Early Childhood Education Teacher Training In Indonesia: Tapping Technology to Maximize the Return of Investment

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Abstract

Technology changes human life and education always evolve with new technology discovery. Throughout the times it is always the purpose of education to prepare for a job or a career, however with the rapid growth of technology, it is no longer possible to predict what kind of job or career will still exist in the future. The only option we have is to prepared them for it. The children has to have 21st skill and the best agent to teach it is through teachers. Indonesia with its large number of early childhood education teachers struggled to give its teachers continuous professional development. High number mean high cost. Collaborative effort from all stakeholder is a must. However, Indonesia can also use technology to improve teacher competency in a low-cost but effective manner.

1. Education and Technology

Education is evolving. During ancient times until middle ages education were limited and imparted on a person to person basis. Frequent wars and battles often disturbed schools and halted studies. Literacy were low and for the less fortunate, education means submission of children in order to make them good labourer. With the invention of printing technology, education began to change. It is now accessible for masses. Knowledge are no longer bounds to sage or master as written manuscript are shifting to printing. When new technology was discovered, it does not take long for people to found it usage in education such as when American art history course were offered through radios after its discovery in 1920s, or when Iowa University deliver is course content using TV in 1940s.

Another major changes in Education is when Internet and Information Technology emerge providing new platform to learn. With ICT resources were readily accessible at anytime and anywhere thus learning can shift from faculty centered toward learner centered mode. It is argued that learner can become more autonomous and independent of their learning instead of relying on teachers as source of information.

One of the purposes of education is to create effective worker or to prepare students for a job or a career. Recently, global connectivity, smart machine, and Cloud Technology has again push changes to be made in education. The urge to change education comes from the fact that while new technology brings new jobs, at the same time it also destroys jobs. However, the United Nation in its 2016 “The Learning Generation” Report warned us that these new technologies might not create new jobs at the same rate they are eradicating them. It also points out that many low and medium skills jobs will not be needed anymore which result in around 2 billion of the world’s jobs are at risk. The rapid rate of technological advancement raised question on how education can prepared young children for jobs that have yet to exist. These children must be educated to become a lifelong learner with skill that can adapt to these fast changes.

2. Preparing Children for Indonesia Golden Age 2045

With the success of family planning (Keluarga Berencana), Indonesia is estimated to have demographic bonus in which Indonesia will be dominated by youth who belong in working age group. Indonesia is expected to reap from from its working age group which is estimated to reach 70% in 2030. This estimation leads to another prediction that Indonesia can become one of the world’s economic giants in 2045. Demographic bonus however, is a double edged swords. When the labour market can absorb more worker then per capita production will increase. If not, then unemployed workforce can become a potent social and political instability. McKinsey in its 2017 report mention that 12% of Indonesia current workforce activities can be displaced by automation. Indonesia also face the opportunity/threat of ASEAN Economic Community in which Indonesia is not only open toward the flow of goods and services but also professional labour market such as doctor, lawyer, accountant, and others.

Another challenges of Indonesia Golden Age 2045 are the emergence of new business models such as online platform and over-the-top. Online flat form such as Tokopedia, Bukalapak, and other Amazon like business has beginning to replace shops and stores. Meanwhile, Over-the-top Uber-like transportation business such as Gojek and Grab has rapidly gained customer and partners in the expense of “old traditional workers” who cannot adapt to new technology. In these two examples, only peoples with the ability to learn can adapt to changes in life. Therefore, the key to reach Indonesia Golden Age is to prepare Human Resource with 21th century skills and the best way to do it is by investing in education and studies has showed that investing in Early Childhood Education can produce higher economic return.

3. Early Childhood Education in Indonesia

Early Childhood Education in Indonesia can be dated back to years before the independence. Five year after the declaration of independence, in 1950, Law number 4 on Basic Education and Teaching recognize kindergarten as part of the national education system. The curriculum for kindergarten was introduced in 1993 which consist of Behaviour formation and development of basic abilities: creativity, language, thinking power, skills and health. Through 1998 to 2003, in the beginning of education autonomy, the government started supporting the development of non-formal early childhood education in forms of playgroups (Kelompok Bermain), day-care (TPA), and similar ECE unit (SPS). In 2001, the ministry of education formed the Directorate of Early Childhood Education to carry out the mandate to develop non-formal ECE.

Law number 20 of 2003 on National Education System was the first law in which ECE specifically regulated. ECE Program was then becoming part of 2004 – 2009 ten priority program of the ministry of education. By year of 2009, ministerial regulation number 58 was released which stated the standard of ECE (formal and non-formal) which was then replaced by ministerial regulation number 137 of 2014. Currently, to ensure quality education in ECE, all ECE unit, formal and non-formal, received educational operational assistance fund from the government based on the number of children enrolled. The government of Indonesia are also committed to implement Sustainable Development Goals Target 4.2: 'ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education'. Aside from the two global indicator: Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex, and Participation rate in organized learning (one year before the official primary entry age), by sex. The government has added a third indicator which is the gross enrolment rate (Angka Partisipasi Kasar – APK) of early childhood education and is targeting to achieve 77.2% APK by the year of 2019. In 2014 the APK for ECE is 68.10% and it increased to 70,06% in 2015 and 72.35% in 2016. This on-track development is aligned with the growth of ECE unit and children enrolment.

During the 90's period, there were not many parents who sent their children to kindergarten because of economic factors. However, there has been significant changes since then. Based on Centre for Educational Data and Statistics data, in 2013 there are 4.174.783 children attended kindergarten and 6.924.831 children attended non formal ECE unit. In just 3 years

this number has increased to 4.605.809 or a 10.3% growth and 8.027.829 for non-formal ECE or a 15.9% increase of students. During the same period, in 2013 there are 74.982 kindergarten out of which 96% are private school. At the same time there are 100.416 non formal ECE unit. These number increased to 88.381 in 2016 for kindergarten which is a 17% growth. Non formal ECE unit also grow by 4.5% to 105.005 in 2016.

4. Early Childhood Education Teachers Development

The keys to successful education are good teachers. To ensure quality education for early childhood, the government of Indonesia has stated in the Standard for ECE that ECE teachers must have a bachelor degree qualification in ECE or psychology. In 2013, the number of kindergarten teachers that meets this standard is only 38.1% from the total number of 377.164. The percentage increased to 51.5% in 2014 and 59% in 2018 from the total number of 316.453 teachers. Although there is a significant 21% increase, it is still far from reaching the 100% standard. Teachers on non-formal ECE education has smaller percentage. In 2013 the number that has bachelor degree is only 22% out of 330.537 teachers and increases to 32% in 2018 out of 236.441 teachers. However, it is important to note that the number of teachers that has bachelor degree does not mean that they have ECE or psychology background as required. To achieve the standard, the ministry of education and some of the district government has given educational fund or scholarship and also encourage university to take on recognition of prior learning program for ECE teachers that wish to pursue bachelor degree. However, the number is limited and is far from reaching the 10 years' target that in the end 2015, all teachers must have bachelor degree qualification. Realizing that it is difficult to achieve the bachelor degree standard especially in non-formal education where teachers teach out of goodwill to provide education for early childhood and the fact that most ECE teachers does not have basic education in ECE, the government stated in ministerial regulation number 137 of 2014 that ECE teachers with lower qualification can teach as long as they have received training in ECE. The aforementioned training is called "Diklat Berjenjang". Diklat berjenjang started in 2011 and consist of three levels. basic, advanced, and proficient.

Diklat berjenjang has been well received by the ECE community, in 2017 it is estimated around 147.388 ECE teachers has been trained in basic level and most of the funding comes from the teachers itself or ECE professional organization such IGTKI (formal) and HIMPAUDI (non-formal). The government is targeting to increase this number up to 199.828 in 2019. However, it is important to note that total number of ECE teachers that have not met the qualification

standard in 2018 is 288.661 out of 552.894. Therefore, collaborative effort by all stakeholder are needed and especially by the district government who is in charge of teachers to know that investing in ECE teachers training will in long term have high return of investment.

5. The Role of Technology in Teacher Training

The problem that the ministry of education has concerning ECE teachers training is data collection. Over the years Diklat Berjenjang has been held by various stakeholder such as professional organization and district government however it is not well documented. Data are scarce and it is hard to link one database to another. In 2016, the basic education data (DAPODIK) is released which record unique data of schools, students, classroom, and teachers. The release of Dapodik has open the opportunity to have a map of ECE teachers' competency as all teachers are must be documented in Dapodik. ECE program can now target teachers up to individual level.

The ministry of education has seized this opportunity and made effort to improve teachers training and ensure that teachers professional development is not overlapping from one stakeholder to another. While the focus of MOE is to ensure all ECE teachers have at least trained in basic level, we must also remember that professional development is a continuous process. It is not enough to have teachers trained just once in ECE, they also need to monitor their progress, reflect on their on what they learn and practice, and also gain new skills or knowledge. With such a huge number in hand, this process surely is daunting. The key to this problem is to change teachers perspective from passive to become active learner which is exactly what we want our children to achieve. Teachers need to realize that they are responsible for their own development. However to expect ECE teachers, especially non-formal ECE teachers with such low salary to be able to improve themselves is too much to ask. The government still need to step in and contribute.

The government can take advantage of the advancement of ICT and the penetration of internet in Indonesia. There are two ways the government can help ECE teachers to improve themselves. First, is to create online training. Online training gives the option of low-cost, flexible and personalised training. Conventional face-to-face training has its own advantages but it is more expensive and when different participants have different training needs, it becomes less effective. With online training, once the participant need has been identified, the administrator can create specific class for each person without having to worry about geographical barriers. It reduce the cost of transportation, accommodation, material printing

and consumption making it cheap in comparison to face-to-face training. With online training, stakeholder can also observe the progress of training at real time which can further improve training quality. Online diklat berjenjang training has been implemented in ECE center in West and Central Java and thousands of ECE teachers has attended the training.

Second is to create ECE resource readily available and easy to access for all teachers. The penetration of smartphone in Indonesia is quite high with 130 million out of 265 million population has smartphone or tablet. The government has taken advantage of this by creating tv-edukasi app for android smartphone which is consist of learning videos for all level of education. There is also document repository which consist article, technical instruction from all ministry of education offices. Whats left is to attune teachers toward this technology as new learning requires new teaching.

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