif fenomenologis. Mengapa fenomenologi? Fenomenologi sebagai pendekatan dapat memenuhi fungsi penting dalam penelitian teknologi. Fenomenologi memberikan teori dan filosofi dasar dengan metodologi dan metode yang konsisten; Selain itu, fenomenologi memberikan panduan yang jelas seperti bagaimana menentukan sumber informasi, pengumpulan data, analisis, dan validasi. Secara umum, ini memperkuat dasar penelitian kualitatif di bidang pendidikan dan teknologi (Cilesiz, 2011).

Artikel ini menginisiasi upaya untuk lebih mengeksplorasi studi budaya dan teknologi khususnya di bidang pendidikan. Penelitian tentang teknologi pendidikan akan mendapatkan keuntungan dari peningkatan penggunaan pendekatan kualitatif, yang akan sangat berguna untuk mengeksplorasi fenomena dan perkembangannya dan memperkaya temuan.

Kata kunci: *Budaya Digital, Fenomenologi, Epistemologi, Pendidikan*

Introduction

Digital technology has brought a new culture to human life. One of the cultures formed by digital technology is cyberculture. The emergent "new world" was born from the digital technology, a "new space" filled with the passing of connected human beings to one another. Digital technology has enabled the world to be compressed in systems, networks, and connections that compel modern humans to keep aligned, this is including the world of education.

The virtual world is built on hardware connections and is controlled by digital technology-software. This virtual world also has complex and complicated problems, since the connections built are not only based on physical interaction but are also connected by data networks and images mediated through screen computers or tabs, pods, pads and similar devices.

The author wants to take the educational world as an example to see the phenomenon of digital culture. In general, people still believe that education is a means to achieve a better civilization. In addition, the real world of education has a far-reaching leap (in terms of learning tools), learning processes and learning patterns or, if possible, a large-scale migration from the analog world to digitizing education.

In this era, digital technology is seen as a bridge to the "unfamiliarity" of educational services. Not only on the availability of online classroom "spaces", affordability, availability of a "system" and other development at a lower cost. This technology has "forced" some community groups to adapt and acculturate with digital culture.

Digital technology has enabled the classrooms to be "built" in cyberspace. Teacher and student interaction does not have to be face-to-face anymore. "Presence" and "space" are no longer objects in a material form or at least "presence" and "space" is no longer understood as such. It can be said that there is no side of modern life that is not touched by the leap of information technology.

Understanding people and or society in the digital age, not only understand individuals or groups of individuals as human beings but as technologically interconnected and connected individuals. Do those who follow on the structures built by this technology, are immediately referred to a digital society?

Martin (Martin WJ, 1995) in the Global information society still questioning whether ICT technology will adopt social patterns in society or vice versa that society must adapt its social patterns to fit the technology?

Times have spawned "net" generations who are born in the world of digitization. Children born after 1980 are called digital natives (Palfrey & Gasser, 2008). They were born when the technology is already there and is being developed. These digital generations have many names, Y generation, net-generation, generation @, or whatever they are tech-savvy generation and capable of using other learning approaches than the previous generation (von der Heiden, Fleischer, Richert, & Jeschke, 2011).

While previous generations who were "forced" to adapt rapidly to this change are referred to the term of digital immigrants, these "immigrant" must inevitably follow the rhythm of digital natives, in order to remain capable of being a role model. One-way presuppositions in determining the relationship between technology and the role of teachers or institutions - technological change forces educational institutions to address new populations of learners, and if in the context of teacher education considered as digital immigrants really want to reach digital natives, they have to be able to transform (Barnes, Marateo, & Ferris, 2007)

However, categorizing the digital natives and digital immigrant also seems less precise. It put us in the terminology of binary opposition. As an example, if "the native" is assumed as the future, and the immigrant is the past, putting both on the subordinate structure (Bayne & Ross, 2007), structurally inherent structure that teachers are slow, obsolete and dependent on analog (print) technology.

This article tries to look at the phenomenon of digitalization, how the culture of information and communication technology (digital culture) is a part of everyday culture.

To understand how digital culture is becoming a part of our daily life, it is important to know the individual's experience in using and or interacting with technology. Since, experienced with mediated devices are substantially different from direct interaction (Jonassen, 1984). Thus, the result of a phenomenon or perception of consciousness is also different.

For example, The teachers, having experience using technology, in general, is a phenomenon different from traditional forms of teaching

and learning. It is a necessity or a need for experience with media and technology in depth to understand how digital culture is built into the learning and teaching process.

How does phenomenology see digital culture in education? This article attempts to provide an overview of the epistemology of digital culture in a phenomenological perspective.

IT Literacy (Should We?)

Information and communication technologies, in general, have seen as factors that influencing globalization processes or as components that shape contemporary society formation (Brown, 2009). The academic study of digital and educational technology today presents many opportunities for further exploration in the pedagogic, social and cultural dynamics fields inherent in the culture of education. It is still very rare to pay attention to the characteristics of the technology itself.

Digital technology is seen as a solution for communication that is constrained by distance. This technology enables the production and distribution of information as well as digital artifacts in the form of text, graphics, sound, and video. These artifacts move from one place to another where the shape may be fixed or it may not. The meaning of any information and re-reading may be different. Brown provides an example for example in the education system in the UK, displaying the work of students is one way to celebrate the achievement of individual students and will be very different when applied to other classes in Indonesia. This contextualization is a transformation as a practice that is picked from one network of meaning, or culture, and substituted in another.

There is a very strong reason to believe that digital technology will have a lengthy impact as the printing press affected learning and literacy. However, technology cannot change the learning process and literacy through itself but it is related to other economic and social factors.

As the example above, the literary changes took place several centuries and occurred not only because of the invention of the printing press but also because of Protestant reform and the industrial revolution. Castells (Castells, 1996), stated that this digital transition

may be faster than the printing press transformation process, but will not happen instantaneously as well.

We see some symptoms in the first literacy process related to what is needed by students to learn in digital classrooms (virtual class). The role of some organizations and perhaps individuals per person are being replaced by a set of information systems.

Information technology literacy (IT literacy) refers to the ability to define what information is needed, knowing where that information is? place it efficiently, access it again, criticize and access it legally and ethically (Kennedy, Cavanaugh, & Dawson, 2013). The reality for digital natives, they are born where "the world" has provided access to this technology. Castells explained that the ability to transform information into knowledge using new technology can be considered an important factor contributing to wealth and power at both the individual and national levels (Castells, 1996). However, a qualitative study of Margaryan et al., suggests that there is no evidence that the current generations adopt and follow technological trends radically. The attitude of the students is more influenced by the methods used by teachers (Margaryan, Littlejohn, & Vojt, 2011).

Complementing Margaryan's research, Chaves, et al (Chaves, Maia Filho, & Melo, 2016) argued that the educational approaches should demonstrate a commitment to cultural conservation, which is aligned with the advancement of knowledge, professional training, and social justice. Thereby, placing "teaching" in the position of being a mediator in conservation and production of knowledge. It can happen through appreciation, personal meetings, face-to-face, confronting and resolving conflicts. It is a healthy environment if students and teachers are experiencing the classroom as a space of cultural exchange. A learning experience that bound the sensitivity of humanity.

Categorizing cross-generational status using the concept of digital immigrant and digital natives (Palfrey & Gasser, 2008) is problematic. By placing two groups in binary opposition, it will create a discourse that places the teacher's position as "difficult to change" and forced to change to remain competitive and to be able to continue to work professionally. On the other hand, teachers in terms of age are considered old enough to adapt to technology and are forced to adopt new methods of learning that place themselves as subjects to technology in order to stay in their professional positions (Bayne & Ross, 2007). As an example shown in table 1.

Tabel1. Immigrants and natives in the binary opposition

Teacher	Student
Slow	Speed
Old	Young
Past	Future
Logical, slow to decide	Multitasking
Textual	Image
Serious	<i>Playful</i>
Want to know (before)	Want to know (next)
Analog	Digital
Knowledge	Action
Isolated	Always connected

This discourse becomes a paradox that gives deep meaning to the personality and in positioning the generation. Immigrants, however, cannot be a native or at least can never match the natives. Changing the media environment (in this case the learning environment) impacts on how we are shaped as subjects either as students or teachers. Each generation basically requires educators to rethink projects and goals of education for the conventional or virtual education.

Simplifying the categories of teachers and students as immigrant and native will have an impact on the teacher, student, and technology relationships.

Wang et al offer an option to see the relationship between immigrant and native more as a continuum relationship than a rigid dichotomy between the two. The concept of the continuum has seen as a digital fluency, that is the ability to formulate knowledge and produce information to express them creatively and precisely in a digital environment. Wang et al. (Wang, Myers, & Sundaram, 2013) proposed a tentative conceptual model of digital fluency, outlining the factors that have direct and indirect impacts on the digital fluency of demographic characteristics, organizational factors, psychological factors, social influences, behavioral intent and actual use of digital technology.

The use of digital technology has blurred the classic differences between producers and consumers. Sociologists would need to move their research agenda into the new arena as well as deepen the

understanding of the way circulars of cultural objects (or now, electronic files) and contribute to cultural production processes.

The question of how people use new technology for cultural work and what role these practices play in everyday life is increasingly important to learn creativity in everyday actions. Similarly, the question of the balance of power and control in the cultural field, which, though dominated by a small number of conglomerates but whose reach is as wide as the network itself, is almost unlimited.

"Digi Culture"

The world of knowledge "is used by people in daily life, on special occasions, or in solving problems and giving meaning to the world around them. Culture, in this context, is studied since the birth of man, then unconsciously people make their model of impersonation itself, expressed it in their own "language". This is not a one-time process but very flexible and ever-changing. A long life process and strongly influenced by the individual's life experiences. The culture then becomes the essence of creating a "sense of belonging" and human identity.

When people come into contact with the new elements, it will affect the patterns that have been formed within and modify the knowledge that already owned. For example, the presence of new technology will require changes and adjustments of relationships from various disciplines and their impacts in everyday life both for individuals and society. The technological revolution will result from a cultural revolution, for example in the invention of the steam engine and the printing press (Mariella Combi, 2016).

Technology, in this case, does not mean just a set of devices, tools or furniture. Technology is the relationship between humans, tools, and knowledge. Culture as a building of communication actions. Communication that individuals or groups can use to represent themselves to the world through norms and values.

Technology has a very wide impact on society, culture, and way of life. For the examples, the printing press changed the mass communication culture- Mc. Luhan 1962, Clock mechanics formed capitalist and mode of production - Mumford 1943 Iron ax change the relations of Aboriginal people in Australia. Similarly in the world of education, the use of computers for writing has changed the way of writing -Bangert-Drowns 1993, Web 2.0 Technology introduces new ways of teaching and learning by offering ways of producing and

sharing information via the Internet -Lie Et al 2008; Maddux et al 2008; Stevenson and Liu 2010 (Cilesiz, 2011).

It is important to know the experience of individuals in using and/or interacting with technology, since experience with mediated devices will be different from direct interaction, and therefore the outcome of a phenomenon or perception of consciousness is also different (Jonassen, 1984). For example having experience using technology, in general, is a phenomenon different from traditional forms of teaching and learning.

It seems that using individual experience approaches in educational and technological research is still rare, although conceptually and methodologies of increased utilization in using this approach will also enhance the research contributions in technology and education while contributing to the diversity of methodologies in educational technology research.

The study of educational technology has contributed to our understanding of the technological relationships and teaching and learning process. At the same time a discussion of how technology impacts the communities and individuals that are currently being studied. This need is reinforced by a review of this field and a challenge for further research. For example, we need to improve our knowledge of new teaching experience and technology and how this experience influences in teaching practice and how students learn (Thompson, 2005) or technology services in education (Roblyer & Knezek, 2003). Furthermore, research on educational technology will benefit from the increased use of qualitative approaches, which will be very useful for exploring phenomena and their development and enriching the findings.

Phenomenology as an approach can fulfill important functions in technology research through (1) phenomenology allows us to study of experience with technology in depth comprehensively (2) phenomenology provides a framework for the research agenda about experiencing using technology (3) phenomenology provides basic theory and philosophy with consistent methodology and methods (4) phenomenology provides clear guidance such as how to determine the source of information, data collection, analysis, and validation. (5) In general, it strengthens the basis of qualitative research in the field of education and technology (Cilesiz, 2011).

However, so far phenomenology has not been offered as a research methodology in research in the field of educational technology. Cilesiz offers a research agenda that focuses on technological experience as well as philosophical groundwork, methodology and how to apply it in a study using Husserl's view of offering two concepts about the experience:

1. Capture the objects, thoughts or emotions through the five senses and mind
2. participate or engage in activities (objects), concoct (leading) knowledge and skills - this concept shows the relationship between experience and education.

Namun demikian, sejauh ini fenomenologi belum ditawarkan sebagai method

The Phenomenology of Technology

In order to see how the relationship between individuals and technology, this article attempts to look at using the phenomenological approach developed by Martin Heidegger (1889-1976) student of Husserl's. Heidegger made technology a central point in his philosophy and considered technology as an ontological problem. Heidegger tries to reveal the essence of technology so that we can establish relationships freely. Technology according to Heidegger is not just a tool, but is a way to express themselves from reality, if we provide opportunities then the other space of technology will open itself to us (Heidegger, 1977).

Tracing the thoughts of Heidegger, we will not escape his work *Sein und Zeit*. Heidegger's great work uses Husserl's phenomenology to investigate the structure of human existence. According to Heidegger, classical epistemology is dishonest to the existing reality. We do not observe the world from a distance, because of we, ourselves are an inseparable part of the world, even our existence cannot be understood except in certain "world". If we reflected more deeply, the ultimate mystery is not really knowledge, but about existence. So according to Heidegger, the way to discuss existence is through a phenomenological analysis of what we realize when we realize our existence. Heidegger argues that it may be that we are longing for the basis of metaphysics as the basis of our lives, unfortunately, according to Heidegger there is no guarantee that this foundation really exists objectively, if the foundation is true does not

exist, our life may, in fact, be meaningless (absurd), and even if meaningful then it is the meaning that we make ourselves. It is not the amount of information that comes in our head that is essential to direct our lives in a fundamental way, but according to Heidegger how to understand the depth of the problem for our existence (Hardiman, 2016).

In this increasingly sophisticated age, the debate between whether a "digitized" object is seen only as a tool of humanity or a part of a human being?

This can be explained, for example, the function of computers has changed from computing to information and communication processes. Computers have become indispensable tools in various social and economic interactions in the contemporary world. As a result of the expansion of computerized trends, we have been producing exchanges and using many "digital text" in everyday life.

For example, when I wrote the manuscript of this article using a computer that has with the software of Microsoft word program, I may put digital photographs, putting them in a draft script means I'm creating a digital text. When I was tired I left my article, then I opened a virtual Pokemon go game, I had to catch strange virtual animals scattered around my neighborhood, where the environment was real. Roads, trees, houses, power poles have all been digitized in a virtual map.

We come to the fundamental question of whether my article or the animals I capture in the Pokemon go game exists. Since I am writing on an article (my script exists), I am collecting a point from the number of virtual animals I have captured. Is it true that these things are not things because they have no material basis? not real, not in a place and time that is objectively determined?

Although the existence of a digital object is not a physical existence (matter, being), it has many characteristics as possessed by objects (physical) such as substance, extension, and other real things. Phenomenology needs to see the emergence of digital communication technology. The relevance of phenomenology and the digitization of information becomes apparent, as we realize that the development of new technology (computerization) is centered on the phenomenological emphasis of intersubjection between "*Dasein*"- "becoming exist" in the world-as-is the concept of Heidegger, the interpersonal relationship of concepts and bodily signification of Arendt-Husserl and the relationship between the thing (thing) and

human, the composition of tools and others (Kim, 2001). Knowledge of Phenomenology and technological philosophy may not fully take into account the characteristics of the "thing" we call "digital" because the ontological character of "digital" has not been explored much. These features cannot be explained by the classical phenomenology of Husserl, because of the unique characteristics of computerization and the digitization of information in the late 20th century. The early concept of phenomenology is a concept or method or means of investigation. phenomenology does not question the characteristics of "what" as the object of philosophical research but rather the "how" of the study.

Kim (2016) tried to explain the relevance and limitation of phenomenology in seeing digital "beings" by looking at 3 points: (1) digital presence is something new, because "digital" has many features and can be used as tools, (2) digital existence is not an object because it does not relate to space and time, it can last forever, or disappears quickly and can appear in several places at the same time (3) through a computer network that enables *Dasein* to communicate their life experience in the format of "digital being" - *Dasein* can connect to others, interact and live in the "world" - through the "web" *Dasein* can be with others and be in the world.

Kim refers that this so-called digital being has two functions. First, the informative function of providing sensory data, sound, image and the second function is an executing function that contains tools and handiness, - This execution function is often referred to as a computer program and a set of computer programs referred to as software.

For more details, digital is not a physical object, but nevertheless, it has some features that resemble a material object. Digital has a certain degree of endurance, sustainability and extension that Husserl calls the "unity of circumstances" and universal passive pre-giveness and which Heidegger understands as "the real thing" and self-sameness (Hardiman, 2016). For example, in a 3D game of 3-dimensional golf, we can manage how to see the ball, measure the visibility (basically the ball, the golf course, the stick we imagine to be so-self-sameness) as physical objects. When the "we swing" stick to hit the golf ball, it will sound as if the stick "really" hit the ball. To swing the stick we need to play the mouse hold the mouse for a moment, and release it as if playing the hand and arm motion as like we play golf. Digital existence has a certain endurance that allows us to use it

continuously as our treatment of physical objects. Digital existence also has degrees of continuity, color, surface texture, light effects etc. This digital being not only exist on a particular computer program, it also exists on a computer network and in cyberspace, apparently all available in the current World Wide Web.

In addition to its ability to "be" (resemble) objects, there are other reasons why we can incorporate digital into "quasi" objects (quasi-like) -the body-and the presence of digital "being" is not necessarily a sign. In other words, digital existence is not only a sign or symbol for other things but it also exists for itself. Referring to the three types of Heidegger representations, the digital presence is closer to the "bodily presence".

Digital technology allows virtually everything, because of it capable to produce objects from human perception. However, this digital being can not also be properly named as part of 3 types of Heidegger representations of "bodily presence" - "empty intending" and perception of the picture (perception from an image).

Heidegger's explanation of Bodily Presence is when we see the tree in front of us, the tree is its form, the tree represents itself. On the contrary, the concept of "empty intending" refers to the situation in which we talk about the "tree" imagining it, or even hallucinating the tree without it being present before us. In this case, the tree is present in the conversation and the imagination does not actually exist. The third concept of Heidegger is "perception of a picture" - the perception of the image which Heidegger refers to the semiotic representation. According to the theory of semiotics, that sign (sign) must have a material base, because the sign must be felt by the body. Heidegger clearly gives an example eg a postcard is an object such as a tree, table, chair etc. But the postcard here is not just an object - unlike natural objects, an image exists for the existence of other objects. For example, the image of a tree present in the electronic postcard and sent by email is a "picture" that shows a picture, or in my observation see a picture (tree) through the picture (postcard) (Kim, 2016).

However, not all digital beings are "picture things". For example, balls and sticks on virtual golf performances, in contrast to landscape photos in certain areas, we do not see another image (representation) of the ball through the golf ball. We play not with "signs" but we play with the ball itself. In other words when we hit the ball on a virtual golf game we are not hitting (thinking is hitting)

another golf ball in real life. The same thing we find in virtual games in programs or apps that use graphic user interface.

It quite different when the United States soldiers controlled long-range missiles at computer-generated bay wars, what appeared on a computer screen was a "picture thing" or a sign representing a real state. Or when we are on an airplane and watching on the screen in front of us the current position of the aircraft, is a sign that represents the real state. When we write a script using a computer, what we see on a computer screen is our script, not a representation of our script. In short, some of the digital products can be called a "picture thing" (he represents other objects out there, but digital beings can also enter in "bodily presence" and empty intending.

Characteristics of the computer as a "tool" is different from other tools because the composition of the device depends on the program owned. By borrowing the terminology Heidegger can be said that the computer is a tool to work (*Werkzeug*) through the "software" in it that will determine the ability (handiness) (*Zuhandenheit*). In other words, we actually work not using a computer but using digital. We use computers to be able to use "digital" instead of the other way around, without a digital device, the computer is just a device without meaning. The function of the computer is not determined by the physical appearance of the computer but is determined by programs or software consisting of codes that can be read, understood and executed by the computer.

Conclusion

From a study of literature that has been done, there was a little research with phenomenology approach in research related to education and technology. The research that has been done, among others, is the first experience using the computer, the in-depth findings explain the structural aspects of first-use computer experience including, feelings, involvement, self-awareness, and attitude (Howard, 2006). Another study conducted by Cilesiz's (Cilesiz, 2009) examines how adolescents experience using computers in an informal education environment that describes the essential essence and implications for adolescent development and formal education policy. The author proposes the existence of further research for example in terms of how the experience of teachers in each stage/process of adopting technology so that the teaching

culture will contribute in the theory of technology integration. Phenomenology provides space for the study of culture and technology.

Research on effective technology integration practices is also a study that has not been much explored. This article initiates the study of phenomenology in the digital realm. For example, by selecting teachers who have successfully integrated with technology and researching their students, the life experience of effective technology integration can help identify the meaning of experience that is an effective practice of the opinions of teachers and students themselves.

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