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The Problem of Deep Communication in Contemporary Ethics Education

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ABSTRACT

Contemporary developments in the fields Nanotechnology, Biotechnology, Information Technology and Cognitive Sciences (NBIC) have brought about industrial revolution 4.0 and society 5.0 which promises prospect of dramatic progress in human life but also risks complicated ethical issues and ethical dilemmas. It is therefore important to know how future generations will address these ethical problems and ethical dilemmas. Ethics education for Millennial and Generation Z is currently at stake as they will be the ones who will be involved in the development and application of those sciences and technologies. This research article aims to explore how the problem of declining deep communication essentially occurs in contemporary ethics education. To reach the aim, a traditional literature review in conjunction with qualitative meta-synthesis method was applied. The result shows that effective ethics education requires ethical discussions that take the form of deep communication to link its participants' value systems. However, rapid development and frenzied use of digital information and communication technology (ICT) tend to influence Millennial and Generation Z more outward-oriented, accustomed to shallow communication, and eventually drown into weakened ability for deep communication. Recommendation to anticipate the problem is to intensively deploy creativity in using the digital information and communication technology (ICT) to provoke the emergence of the power of inward orientation through intrapersonal communication and self-reflection.

Keywords

Communication, deep communication, ethics, ethics education, information and communication technology (ICT)

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INTRODUCTION

It is very obvious that science and technology have had a great influence on society since modernity began in Europe and spread throughout the world. But only through the extensive practice of capitalism and industrialism could a modern society be built (Giddens, 1991). Five elements of development were thus at play in the formation of the modern society, namely science, technology, society, capitalism and industrialism. Those five elements were intertwined and influenced one another. The history showed that the development of science and technology was inseparable from the invention of the steam engine that marked the first industrial revolution of the 18th century, but the first industrial revolution in turn influenced the scientific research developed after it (Bunch and Hellemans, 2004). The first industrial revolution transformed society from what was originally

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a hunter-gatherer society (society 1.0) and an agrarian society (society 2.0) to an industrial society (society 3.0).

Under capitalism, the increasingly prosperous industrial society facilitated scientific research and brought about numerous technological innovations (Bunch and Hellemans, 2004). The invention of electrical technology and its widespread use at the end of the 19th century brought about a revolution in technology, transforming an industry that previously used steam engines (industry 1.0) to an industry characterized by mass production using electrically powered engines (industry 2.0). The rapid development of digital computers and software in the mid-20th century transformed the industry further into an industry that adopted machine automation and production robots (industry 3.0). And recently, the dramatic developments of contemporary information and communication technology in the end of 20th century have caused disruption in various industrial sectors, a pressure to take advantage of the development of intelligent machines, large databases, and internet connections between smart devices (industry 4.0). These recent developments are shaping the convergence of nanotechnology, biotechnology, information technology, and cognitive sciences (NBIC) which has the potential to create great power to enhance human performance (Roco and Bainbridge, 2003; Canton, 2004). Society that already has high digital literacy (society 4.0) is going to shift into a society with super-enhanced cognitive abilities (society 5.0).

Some approaches are currently being taken to build a society 5.0. Deguchi et.al. (2020) characterize society 5.0 in four parallel aspects of society, namely: human-centered, knowledge-intensive, data-driven, and merging cyberspace and physical space. Salgues (2018) envisages society 5.0 optimistically as a society that seeks a balance between values that characterize the four previous societies, namely: the need for sustainability (society 1.0), inclusion (society 2.0), effectiveness (society 3.0) and the power of intelligence and knowledge (society 4.0). However, the balance between the four aspects or the four values is not easily manifest in the market capitalism system. Large-scale optimization is prone to failure because it makes sense only if it is pursued on a global scale. The failure of the market system in dealing with environmental problems is an example of how large-scale optimization is difficult to succeed. This marks an ethical issue related to the development of science and technology.

It is important to note that the more advanced the development of technology, the greater the benefits obtained by humans, the more complex the ethical problems it causes. Along with massive technological advances and innovations, ethical problems and dilemmas arise at the macro level (policy setting), the meso level (institutionalization and governance), and the micro level (individual decisions and actions). The advanced Artificial Intelligence (AI) pursued in the Human Brain Project (HBP) by integrating cognitive neuroscience, brain science and brain-inspired computing brings up the issue of how to manage ethics in relation to the existential risks of human society due to the possibility of the presence of autonomous artificial agents (Aicardi et.al., 2018; Johnson and Noorman, 2014). Automation that penetrates various areas of human life, reinforced by the role of the internet of things, algorithms, and large databases, makes human society more mechanistic and increasingly forced to surrender human sovereignty to the faceless forces of technology (Leonhard, 2016). Risks to the environment, human health and public safety can also be posed by advances in nanotechnology and synthetic biology (Colussi, 2014). Leonhard (2016) envisages how human love affair with technology might follow a path from magic to manic and eventually to toxic. Uncertainty in technological developments creates uncertainty in society.

In an atmosphere of uncertainty that puts humanity at serious risk, the role of ethics education for the younger generation who will play a role in the development and application of science and technology becomes very important. But the problem is not as simple as it appears. For ethics education has to compete with information and communication technology (ICT) in influencing the behavior of the younger generation. While the ICT tends to force individuals to communicate through brief, light, and visual messages in many ways, ethics education often requires them to communicate through lengthy messages that are often difficult to shorten and relatively heavy as involving interpretation of visual things. The ICT promotes fast and shallow communication, whereas ethics education requires deep communication. Given this unhealthy competition, a solution to make ethics education effective is urgently needed. Therefore, in the perspective of finding the right solution, this research article aims to explore how the problem of declining deep

communication essentially occurs in contemporary ethics education. The exploration is important to raise awareness about the seriousness of the problem and pave the way for further research to find best practices to solve it.

METHOD

To reach the aim, a traditional literature review in conjunction with a qualitative meta-synthesis method was applied. The traditional review provided flexibility to explore insightful ideas from relevant literatures (Jesson et.al., 2011), whereas qualitative meta-synthesis method provided the way for synthesizing the findings of the review with other qualitative findings (Finfgeld-Connett, 2018), in particular the findings that were derived from author's reflective experiences in dealing with ethics education in the past several years. Thus, reading reflection techniques and experiential reflection techniques were operative along the way during data collection. Qualitative data from reading reflection and experiential reflection were then concerted, converged, and synthesized into a single narrative map. And, based on the narrative map, the findings and conclusion were reported.

FINDINGS AND DISCUSSION

Ethics and Ethics Education

As a branch of philosophy, ethics can be simply defined as a systematical study of morality. The term "morality" itself is used both descriptively and normatively to refer to standards of behavior that are accepted by individuals, society, and prospectively all human beings (Gert, 2020). In other words, morality refers to a set of human standards for being good as a human being. Morality serves as a basis for human beings to make decisions and take actions in response to particular contexts, evaluate and justify actions, and advocate or accept new standards (cf. Gert, 2020). With such a definition of morality, ethics plays a role to ensure that morality truly functions as it should to lead people to become good human beings. Ethics examines moral standards believed to be true by an individual or a society. When moral standards are used to claim an action as being a good act and a person as being a good human being, ethics verifies whether the action is a truly good act and whether the person is a truly good human being.

The use of systematic reasoning is one that distinguishes ethics from morality although the term 'moral' is sometimes considered interchangeable with 'ethical'. Ethics focuses more on the function of the faculty of reason based on the criteria of right and wrong, while morality focuses on the function of the faculty of belief based on the criteria of good and bad. As a subject of study, ethics is concerned with good actions, the moral standards used as a source of good actions, and the practice of how the moral standards produce good actions. Ethics can then be divided accordingly into three sub-subjects, namely normative ethics, metaethics, and applied ethics. Normative ethics investigates the rightness of how one should act in a certain context in order to be moral. The results of the investigation are normative ethical theories (utilitarianism, deontological ethics, virtue ethics, care-based ethics, justice-based ethics, contractarianism, etc.) to demonstrate why an action is truly a good action. Metaethics investigates the rightness of concepts, methods of justification, and ontological assumptions that constitute a set of moral standards as sources of good actions. Problems arise regarding the position of applied ethics. Is the position of applied ethics subordinate to the position of normative ethics, meaning that it is merely the application of normative ethical theories with the goal of resolving practical problems? Or, should applied ethics arise from dealing with practical problems, considering specific contexts and particular commitments though might still be in the light of general theories such as normative ethical theories? Doubts arise about the extent to which normative ethical theories play a role in addressing practical ethical problems (Beauchamp, 2003).

In the perspective of ethics education, the positioning of applied ethics is important for at least two reasons. First, ethics education is dedicated to participants who come from various educational backgrounds and will work in various industries and professions. They are not oriented to become experts in theoretical matters but rather to skills in decision making and practical actions. Second, the life background and previous educational background of the participants have given them moral standards they are committed to in living their lives so far. Adding a general principle embodied in normative ethical theory may make sense to them but requires prior consolidation of the existing

set of moral standards in order to become part of the commitment. For these two reasons, ethics education that is oriented to applied ethics should not place applied ethics under normative ethics. Practical decisions and actions that participants will choose flow naturally from their moral standards when they encounter problems. Educators should let participants commit to their own moral standards but encourage them to add, subtract, revise, improve, and re-consolidate their moral standards whenever necessary while reflecting on right decisions and actions in solving practical problems. Normative ethical theories can of course play a role in selecting, evaluating, and justifying decisions and actions during the process of reflection. As such, three sub-subjects of ethics should be involved in ethics education although they are all oriented towards practical decisions and actions.

Participants in ethics education undergo two inseparable activities: **reflection** on alternative actions in order to find the right course of action and **self-reflection** to consolidate and re-consolidate the moral standards from which alternative actions flow. In a shared ethical reflection, each participant is responsible for objectively explaining to other participants the reasons for his/her choice of action and considering any reasonable objections from other participants in order to find the most appropriate option acceptable to all relevant stakeholders. The most appropriate action taken may have implications for the need to re-consolidate participants' moral standards through self-reflection. Internal coherence among moral standards is a fundamental criterion for the successful consolidation and reconsolidation of moral standards. This criterion can only be met if all moral standards can be arranged in a compact structure where various moral standards at the outer layer depend on the unified moral standards at the innermost layer.

In a compact structure, moral standards can be divided into three consecutive classes from the outermost layer to the innermost layer: the legalistic rule class (LRC), the normative class (NC), and the value system class (VSC). The norms classified in the NC promote certain values in the VSC and underlie the formulation of the rules in the LRC. The compactness of the structure of moral standards depends on the cohesiveness of the value system at the innermost layer of the structure. The cohesiveness of the value system emerges when it is often tested against contexts that challenge the person who built it by habituating the value-actualizing actions. Habituation of the value-actualizing actions and recurrent reconsolidation of the value system through self-reflection will lead one to identify oneself with the value system and let oneself possess integrated virtues. As such, the cohesiveness of the value system is to some extent existential rather than conceptual. Those who undergo self-reflection and reflection as expressed in their habituation of value-actualizing actions will have high self-integrity and existential standing, while those who lack self-reflection and reflection will lack self-integrity and existential standing.

However, encouraging self-reflection and reflection in ethics education through ethical discussion of practical issues involving particular contexts and selection of alternative courses of action is not easy to implement. Ethical discussions that only involve moral standards at the LRC level will not be able to reveal the basis of moral standards at stake at the NC and VSC levels in each choice of action. Such discussions can only at best reach formal and procedural agreements when conclusions are drawn. The conclusions may increase participants' knowledge of good actions, but participants will fail to internalize them and may even fail to prove that the actions chosen are truly good actions. Indeed, self-reflection and reflection are inseparable and indispensable for ethics and ethics education. Ethical discussions should make both self-reflection and reflection work effective. In other words, the discussions should take the form of communication that explicitly or implicitly involves the relationship between the value systems of participants and educators. This form of communication is called "deep communication".

Ethics Education Requires Deep Communication

Dance (1970) eloquently investigated how communication was understood, conceptualized and defined, and he came up with 15 distinct conceptual components from which he identified three starting points of conceptual division before becoming multitudinous definitions, namely the level of observational coverage, the presence or absence of intention, and the normative judgment. The very starting point is of course its etymological meaning that is derived from the Latin words "*communis*", "*communicare*", and "*communicationem*", namely "common", "to share" and "to make common" (Harper, 2001-2021). To put it simple, in this article, communication is broadly defined

as a process of bringing humans together with shared meanings through the use of signs, symbols, and words (cf. Cobley, 2008; Steinfatt, 2009). Its central issue is the process of "sharing meanings" as it implies many other conceptual components constitutive of communication.

With regard to how meaning is effectively shared, Grice (1957/1989, 1969/1989) uses conversation model to describe how speaker-meaning explains sentence-meaning from which listeners can derive and come to understand it. Grice claims that speaker-meaning can be explained in terms of the speaker's intention to produce an effect to the listeners. Thus, for Grice, meaning is inevitably associated with intention. Although Grice's theory of conversation has come under criticism for a number of reasons, his works provide inspiration for how meaning carries intention in it. It is indeed unintuitive to mean something without any intention at all to say it. Meaning originates from a state of affair when someone finds something and then chooses to respond to it in one way rather than another because there is an appealing value to attain. Since value is understood simply as a standard that inclines someone to act in one way rather than another, meaning is inseparable from value. Both are inherent in the experiential nature of humans as creatures of free will. Meaning is one that has an outward normative reference to a particular thing, whereas value is an inward reference in dealing with any particular thing. In short, meaning is a normative expression of values revealed from sentences that signify a particular thing. Intention is rather present in every normative expression of values than in the process of delivering sentences.

Based on the internal relationship between intention, meaning, and value, meaning need not depend on the speaker's intention in Grice's model of communication. Anyone, not only the speaker but also the listener, can construct the meaning of something by placing the meaning he is constructing within the existing web of meanings of other things. The process of placing, developing, and affirming the meaning of something in the existing web of meanings is called the process of understanding. Thus, communication does not necessarily require agreement between speaker and listener or the establishment of the same meaning understood by both. Communication occurs whenever all parties use a sufficient number of similar components in the existing web of meanings for their understanding process. Such a process of understanding and sharing meanings prevails in any model of communication. But meanings have different levels of depth depending on the values they express and the attitude of the individual who understands them. As a result, perfect effectiveness of communication is never guaranteed.

Four levels of meanings can be identified with respect to the related values they normatively express and the moral standards they are associated with. The names of each level of meanings and their characteristics are briefly described as follows. (1) **The outermost level** consists of **"ready-to-use" meanings** that normatively express non-moral or material values, values that are never intentionally evaluated at a moral landscape. Things referred to by ready-to-use meanings can easily be exchanged for each other depending on whether the utility calculations are correct. Examples of meanings at the outermost level are beneficial, tradable, comfortable, fun, effective, efficient, etc. (2) **The first deeper level** consists of **"rule-based" meanings** that normatively express values associated with moral standards in the legalistic rule class (LRC). Matters referred to by rule-based meanings are often morally evaluated but limited to the use of moral standards in the LRC; the aim is to maintain the effectiveness of rules or to find compromises in maintaining the sustainability of society. Compliant, social orderly, equality, and fair are some examples of meanings at the first deeper level. (3) **The second deeper level** consists of **"belief-based" meanings** that normatively express values associated with moral standards in the normative class (NC). Since moral standards in the NC demand for a change in the orientation of moral evaluation from an outward to an inward goal, things referred to by belief-based meanings are neither exchangeable nor compromised. These meanings are deeply seated in the belief system of the individual who holds them. At the deeper second level, some meanings are strongly exclusive such as 'haram-halal', sacred, and religiously obligatory, while others are less exclusive such as benefiting as many people as possible, respecting others as human beings, and maintaining the integrity of society. (4) **The innermost level** consists of **"meaningful" meanings** that express values associated with moral standards in the value system class (VSC). Since moral standards in the VSC demand for unity of the value system, moral evaluation that uses these standards would make non-exchangeable and non-compromised things come into harmony. Meaningful-meanings that normatively express values

of the non-exchangeable and non-compromised things would facilitate the meaningful life of the individual who holds them. Some meanings belonging to the innermost level are integrity, autonomy, dignity, care, and justice. Summary of the levels of meanings is shown in Table 1.

Table 1 Levels of Meanings

Level of meanings	Kind of meanings	Orientation of moral evaluation	Moral standards with which the normatively expressed values are associated
The outermost	"ready-to-use" meanings	None	None
The first deeper	"rule-based" meanings	Outward	Moral standards in the legalistic rule class (LRC)
The second deeper	"belief-based" meanings	Inward	Moral standards in the normative class (NC)
The innermost	"meaningful" meanings	Inward	Moral standards in the value system class (VSC)

Source: Author

Deep communication is then understood as an interaction between individuals that leads each to develop meaningful-meanings. Individual self-harmony is built from the meaningful-meanings each individual is developing, while harmony between individuals is guaranteed by interactions that encourage the process of developing meaningful-meanings. Although deep communication may not literally end in shared meaningful-meanings, it definitely binds individuals because of the presence of a shared process for developing meaningful meanings. The outward material expression of all developed meaningful-meanings is a set of participatory actions that are properly accepted by all individuals for the continuous process of developing meaningful-meanings. Thus, social harmony does not come from external forces but arises from unified individuals' selves that are developed through habituation of developing meaningful meanings.

Because the path of deepening meanings from rule-based meanings to belief-based meaning and finally to meaningful-meanings is very personal, taking place inside each individual, deep communication inevitably involves two interrelated communications, namely interpersonal communication and intrapersonal communication. The former is an interaction between an individual and another individual, while the latter is an interaction within the individual between an "I" (the evaluating subject) and a "me" (the evaluated "subject") (cf. Lantolf, 2009). The former relies more on the quality of interaction between individuals to build shared rule-based-meanings, whereas the latter relies more on the quality of each individual's own moral evaluation in exploring meaningful-meanings within rule-based meanings in order to maintain interaction that encourages moral evaluation. Failure in one of the two kinds of communication will result in failure in deep communication. If failure persists, it can eventually jeopardize self-integrity of the individuals as seen, for example, when the external environment plays a dominant role in determining or dictating the individuals' behavior, destiny, and happiness. Thus, the individuals can become persons who simply surrender to the external environment.

It is indeed not easy to build deep communication and a culture that encourages deep communication in society. On the contrary, it is much easier for people to popularize shallow communication that is only oriented to sharing ready-to-use meanings or at best only to sharing rule-based meanings. Habituation in shallow communication while ignoring deep communication would create a culture of loving material (non-moral) values. Although conflicts between individuals in their pursuit of material values may be ubiquitous, by a bit extending shallow communication to reach "sharing rule-based-meanings" people may come into compromises and establish rule of law to control conflicts. As a result, the culture of loving material values persists. The greater the benefit of anything to people and the sooner it is obtained, the more people will pursue it. The ubiquitous shallow communication tends to push individuals into competition in creating fast and comfortable products. Contemporary technology is spurring even more intense competition for material values and consequently making it more difficult to establish deep communication.

The Decline of Deep Communication in Contemporary Ethics Education

It is well known that the rapid development of digital information and communication technology (ICT) has defined the pace of development of other technologies as well as the cultural shifts in the last few decades. Through ubiquitous adoption of the technology, the changes that occur are very fast, exponential, disruptive and sweeping, beyond anything that has ever happened before. In order to understand the impact of this technology on humanity, it is necessary to understand what the Millennial Generation has experienced when the transition from a pre-digital to digital society occurred since the end of the last century.

As the first digital generation, Millennials born in 1980-1995 feel the inevitable trend of fast future changes marked by the belief that anything seems possible, something that the previous generation could not imagine. They are a globally connected generation capable of learning the uncertainties caused by the flood of new innovations. Being pragmatic and ambitious, they pushed themselves while young to establish various (profit and non-profit oriented) organizations by leveraging all the available advanced technology resources (Burstein, 2013). Indeed, in a world of rapidly changing societal norms and technologies beyond anyone's control, the only way to survive and thrive is through rapid learning, relearning, adaptation, being engaged and participating in the exponential change (McGowan and Shipley, 2020). Millennials are conscious consumers who want to participate in the creation of products (Wells et.al., 2015), seeking rapid advancement and development of new skills (Ng et.al., 2010), and highly motivated for high-achievement while looking to external forces for approval (Bourke and Mechler, 2010). Millennials can also be characterized as a generation of multitasking, impatient, desiring for freedom-to-be-me while interestingly team oriented and widely generous (Alsop, 2008). Some of them show a We-centric rather than I-centric attitude as reflected in their active involvement in volunteering (Greenberg, 2008).

After the millennial generation, Generation Z born between 1996 and 2015 continues the type of generation that is heavily influenced by the rapid development of digital ICT. They are natives of digital society. Like the Millennial Generation, Generation Z believes so much in the digital ICT to facilitate them in vast connectivity, creative entrepreneurship, personal relationship, community engagement, independent access of information for learning, transparency and openness in leadership, and other aspects of life (Seemiller and Grace, 2019). Since those in Generation Z can easily get news about various societal crises from their gadgets, they have much to worry and care about many issues at a young age and as a result, like the Millennials, they see the crises with We-centric attitude rather than just caring for the impact on themselves (Seemiller and Grace, 2016). Digital ICT with hyper-speed and hyper-connectivity characters allows Millennials and Generation Z to unleashing their potentials for fast learning anywhere anytime, shifting from an affluence-oriented mentality to an influence-oriented mentality, and shifting focus to results rather than processes (cf. Koulopoulos and Keldsen, 2014).

With the identification of the attitudes and behaviors of the younger generation (Millennial Generation and Generation Z) in responding to the rapid development of digital ICT, it is necessary to put forward an argument for why deep communication is hampered. A hasty attitude that focuses on results over processes tends to ignore the importance of ethics in every action. Indeed, the essence of technology is the creation of something for the value contained in that something, not an act whose value is inherent in that act. Technology, creation and "making" are naturally oriented towards results and their contained values, whereas ethics is essentially oriented towards actions with their inherent values. Communication that revolves around results will fall into shallow communication, relating to utility values and revealing mere ready-to-use meanings. Although the impacts of technology on society can be part of communication, the focus of the problem presented is only on how to manage them so that negative impacts can be controlled. The communication extends only to revealing rule-based meanings and remains a shallow communication.

As identified, some of the younger generations do show a We-centric attitude towards territorial and global issues and have a positive passion to contribute to social actions. This is certainly a noble attitude and behavior. But this does not necessarily mean that all requirements for ethical actions are satisfied. For if this were truly ethical, there would be no motivating force other than that which is demanded by all basic principles such as the utilitarian principle of "the greatest happiness for the greatest number", the Kantian principle of the categorical imperative, and the like.

The motivation of any true ethical agent is solely for the sake of the value inherent in ethical actions. Thus, there should be no outward motivation, in the sense of "creating" a particular thing for individuals or social institutions, which the ethical agent might have when contributing to ethical actions. Action orientation should take priority over creation orientation. Priorities like this are difficult for the younger generation who are immersed in the frenzy of using digital ICT. High motivation for high achievement and focusing on results are characters that make the younger generation difficult to take such priorities.

If the We-centric attitude of individuals departs from their religious beliefs without considering the value system that underlies the beliefs, that attitude tends to be exclusive, and may conflict with the attitudes of others who hold different beliefs. To some extent, those who are fanatical about their religious beliefs tend to refuse to communicate in any form with others who have different beliefs because the things that belief-based meanings refer to are neither interchangeable nor compromised. The only way to develop communication between individuals who take actions based on different beliefs is to seek deep communication, by exchanging signs, symbols and words that express values underlying the beliefs in order to broaden each understanding. Otherwise, the communication falls again into shallow communication that deals only with ready-to-use meanings and rule-based meanings.

In short, the younger generation who deliberately immerse themselves in the rapid development of digital ICT will find it difficult to develop deep communication in contemporary ethics education for at least two (2) reasons. First, the outward orientation to results, experienced by those immersed in the development of digital ICT, will hinder the inward orientation that is fundamentally necessary for deep communication. Second, the pressure for a fast-paced attitude that the rapid development of digital ICT demands for, the sooner the better, makes them even more outward oriented, much closer to results, and consequently, more difficult for them to be inward oriented and to develop deep communication. Thus, the mindset of the younger generation who have been preoccupied with the frenzied use of digital ICT would be dominated by outward orientation rather than inward orientation demanded by ethics education. There is a "battle" between digital ICT and ethics education in influencing the younger generation and it is clear that the victory is on the side of digital ICT. Deep communication in ethics education is on the decline.

What are the consequences if this problem is left unanticipated? First, ethics education falls into just a kind of process of enriching ethical knowledge for participants, unable to build their self-integrity. Digital ICT with various software applications has immersed participants in the habit of thinking and acting procedurally, as if there is no other way outside of procedural formulas to solve problems. However, ethical problems and ethical dilemmas, especially those related to today's technological developments, are much more complicated than problems that can be solved by establishing conventional procedures. Many ethical problems and ethical dilemmas challenge individuals' value-systems, and can only be adequately resolved through attitudes based on the integrity of the value systems. If ethics education is positioned only for enrichment of knowledge, the accumulation of too much knowledge can even lead to a weakness of the will in overcoming problems. Second, ethics education fails to protect society from potential disintegration. When ethics education participants do not find satisfactory answers from shallow communication in discussing ethical issues and ethical dilemmas and then turn to personal beliefs to understand them, the problem may become exacerbated. For if they stop at personal beliefs without exploring the underlying values, they tend to dwell on belief-based meanings that are exclusive in nature, and as a result, even cause divisions in society. Ethics education is left ineffective.

CONCLUSION

The declining deep communication is an urgent problem of today's ethics education for younger generations. Since the younger generation have been so immersed in the development and application of contemporary science and technology, particularly in the application of digital ICT which drove them intensely into outward orientation and shallow communication, it makes no sense to stop them from their involvement in the technology just for the sake of securing ethics education. The best way to restore deep communication is to strive for a balance between outward and inward orientation, between interpersonal and intrapersonal communication, and between reflection and

self-reflection. Digital ICT need not be avoided. The challenge is to deploy creativity in using the technology to provoke the emergence of the power of inward orientation through intrapersonal communication and self-reflection. The creative use of application software to help simulate an ethics case, for example, can attract participants of ethics education to undergo reflection on the issues implicit in the case and self-reflection on the value system affected by the case. Self-reflection and deep communication may take place along with the use of the technology. Future empirical research on this issue is necessary.

Ethics education is important for those professionals who are actively involved in the development of contemporary science and technology in order to prevent society from developments that bring fatal consequences. But those nonprofessionals (the laymen) who are only involved in its application can also bring disaster to society when they apply it inappropriately. Enforcement of rules in the application of science and technology is not enough to guarantee the safety of society from improper applications. Ethics education for non-professionals is even necessary to create moral awareness which, when coupled with their We-centric attitude, can be an additional moral force to strengthen the moral awareness of professionals involved in the development of science and technology. It is therefore suggested that ethics education is provided to all members of society without exception. Deep communication is an issue for all members of society. Actions to promote and maintain deep communication need to be suggested to policy makers at the macro level, relevant organizations especially educational institutions at the meso level, and individuals at the micro level. But empirical research on the actional issue suggested at each of those levels need to be conducted first to support.

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