TOWARD CRITICAL EDUCATIONAL TECHNOLOGY FOR EARLY CHILDHOOD EDUCATION

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Info Artikel	Abstrak

This article as a theoretical overview explains and introduces the basic concept of the critical perspective on educational technology for early childhood education, especially for the Indonesian audience. The critical perspective derived from the critical pedagogy notions is very important as a critical tool of analysis on examines the creating, using, and managing of the learning media and method for early childhood education. The critical analysis result would be the prominent consideration on educational technology activities (creating, using, managing) and the critical pedagogy notions itself become the reference paradigm and foundation for those activities. The subtantial objectives of the early childhood education from the critical pedagogy perspective are tend to bring the learning practice more democratic, emancipatory, dialogic, participatory, and transformative for the childs' cognitive, afective and psychomotoric development. The concern of the critical pedagogy for early childhood education is not insist to build the childs' critical consciousness, but to nurture the childs' need for critical inquiry, in this case the teachers position is important to develop and practicing the learning practice based on the critical pedagogy notions and also examine critically the early childhood education policy, its curriculum, and etc.

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INTRODUCTION

The recent development within our educational practice in Indonesia is the technologization, that is the massive use of the ICT-based learning media and method. It is not only the phenomenon on the elementary, secondary and higher education, but it emerge into early childhood educational practice. There are lots of various "educational technology" for early childhood education, in example multimedia learning compact disk (CD), educative games, and others. This trend often leave behind the old and conventional media such as teaching aids, miniature, models, and others. The learning method which is follows the learning media also variously developed such as out bond learning, contextual learning-teaching, quantum learning-teaching, constructivist learning approach and etc. But the emerging of the technology into education doesn't only have the positive "effects" to facilitate the learning practice, in other side it also have the negative effects as an obstacle for the learning objectives. Several cases below indicate those negative effects of the technology based learning practice on early childhood education.

The most negative effects from the use of the ICT-based learning media come from its content that contain violence, negative ethnic, religion, and cultural stereotyped, biased understanding about gender and etc. The kind of the learning media in which have the tendency contain those negative materials is the learning media for individual learning activities, because it is lack of the others (teacher, parent) control. Differs from this kind of learning media is the learning media for colective-classroom learning activities, in which the teacher could control the content of the learning media before using it in front of the class. Another phenomenon on the ICT-based learning media is the inappropriate use of the ICT-based learning media for certain learning objectives, for example: the learning activities to exercise the afective childs' domain (social sensitivity, emphaty, sympathy, and etc) are based on the ICT-based learning media. Off course it would be more appropriate by using the contextual learning approach such as field trip, social project, observation, and etc, because the last bring the childs enter to the real social and cultural environment. Many inappropriate cases in the learning practice based on ICT are about the obsession to present the learning materials using the sophisticated digital technology, whereas the learning materials are more appropriate and good enough tobe learn by the childs in the sense of "learning by doing", contextual learning activities, and etc.

So, it is important to reveal and conceive the negative side of the ICT-based learning media for early childhood education to avoid the inappropriate learning practice in which have a potentials as an obstacles for the learning objectives. It is also important to reveal the hidden curriculum in the kinds of cultures, values, ideologies, and knowledge productions beyond the official curriculum, because the early children also learn this kind of the hidden curriculum instead of the official one, and it would construct their way of thinking, attitude, and aspiration. In accordance with those needs and purposes, the critical analysis based on the critical perspective derived from the critical pedagogy traditions is important for early childhood education practice. A short introduction about critical pedagogy notions, especially for the early childhood education are mentioned below.

Introducing Critical Pedagogy for Early Childhood Education

The main concepts of the critical pedagogy is the perspective that education couldn't be separates from the social structure, culture, politic, economic, and ideology. Education is not neutral things, knowledge is always in relation with those social structures, at least education is the arena for the knowledges, cultures, values and ideologies struggle. This perspective employing the critical perspective from the critical social theories, especially based on the Marxian, neo-Marxian, post-Marian, postmodern and others critical social theories. One of the

leading critical educators on the critical pedagogy tradition is Paulo Freire, Ira Shor (1993: 24), on reviewing the Freire's ideas said:

> Education is not reducible to a mechanical method of instruction. Learning is not a quantity of information to be memorized or a package of skills to be transferred to students. Classrooms die as intellectual centers when they become delivery systems for lifeless bodies of knowledge, instead of transferring facts and skills from teacher to students, a Freirean class invites students to think critically about subject matter, doctrines, the learning process itself, and their society. Freire's social pedagogy defines education as one place where the individual and society are constructed, a social action which can either empower or domesticate students. In the liberating classroom suggested by Freire's ideas, teacher pose problems derived from student life, social issues, and academic subjects, in a mutually created dialogue.

In short, educational and learning practice tend to build students' critical consciousness and then moves toward social transformation in society (see also Topatimasang *et.al.*, 2010). Social transformation means that critical pedagogy lead the learning and educational practice as a movement to acts against inequality, unjust, exploitation; addressing the educational and learning practices tobe more emancipatory or liberating from the colonization of knowledge and power (see also McLean, 2006). Its critical consciousness and social transformation orientations implies the learning methodology into action level, not only mastery the knowledge and skill which is irrelevance with the social reality. Because the social transformation is a milestone on pursuing the social justice and it begins from the individual transformation (critical consciousness), then it bring the learning practices should be contextual, humane, dialogic, critical, democratic and emancipatory (see Shor, 1993), in other words: into action level/phase (praxis).

In accordance with those critical pedagogy principles, the early childhood education practices should be: (1) nurturing and rising up the childs' need for critical inquiry, teach them to question what they learn and "read"; (2) nurturing the childs' social sensitivity, emphaty, ethic, aesthetics, through cultural, social, and sport activities; (3) build the childs' self identity and culture, brings them to the deep comprehension about theirself and their closest daily social and cultural reality toward their broadest milieu; (4) the learning process should uses the childs' language in which simple and easy tobe conceived by the children and appropriates with their language ability. At least, the four substantial objectives for early childhood education above based on the critical pedagogy perspective, but it doesn't mean avoid the technical acvhievement from the Ministry of Education (MoE) regulation number 58/2009 on standard of the early childhood education. Those subtantial objectives become the foundation and encompasing the technical achievement on the cognitive, afective, and psychomotoric dimensions such as communication skill, literacy, basic knowledge, emotional senses, physical health and etc from those MoE regulation number 58/2009.

Afterwards, the subtantial objectives based on critical pedagogy for early childhood education above transform into several concepts, principles, ideas and praxis of the critical pedagogy methodological design. The appropriate learning practice refer on critical pedagogy are learning by doing, based on the real social and cultural phenomenon, bring the childreen on the social activities, doesn't have any distance with the society (except it have the dangerous potential for the childs), open up the space for the childs tho explore their need for inquiry through observation, touring, adventure, experiment, social project and etc. What I have mentioned previously is the "contextual principle" to build the learning practice more responsible to the social reality in society, especially with the

childs' milieu; moreover the contextual prinsiple uses the social, cultural, economic, and psychological childs' background as a primary consideration to formulate the learning process. Those methods above would nurturing the childs' critical inquiry and creativity at the early age. Besides that (see the subtantial objective number 2) the critical pedagogy practices for early childhood education also in the form of art and cultural works, sport, playing educative games and etc. Moreover, the learning environment should be safe for the children, healthy, nurturing the democratic, tolerance, and peace culture; anti-bullying and discrimination, and without gender, religion, ethnic, and cultural biased. One of the sources on explaining this learning approach is the documentary film "Jaga Bumimu, Jaga Selalu" by Sanggar Anak Alam (Salam, 2011), Yogyakarta.

The teachers should position her/him self as a facilitator and friend for the childs, they should motivate the childs tobe brave on asking and answer the questions; the teachers shouldn't kill the childs' critical inquiry and creativity by punishment and wildly talk. In accordance with the explanations above, critical pedagogy for early childhood education doesn't tend to build the childs' critical consciousness, but only nurturing the childs' potential on critical consciousness by several methodological approach. This concern is good enough and precise for early childhood education, because in this phase children still on the early and basic cognitive, afective and psychomotoric development, so they don't have any abstract and high critical way of thinking yet. Moreover, the teacher become the prominent target on developing and operating the critical pedagogy notions to the critical consciousness and then social transformation (i.e. change the education/learning system, structural institutional system design, early childhood education policy, curriculum, learning media and method). The teachers with critical consciousness need a basic requirement in the form of critical paradigm derived from the critical social theory on education (especially

in the sense of critical pedagogy). This analytical requirement is very important as a tool of analysis on examining the socio-cultural context of the educational practices and uses it as a primary consideration on designing, using, and managing the learning media and method.

Moreover, based on the real facts of the early childhood education above, teacher especially should examine critically (1) the use of the ICT-based learning media for early childhood education, (2) the early childhood education policy, (3) its curriculum content and design, (4) the learning media and method suggestion by the MoE provisions, and furthermore (5) the power relations between the state, market, society, education, knowledge, culture, ideologies, and etc. The critical analysis result's is important to decide whether some of the learning media and method is appropriate or not for early childhood education in certain socio-cultural context based on the ethical practice and appropriate principle derived from the critical pedagogy notions.

Critical Perspective on Educational Technology for Early Childhood Education

Indonesian's early childhood education practice often concentrated and dominated by the learning technical- methodologies side. It can be seen from the early childhood educators refer and follow rigidly and seriously to the Ministry of Education (MoE) regulation number 58/2009 on standard of the early childhood education. Whereas this MoE regulation only focusing on the technical-operational childs achievement on their learning practices, it doesn't contain the substantial objectives i.e. knowledge, values, cultures, and skills content. This phenomenon implies on the lack of the teachers' ability on formulating the curriculum design, lesson plan, and also on creating, using and managing the learning media and method, and at least doesn't consider to the subtantial sides of the learning practices i.e. the knowledge, values, cultures, ideologies, and life skills for the childs. When the early childhood educators don't have enough

comprehension about the learning content, media and method, they whould designing the learning practice refer to the mainstream's early childhood education paradigm and practice.

Where as, not all of the general and mainstream of the early childhood education concepts and practices are appropriate for the childs. For example, in many case in several big city in Indonesia, there are lots of the early childhood learning activities tend to be more burdensome for the childs, i.e. pushing the early childs to read, write, learn arithmetic; moreover have a basic ability on foreign language (i.e. English, Arabic); the learning practice had been dominated by the teacher (teacher centered), lots of learning practices using the ICT-based learning media are inappropriate with the need of the children's psychological and physical development; doesn't open up the space for the childs to explore their imagination, creation and inovation; the learning practice doesn't bring the childs enter to the social and cultural activities outside the "classroom"; it also doesn't relates the learning practice by ICT with the real social activities in which whould exercise the cognitive, afective and psychomotoric dimensions all at once. Therefore, it doesn't enough only refers and follows the existing and mainstream learning media and method, neither does on following rigidly to the MoE regulation number 58/2009 on standard of the early childhood education. If we only following the mainstream early childhood education paradigm and practice, it is similar to the "social and cultural reproduction" phenomenon had been researching by Bourdieu & Passeron on higher education in France (1977).

In this case, the critical perspective from critical pedagogy movement is important for the teachers who are involved in the early childhood learning practices (1) as a tools of critical analysis on examine the educational technology practice for early childhood education and (2) as a reference on creating, using and managing the learning media and method for early childhood education. Critical analysis is very important to conceive whether the learning media and method are appropriate or not, facilitate the learning objectives or not, is it in contradiction with the technical and subtantial aims of the critical pedagogy for early childhood education or not. In other words, the result of the critical analysis become the primary consideration to create, use and manage the learning media and method on learning practices, and several concepts from the critical pedagogy notions (see for example on McLaren & Leonard [eds.], 1993; Tilaar *et al.* [eds.], 2011) also become the references to create, use, and manage the learning media and method for early childhood education.

The basic orientation of the educational technology discourse for early childhood educational practice from the critical perspective can be seen from the three central activities (creating, using, and managing) and two fields of the educational technology (media and method) as a field of studies. Those three central activities and two fields of educational technology are based on the recent educational technology's definition enacted by Association for Educational Communication and Technology (AECT, 2004) below:

> Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. (Januszewski & Molenda [eds.], 2008: 1)

In short, the technological processes is the learning method dimension and the technological resources is the learning media and resources. All of the fields of studies based on the ethical practice and appropriateness as a basic principle on creating, using and managing the learning media and method for educational purposes. On the creating or designing dimension the teacher should create the learning media and method for early childhood education to facilitate its learning objectives beyond the technical achievement on the MoE regulation

number 58/2009 toward the more substantial achievements—based on the critical pedagogy perspective. Therefore, by employing the critical pedagogy perspectives, the learning media should facilitate the childs need for inquiry, exercising their emphaty, sympathy, social sensitivity, senses, aesthetic, and ethics dimensions; laying the basic comprehension about their self and children's cultures. In accordance with the children's unique characteristics, the learning media design also should be interesting, simple, and enjoyable whether for classroom-collective or personal-individual learning activities. It should be preceded and followed by the social activities to exercise the child's critical inquiry and creativity, in this case the learning method from the educational technology as a field of studies should be direct to the more interesting, contextual, enjoyable, and constructivist i.e. playing educative games, sport, and art-cultural works. Challenge the childs to ask some questions, liberating the childs to ask and answer the questions are the method to nurture the childs' critical inquiry, in the same manner is the contextual learning activities which is lead the childs to enter the social environment is a way to explore their need for inquiry and critical thinking. This childs' critical consciousness potentian in the notions of critical pedagogy notions required the nurturing activities through the dialouge and contextual learning activities (i.e. questions and real social activities).

Refers to critical pedagogy paradigm, the content of the contextualized learning media and method is come from the childs' socio-cultural, psychological, and the values. The first things should be learn by the early childs is something interrelated and conect with their self, lifeworld, and mileu, before invite the childs to learn something far with their daily life activities (i.e. nationality, citizenship, and etc). What I means by its content is come from the child's is: about creating the learning practice by accommodate and depart from the children's questions and need for inquiry, so the learning media should be designed to pursue those children's need. The childs' critical questions,

emotional expressions, and aesthetic creations are not something should be avoid, conversely the teachers should pay much attention on those childs' expressions, and then use it as a primary consideration on creating the learning practice, lesson plan, and also creating, using and managing the learning media and method.

What I've write above is much about the "creating" dimension of the educational tchnology as a field of studies. Moreover on the practice of using the learning media and method, whether by design or by utilizing, either artificial or natural, the primary consideration is: could nurturing and exercising the childs' critical inquiry, creativity, innovation, emphaty, ethic, and aesthetic. Beside the learning practice should be dialogic and contextual, it should also be flexible, it means: the early learning design, lesson plan, and curriculum shouldn't be followed rigidly, on the contrary it should be flexible based on the learning need and actual reality in the learning practices. This flexible concept refers to the flexible curriculum design by James McKernan (2008) and Paulo Freire (2005) that the learning process based on the "process theory" should to flow along with the childs' learning rhythm in the learning practices, following the childs' critical questions being addressed and their need for inquiry being directed; in other side, based on the critical pedagogy notions by Paulo Freire, the learning design have tobe reactionary to the social, cultural, and political phenomenon in society, taking the existing childs' social, cultural, and psychological background as an important and the primary consideration to formulate the learning design. So, in this "using" dimension of the educational technology therefore should negotiate the the technical achievement (MoE regulation number 58/2009) and the substantial and essential one (derived from the critical pedagogy notions) on formulating the curriculum design and creating the learning media and method.

Moreover, in the "managing" dimension, it is necessary the early childhood educators have an appropriate managerial

ability to manage the learning media and method, especially in the micro level (classroom, school). Several important issues in accordance with critical pedagogy notions become the primary consideration to decide whether one of the learning media and method are appropriate or not i.e. social justice, access, economic, ethnics, religion, and the appropriateness of the learning media and method with the childs' need for learning and socio-cultural context. The management of the learning media and method required the synergy and participation from all of the stakeholders in early childhood education i.e. teachers, administration staffs, headmasters, supervisors, parents, society, and government where the learning practice taking place. The orientation of the institutional management and learning practice in the sense of critical pedagogy notions refers to the democratic, emancipatory, participatory, and transformation principles (see several discussion on this basic principles on Freire, 2005; McLaren & Leonard [eds.], 1933).

Therefore, the childs', teacher's, society's, and parent's voices are the primary beside the theoretical consideration on deciding the appropriate learning media and method for early childhood educational practices, in this case the democratic and participatory principles were works. Besides that, the managerial practice should emancipate the learning practices from the certain media and method hegemony, including emancipate from the inappropriate government educational policy and the dominant adult's perspective on early childhood education. At least, "transformation/change" should be the keywords of the managerial practice on pursuing the real changes on the individual (children, teacher) and social lifes (the "school", parent, family and society).

Those three educational technology concentration (creating, using, managing) on learning media and method refering to the critical pedagogy notions for early childhood education actually based on the ethical practice and praxis dimension. In other side from the recent definition of the educational technology (AECT, 2004), the "study" dimension contain the research and evaluation on the creating, using, and managing of the learning media and method also need a serious attention. Because the result of the critical analysis on the educational technology derived from the research and evaluation practice is very important as a primary consideration on creating, using and managing the learning media and method for early childhood educational practices precisely. Thus, critical perspective from the critical pedagogy notions is not only become the foundations to create, use, and manage the learning media and method, but also become the basic paradigm on analysing the educational technology practice for early childhood education in general.

CONCLUSION

Critical pedagogy perspective on educational technology is not a mainstream paradigm among others in Indonesia (Subkhan, 2011), but it is important to examine the practices of educational technology critically. Several analysis on educational technology doesn't yield a deep, comprehensive, and critical perspective, so it implies the analysis tend tobe "business as usual" evaluation without critical perspective. This kind of analysis fail to explains about the negative sides of the recent trend in education (integration technology into education, especially ICT and other digital technology i.e. violence, stereotyped, and biased) and then brings the main perspective on educational technology only to the positive side (technopositivism). It also fails to reveal and conceive the power relation between the politic and educational practice, knowledge and politic, whereas it is the real facts in our daily educational practice that always in relation with politic, econonomic, cultural, social, values, and ideology, and this relation is often unequal and unjust.

The main perspective on critical pedagogy challenges the teacher, parent, and others who're involved with early childhood educational practice to examine it critically, especially on the creating, using and managing (three educational technology main activities) of the ICT-based learning media

and method. It is also important because the result of the critical analysis become the primary consideration on deciding wheter the learning media and method appropriate or not for the early childhood educational practices. In the end, the challenge is come from the teachers itself, do they want spend their time to learn about critical perspective derived from critical pedagogy notions for early childhood education? Actually several critical pedagogy's literature are heavy enough for the new reader, but off course there are several book on encountering the critical pedagogy ideas for the new reader such as the McLaren and Leonard (1993) in English and in Bahasa i.e. Tilaar *et.al.* (2011) and Topatimasang *et al.* (2010). However, if the early childhood education want to move toward a kind of educational practice under the light of educational technology as a field of studies which is (1) more democratic, emancipatory, participatory, and transformative; (2) underlying the solid and strong childs' cultures, values, and ideologies; (3) nurturing the childs' critical inquiry, creativity, innovation; and (4) exercising the childs' social sensitivity, emphaty, and symphaty, the critical pedagogy paradigm is appropriate choice and necessary.

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