

Challenge of Civic Education Teacher in the Era of the Fourth Industrial Revolution

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Abstract- In facing rapid changes as the impact of the fourth industrial revolutions all educational institutions especially education universities and schools should have a positive and significant responds in order to cope with the impact of the changes and challenges and its disruptive condition. The changes are critical for the education universities in preparing civic education student teachers in developing their knowledge, skills and teaching competencies. The key question to be asked in this paper is what program should be developed that will help civic education student teachers becoming quality civic education teachers. The program should be capable of accommodate new demands needed by the students teachers to respond to the new challenges by developing student teachers' knowledge, values and skills that in turn could help students learning for life in our times efficiently and effectively and the ability to adapt to the new situations. To address the program or approach, the proposed paper will discuss the following programs namely: 1. Developing teaching profession and teacher leaders; 2 developing school/university collaboration program. Developing teacher's teaching competencies through 21st Century Learning. Developing teacher's teaching profession and leadership for teachers are the important part of school development and improvement. The objective of the programmes is to have civic education quality teachers. Teachers which have such professional and leadership competencies in turn will help students in teaching – learning processes. In the process of increasing professional competencies student teachers of civic education teacher's to cope with the changes, one important program that should be initiated by education university and school is developing school/university collaboration. Collaborative teaching – learning process that will make a significant progress in learning through the implementation of the programmes.

Keywords: *changes, disruptive, collaboration, competencies, adaptation, teacher leader*

I. INTRODUCTION

In facing rapid changes as the impact of the fourth industrial revolution all educational institutions especially education universities and schools should have a positive and significant responds in order to cope with the consequences of the rapid changes and its disruptive condition. The changes are critical to civic education teachers' competencies in preparing students for life in our times efficiently and effectively. The role of education universities is enhancing student teacher's professional competencies (knowledge, skills and values) and teacher's leadership that will help student teachers becoming a

competent and professional Civic Education teacher or quality civic education teacher. In doing so there are some strategic programs to be developed as follows: Developing teaching profession and teacher leadership; 2. Developing School/University collaborative program. 3. Enhancing teacher's competencies based on 21st Century Skills.

II. THEORETICAL REVIEW

A. *Developing Schools /Univesities Collaboration Program*

Developing school/university collaboration in globalization and in the era of the 4.0 IR are imperative action. Merry Merryfield (at all) has mentioned in *Preparing Teachers to Teach Global Perspectives: A Handbook for Teacher Educators* that a constantly changing world requires a continual reexamination of what we teach [1]. Whether our students will live most of their lives within a 50-miles radius of Columbus or find themselves constantly moving and changing careers their lives will be inexorably link to other parts of the world through economic, political, technological, ecological and cultural connections [2]–[6]. Today's students must understand these global connections and consider the interdependence of their own decision-making processes in the local community with the decision and alternative future of others around the world [7], [8]. Young people must develop perspectives consciousness and cross-cultural competence so that they are able to work effectively and manage conflict with people who are different from [9]–[12].

One thing that should be understood by the student the era of the fourth industrial revolution is the student must be open mindedness and preparing themselves becomes the active participant in their class and community for having the right picture for the global world. This can only be achieved if schools helping to build and developing the global perspectives based on the different social, political economic and cultural different and variations. Merryfield and Remy has also mention that “this very strategic concepts which strongly related to the work of teachers in the classroom in social studies and civic education learning [12]. This give the students' teachers a great chance to exercising and demonstrate their technical skills and competencies in teaching and learning processes that very much in line with the process of developing global perspectives on students. However, before students in the classroom can develop these understandings, their teachers must appreciate the challenges

of an interdependent world and acquire global knowledge and skills.

Whether they will teach in rural, urban or suburban communities, preservice teachers must be able to prepare young people to participate effectively in increasing cultural diversity and global interconnectedness of the late 20th century. Teacher educator need to work with professional teachers to reform teacher education so that it might more effectively prepare beginning teachers to become global educators [12]. How does a teacher educator go about working with classroom teachers in global education? What is important in this matter? The role of teachers including civic education teachers in teaching and learning processes will change and developed, in terms of knowledge, values, skills and attitudes as the results of the process of school/university collaboration that supporting by various activities between higher education and schools. In school/university collaboration relation to the fourth industrial revolution and the 21st Century skills university

B. Enhancing Teacher's Teaching Competencies Through 21st Century

Competencies just not skill and knowledge, more than it, to involves the ability to meet complex demands by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context [13]. Competency is essential to an educator's pursuit of excellence Enhancing teacher's knowledge, skills and competencies becoming a necessities in the era of the 4.0th IR. Civic Education lecturers and teacher where also important part of the process. The teacher must be able to analyze new hopes and conscience to educate [14]. That require process activities based on the 21st Century learning practice. In the future, we need culturally competent, talented, innovative and creative problem-solvers, skilled and critical thinkers, and new technologies give an opportunity to encourage critical thinking [13]. The rising demand for a highly skilled workforce also means that there will be a growing income gap between less educated, relatively unskilled workers and highly educated, highly skilled workers. Routine tasks are increasingly being automated, and the routine jobs still done by people barely paid a living wage. Routine work is moving to countries where the cost of labor is very low, as shown in Figure 1A. Our world's education systems must now prepare as many students as possible for jobs at the top of the chart-the high-paying [15]–[17].

III. RESEARCH METHOD

Literature reviews have an important role as a foundation for all types of research. They can serve as a basis for knowledge development, create guidelines for policy and practice, provide evidence of an effect, and, if well conducted, can engender new ideas and directions for a particular field [18]. A literature review in its most comprehensive form includes a synthesis of quantitative findings stemming from quantitative research studies and qualitative findings stemming from qualitative research studies [19]. As such, they serve as the grounds for future research and theory. So, we serve about importance civic

education competence teacher in IR. 4.0.

IV. RESULTS AND DISCUSSION

A. Developing Teaching Profession and Teacher Leadership

The word “revolution” in the phrase of “The fourth industrial revolution” as mentioned by Schwab [20, p. 8], is The word “revolution” denote abrupt and radical change. Revolution have occurred throughout history when new technologies and novel ways of perceiving the world trigger a profound change in economic systems and social structure. In continuing his explanation on the fourth industrial revolution, Schwab argued that this revolution is different in scale, role and complexity from any that have come before [20]. Characterized by a range of new technologies that are fusing the physical, digital and biological worlds the development affecting all disciplines, economies, industries and governments and even challenging ideas about what it means to be human. Abrupt and radical change we are facing now and in the future as a part of the impact of the fourth industrial revolution comes with disruption situation will affect every aspect of life including education in higher education, lecturer, student teachers and school teachers. Disruption according to Christinsen cite by Kasali, that the concept disruption is about competitive response; it is not a theory of growth, it's adjacent to growth, but it's not about growth [21]. Disruption will affect the characteristic of teaching profession and the leadership of teacher.

Teaching profession should be sensitive in responds the impact of the fourth industrial revolution especially in preparing student teachers becoming an innovative and creative teacher based on well - developed teacher leadership. The reason for the decision was motivated by the needed of development of teaching profession and teacher leadership. Schwab argues “The scale and breadth of the unfolding technological revolution will usher, in economic, social and cultural changes of such phenomenal proportions that they are almost impossible to envisage....describes and analyzes the potential impact of the fourth industrial revolution on the economy, business, governments, and countries, society and individuals”[20, p. 28].

In all these areas one of the biggest will likely result from a single force empowerment—how government relate to their citizens, how enterprises relate to their employees, shareholders and customers, or how superpowers relate to smaller countries. The disruption the fourth industrial revolution will have impact on existing political, economic and social model will therefore require that empower actors recognize that they are part of a distributed power system that requires more collaborative forms of interaction to succeed. The statement urge student teachers not only to adapt to the changes and challenges but also to develop innovative and creative teaching as required by disruption. Empowerment and collaborative forms of interaction should become an important aspect in changing the learning styles of student teachers. The conventional teaching style is not enough anymore to cope with the disruption. The impact from education point of view especially of the student teachers of civic education will be dealt with learning. Therefore student

teachers needs to alter and enhancing their teaching competencies based on the 21st century skills.

B. Developing School /Universities Collaboration Program

To find out all the teacher task after graduated from Education University there should be the program what it calls “after sales service.” This is important program for teacher to have and the lecturer at education university to keep the relationship between school and university. For better result in preparing student teachers education university have always to be school – oriented in developing and preparing student teachers, school have to be prepared for implementing and developing new concepts of education or new teaching methods. Developing School/University Collaboration in globalization and in the era of the fourth industrial revolution is the imperative action. The role of teachers in preparing students should become a consideration in developing professional and quality teacher. There are some reasons behind the planned programs for student teachers, but in general the essence of these suggestions are:

1. A constantly changing world requires a continual reexamination of what we teach.
2. Student...find themselves constantly moving and changing careers their lives will be inexorably link to other parts of the world through economic, political, technological, ecological and cultural connections.
3. Students must understand these global connections and consider the interdependence of their own decision-making processes;
4. Young people must develop perspectives consciousness and cross-cultural competence so that they are able to work effectively and manage conflict with people who are different from themselves.
5. Teacher educator need to work with professional teachers to reform teacher education so that it might more effectively prepare beginning teachers to become global educators.
6. One thing that should be understood by the student in the era of the fourth industrial revolution is the student must be open mindedness and preparing themselves becomes the active participant in their class and community for having the right picture for the global world [1], [6], [12].

In preparing student teacher enhance student’s teachers teaching, all the above general aspects of all indicators to develop by professional teaching and teacher leadership are important for student’s learning. In general the essence of these suggestions are important as the guidance for students teachers to understand the situations they are going to face or responsible. An important additional related to the students teachers teaching competencies explained by Merryfield and Remy, said “This can only be achieved if schools helping to build and developing the global perspectives based on the different social, political economic and cultural different and variations”[12]. Merryfield and Remy has also mention that “This very strategic concepts which strongly related to the work of teachers in the classroom in social studies and civic education learning”[12].

This also means the student teachers have a great chance for exercising and demonstrating their technical teaching

skills and competencies in teaching and learning processes that very much in line with the process of developing global perspectives on students. However, before students in the classroom can develop these understandings, their teachers must appreciate the challenges of an interdependent world and acquire global knowledge and skills. Whether they will teach in rural, urban or suburban communities, preservice teachers must be able to prepare young people to participate effectively in increasing cultural diversity and global interconnectedness of the late 20th century. Teacher educator need to work with professional teachers to reform teacher education so that it might more effectively prepare beginning teachers to become global educators [1]. How does a teacher educator go about working with classroom teachers in global education? What is important in this matter? The role of student teachers including civic education student teachers in teaching and learning processes will change and developed.

This will be a good challenge in developing new paradigm of teaching profession and leadership of teachers for new learning process. The importance of these requirements because “Teacher educator need to work with professional teachers to reform teacher education so that it might more effectively prepare beginning teachers to become global educators [1]” Working with professional teachers with leadership will make more powerful for school improvement, therefore as Crowther proposed under the IDEAS Project suggest that “It is our contention that, where possible, efforts to develop teacher leadership ought to be undertaken in conjunction with a comprehensive and authoritative school improvement process....We believe that there are many highly successful school improvement and school revitalization initiative existence around the world that can be used to stimulate and nurture teacher leadership....First, it should be voluntary.... Second, the development of teacher leadership is best approached as a team activity....Third, there are distinct conceptual understanding, processes, and skills associated with the development with mature teacher leadership....Fourth, the development of teacher leadership capabilities is very often very professionally exhilarating experience and should therefore be approached be enthusiasm”[22].

C. Enhancing Teacher’s Teaching Competencies Based On The 21st Century Skills

Before respond the impact of the fourth industrial revolution in education Thrilling & Fadel proposing four questions exercise that can be considered in enhancing teaching of civic education student teachers [17]. The question consist of three important aspects of education: the changes for the twenty years to come as we experienced twenty years ago, kinds of skills needed by our child to be successful in this world and what would learning be like for preparing students for their life. The answer to these questions will becomes responds to the impact of the fourth industrial revolution and its disruption. Higher education in preparing civic education student teachers should considered these important concepts in helping young generation to live in their times. It is the reasons why higher education are should develop programs that can acomodate new demands in needed by the students teachers to respon to the new

change and challenges. Student teachers of civic education needs to master the 21st century skills consists of various skills that should mastered by students teachers to enhance their knowledge, skills and competencies as a competent civic education teachers. Trilling & Fadel that in the last view decades the roles of learning and education in day-to-day living has also changed forever [17]. The impact of the fourth industrial revolution have a monumental impact on global economy, so vast and multifaceted that it makes it hard to disentangle one particular effect from the next [17].

The impact of the fourth industrial revolution on the economy have scaling down effect from growth, productivity, to aging, employment, labor substitution and impact on skills. It is similar to what has happened to education and teacher education. Education in the disruption has to enhance their teaching because almost all aspects of education would be affected. It affected approach, content and methodology including application of techno pedagogical concepts. This will challenge in developing new paradigm of teaching profession and leadership of teachers for new learning process. To that challenge in education we have to develop new paradigm of teaching profession and leadership of teachers in answering change and challenges in education as the impact of disruptions.

Developing leadership of teachers according to Crowther under the IDEAS Project suggest that "It is our contention that, where possible, efforts to develop teacher leadership ought to be undertaken in conjunction with a comprehensive and authoritative school improvement process....We believe that there are many highly successful school improvement and school revitalization initiative existence around the world that can be used to stimulate and nurture teacher leadership....First, it should be voluntary.... Second, the development of teacher leadership is best approached as a team activity....Third, there are distinct conceptual understanding, processes, and skills associated with the development with mature teacher leadership....Fourth, the development of teacher leadership capabilities is very often very professionally exhilarating experience and should therefore be approached be enthusiasm" [17]. Under the well-developed teacher's leadership, school improvement including enhancing teacher's teaching and students learning. It's also expected to prepare young people or citizens for learning a living and emphasizing on the future work and careers[17].

The competitiveness and wealth of corporation and countries is completely dependent on having a well-educated workforce—as one 2006 report called it. "Learning Is Earning." Improving a country's literacy rate by a small amount can have huge positive economic impacts. Education also increases the earning potential of workers – an additional year of schooling can improve a person's lifetime wages by 10 percent or more....So why is education falling short in preparing students for 21st century work? The world of Knowledge Age work requires a new mix of skills. Jobs that require routine manual and thinking skills are giving way to jobs that involve higher levels of knowledge and applied skills like expert thinking and complex communicating.... Thrilling & Fadel also means that there will be a growing

income gap between less educated, relatively unskilled workers and highly educated, highly skilled workers [17]. Routine tasks are increasingly being automated, and the routine jobs still done by people barely paid a living wage. Routine work is moving to countries where the cost of labor is very low, as shown in Our world's education systems must now prepare as many students as possible for jobs at the top of the chart-the high-paying[17]. Type of task and task description will be very much different from what we had 10 or twenty years ago and tables of jobs and the 21st Century has shown the different and example of occupation. What have been shown here are the example of reality in life that the millennial students or young people will facing here and now and still puzzling for the future.

There are three exercise question and the possible answer that we have discuss but one aspect that strongly related to the problem of enhancing student teachers teaching and learning is 21st Skills that consist of : 1. Learning and innovation skills; 2. Digital Literacy skills and; Career and life skills. As a professional teacher which his or her main task or responsibility is teaching. The changes in this era comes with disruptive situations as part of the industrial revolution will make the situation more complicated. The complexity of teaching and learning context influencing the role of student teachers based on the characteristics of the above aspects (by a range of new technologies that are fusing the physical, digital and biological worlds) the changes in education and the new paradigm of the teaching profession and teacher leadership that has mentioned in part 3. Preparing and developing quality teachers for them to cope with the rapid changes in every area of life including education and teacher profession. Traditionally way of teaching and learning has now become obsolete and the situation itself becoming a driving force for teachers to change. Student teachers will facing not only changing in the sense of content and methods of teaching and learning but also in problems and context of teaching and learning. To overcome the problem of teaching and learning mastering and practicing 21st century skills will help students teachers to be successful in their profession as young teacher at school and helping student to successfully in their lives and careers. The 21st learning skills according to Trilling and Fadel [17] are:

1. Learning To Learn And Innovative

The first set of 21st century skills focused on critical learning skills and innovation:

- Critical thinking and problem solving (expert thinking)
- Communication and collaboration (complex communicating)
- Creativity and innovation (applied imagination and invention)

These skills are the keys to unlocking life time of learning and creative work.... The first two skills in this set, critical thinking and problem solving and communication and collaboration, are the key learning and knowledge work skills that address these new work skills demands. ...Thus the third skills, creativity and innovations, focuses on discovery and invention.

2. Digital Literacy Skills

- Information literacy
- Media Literacy and
- ICT Literacy

It is no longer enough simply to read and write. Students must become literate in the understanding of visual image. Our children must learn how to spot a stereotype, isolate a social cliché and distinguished facts from propaganda, analyses from banter and important news from coverage. –Ernest Boyer, past president, Carnegie Foundation for the advancement of teaching. As example, in the 21st century, everyone’s level of information literacy and fluency will need to rise. Whether at work, in school, at home or in the community, there will be increasing.

- Access information efficiently and effectively
- Evaluate information critically and completely
- Use information accurately and creatively

3. Career And Life Skills:

- Flexibility and
- Adaptability
- Initiative and Self Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

How would the manager of someone on the team evaluate that member’s work at the close of the project? The manager might use a set of performance evaluation criteria, a common practice in most business today that includes both work outcomes and skill rating. In the 21st Century Skills can become an answer for the impact of the fourth industrial revolution in relation to education especially in educating students teachers at the education university. The skills needed in education are world of Knowledge Age work requires a new mix of skills, transdisciplinary approach.

V. CONCLUSION

The role of education university and other teacher institutions in preparing student teachers including civic education teachers are very important roles in answering the impact of the fourth industrial revolution together with disruption. Change and challenges continuing to happen and that will change the process of education at least on education university should prepared competence and quality civic education teachers for school. One of the programs needed in developing new paradigm of teaching professions and the teacher leadership for school improvement and development is school/university collaboration that can help student teachers becomes quality and competent teacher. The changes and challenges would affected approaches, contents and teaching methods including application of techno pedagogical concepts in the teaching and learning of civic education.

In helping students to live successfully in their time for learning, job and their career, mastering and implementing the 21st century skills by student teachers that consist of Learning to Learn and Innovative; Digital Literacy Skills and Career and Live Skills are the key for young generation to success. In the 21st competent and quality teachers will be continually playing strategic role in educating younger generation for the future.

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