



## A Comparison is aimed at the Integration of the Technology in Education System; As an Example of "Turkey and South Korea" \*

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### Abstract

Rapid developments in Information Communication and Technology [ICT] around the world affect education systems like every aspects of our lives. With the FATİH Project carried out in Turkey, ICT's effect goes toward a new process. It is expected that while the rapid developments are experienced in our country, knowing how these processes experienced in developed countries not only affects the application process of FATİH Project but also contributes to it.

The goal of this study is to evaluate, together with computer and communication technology (ICT) of Republic of Korea that offers model applications in the world, the integration process of FATİH Project which is in the application process in Turkey. Document analysis method is used as a Data collection tool while as an approach descriptive scanning is preferred in this study. According to the findings from this study both of countries have similar and different aspects. While hardware, software and networks show most similar aspects, teacher training and certification systems, context form and management, e-learning standards are the most important differences. There exist necessary suggestions about education of teacher and content of the teacher's education in this study for authorities and anyone concerns.

### Keywords

FATİH Project  
ICT Education  
ICT Integration  
Teacher Education  
EBA Comparative Study

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### Introduction

A period of time in which there is no technology cannot be imagined. In this century, human beings do all their staff more comfortably thanks to technology. By means of technology people not only can reach any information, they are curious about immediately, but also enjoy doing the shopping. Besides, they keep in touch with their loves by multiple communication devices without any constraint of time and place. They can implement all these transactions quickly and with less effort thanks to technology. As for intuitions, just as the use of technology becomes widespread better services are given, more efficient studies are done. In conclusion, more qualified products are relieved and in this way the technology has become indispensable factor of life as center of attention of all sectors (Ayvacı & Başak, 2016a).

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While present world shows improvements and developments against technological developments in a consistent change process, a lot of sectors including education system have started to show improvement on the same level by being affected from these change and innovation actions. The skill to reach any information an individual needs, obtaining reliable information and how to benefit further from technology by increasing its efficiency in teaching and learning activities direct people to seek. Providing another alternatives to individuals who have different learning skills and also problems, deficiencies and similar issues are some of the topics that educators want to solve by using technology in recent years (Bozdoğan & Uzoğlu, 2012; Ministry of National Education [MEB], 2014).

It is not said that both education system and individuals of our country are irresponsive to technology based change and transformation movements occurring in developed countries of the world. The rivalry in order to exist in the world points that individuals are consistently in the need of lifelong learning. In this period, changes in the nature and definitions of many of concepts in our lives are also experienced. For example; educated people in today's information society are no longer individuals with literate and 4 transactions/operations. Now, a trained person means a person who renews himself continuously according to the needs of today's world; remains indifferent to the developments in the world; applies them to his life; has a critical perspective, questioning; is open to change, developments; improves himself in using information and communication technologies and can use all of them for his daily needs. (Life Long Learning Strategy Document, 2009; Özkale & Koç, 2014).

According to the report of State Planning Organization Rapport (2006-2010), "*Information and Communication Technologies will be one of the basic tools of education system and the effective use of students and teacher will be ensured*". As it is apparent from this expression, the need for the completion of information and computer technology (ICT) in educational institutions by the authorities, making students gain proficiency in the use of ICT in these areas and also the development of ICT based training/learning programs arises. This situation requires the replacement of current conditions by the Ministry of Education and the work done on the mission field in order to ensure nationwide transmission to an information society (State Planning Organization Rapport, 2006).

Considering the statistical information about the population of Turkey, it is stated that the majority are less than age 30 and individuals under age 15 constitute 28 % of the society. The situation means (in terms of our country) the potential of a dynamic young population. When we arrive in 2020s, the young in the population groups are estimated to be in the range of age 25 and 39. Every effort made for the young at school age means that they will take their role more effectively and this will help them have a say in tomorrow's world. Thus, making a plan for young people and ensuring that they are members of the information society will be a step in the right direction. It is expressed that FATİH Project in Education which increases opportunities and improves the technology movement, will take a very important role in making a big change with the realization of these steps (MEB, 2014, 2016).

This project was planned and started to be applied with expectations that will bring about a number changes both in schools and at social levels as well as many aspects of innovation. In brief, it aims to ensure the quality of opportunity in social sphere, giving direction to improve the situation in terms of the quality of quantity in the country and also the opportunity of access to Information and Communication Technology (ICT) for all students and others surrounding them. (FATİH Project, 2012; FATİH Documents; MEB, 2014).

When the integration of ICT to education in Turkey is analyzed, there are changes for CT equipments and internet connection in all classrooms with FATİH Project from CT classes in 2000s and 2010s. The project started in November, 2010 and firstly was applied to high schools, especially vocational and technical high schools. FATİH Project between 2010-2013 and 2013-2016 was divided into 3+2 years periods. Its application to secondary education in the first year, to second stage of the primary education in the second years and to the first stage of primary education and preschool in the third year was planned. But, as for 2016 it is identified that the Project cannot be completed especially

at primary level. Through a joint venture of Transport Ministry and Ministry of Education, this Project is planned to be implemented in the countrywide in the following year. Thus, FATİH Project has 5 components. These are located as follows with the general outlines in the introduction of FATİH Project:

*i) Providing Equipment and Software Substructure:* It is stated that for respectively secondary education, primary first and second stage in phase 1, phase 2 and phase3 one computer for all classrooms (620.000), the establishment of interactive whiteboard and broadband Internet Access will be provided to each classroom. Its aim is to give tablet to each student and teacher and also the multi-purpose copier in A3 and A4 type to all stages. It is planned to establish Distance Education Centers which will be 110, including at least one in each province.

*ii) Providing and Management of Educational e-content:* All course contents approved by TTK( the Board of Education) will be shared for the use of the relevant departments in learning object and e-book format within e-content management system (Educational Informatics Network-called EBA). This e-content will be able to work both online and offline in web-based environment. As of 2016, it is said that 38 e-content provider companies provide services to Ministry of Education within EBA under FATİH Project in Education.

*iii) Effective usage of ICT in the Teaching Programs:* The curriculum is planned to be adapted to the requirements of the era, written again including the effective use of e-content. The aim of this component is to provide that teaching activities which are set for functions contained in the curriculum that is prepared by teaching departments in Ministry of Education for each subject area and approved by TTK are more effectively gained thanks to ICT equipments provided to classrooms. For this purpose, updating teacher guide books is also on the agenda.

*iv) In-service Training for Teacher to Use ICT in Classroom:* It will be provided to participate teachers, approximately 853000, in in-service training activities about the components of the above mentioned FATİH Project and improve their ability to use IT effectively with the curriculum made compatible to IT. These in-service training activities are thought to be under four main headings: They are: **A.** In-service training activities **B.** Training of manager governing in-service training **C.** Follow-up and Evaluation **D.** Motivation

*v) Effective, Conscious, Reliable, Manageable and Measurable ICT Usage in Education:* It is stated that safe and traceable Internet infrastructure will be established in schools in order to provide the conscious and safe use of Internet with ICT equipments in educational process (FATİH Project, 2012; MEB, 2014).

Before FATİH Project, some of the projects were implemented or supported by Ministry of Education with the protocol signed by Ministry of Education and some international technological enterprises. Some examples are: Distance Education Project of Microsoft Company, Education Project for the Future of Intel Company, Web-based Content Development Project of Adobe Company, BTT or CCNA Training of Cisco Company, Think Quest Project etc. (Aktaş, 2015; Önder, 2015).

And also, some decisions about the integration process of ICT to education in Turkey were affected by developments in the world especially in 2005 and 2006 action plans. But, it was determined that these decisions weren't able to be fully implemented at the time. In the report of 2005 action plan in a survey conducted by Gökdaş and Kayri (2007) about this issue, decisions that may form the basis for e-learning applications in the future are summarized as follows: The establishment of 4000 information technology classrooms to 3000 primary schools under Basic Education Projects and 1400 information technology classrooms to primary schools with the European Investment Bank resources and the establishment of information technology under the campaign of 100% support to education were planned.

Decisions in 2006 action plan are as follows: 1-Training of the needed manpower in the field of Information Communication Technologies will be supported. 2-The use of Information Technology in Education will be made more effective and generalized. 3-Facilities of schools for Access to Internet will be developed. 4-Studies for ensuring the speed Internet Access in all classes will be completed as soon as possible. 5-Education portal will be established and also the opening of portal to students, teachers, parents and the concerned parties will be provided. 6-Educational software for schools will be provided.

Many of the decisions for ICT equipments were implemented despite some deficiencies (eg. CT laboratory classes for each school) However, it was assessed that most of the information technologies sent to schools became unusable rather than being used effectively and it was determined that deficiencies and inadequacies in the software of content design for web-based education and training for e-learning may create obstacles to the applicability of these decisions. It is said that especially web content in teaching institutions has some deficiencies beyond introducing the institutions (Gökdaş & Kayri, 2007). Due to the negative happenings, it seems that many works have not been carried out as the planned form. The results of some researches, which consist of the similar concerns to Fatih Project, and required to follow more systematical way, were encountered.(Bilici, Akdur, Yıldızbaş, & Kaya, 2013; Polat, 2014; Başak, 2016)

For this reason, during the implementation of FATİH Project it should be learned from the mistakes of applications in the past. It is needed to take into account the applications of developed countries which were forgotten that time and had a serious process towards ICT (Bayazıt & Seferoğlu, 2009; Dağhan, Kalaycı, & Seferoğlu, 2011; Tolu, 2014).

From the implementation of FATİH Project to the present day, including 2010-2016 years, in the scans of review about this field many studies that were published both inside and outside Turkey. By academicians most of whom work in Faculty of Education and some of whom work Engineering Faculties of some universities have worked on this Project. The majority of these studies can be listed in terms of publication types and the number of publication as follows: 83 articles, 41 reports, 17 theses, one book chapter-totally 142 publications from publication types were reached. When examining their content, in general it was determined to include the detection of problems rather than solutions. But, it was observed that they included even a limited number of partial solutions to these problems. The fact that they published their publications which were in many ways similar to each other as researches did many studies again, made the quality of publications questionable (İslamoğlu, Ursavaş, & Reisoğlu, 2015).

This situation was reflected as a solution based study that would be offered to the concerned conducting from the academia towards the problems encountered about FATİH Project. Thus, for finding a solution against the problems in this Project MEB (Ministry of National Education), YEĞİTEK and TUBİTAK have stated that academicians who work in certain fields will be encouraged by TUBİTAK and these institutions regularly hold symposiums and meeting in order to be modified of work (Scientific and Technological Research Council of Turkey [TUBİTAK], 2013; Eğitimde FATİH projesi zirvesi, 2015).

When the studies are examined after the results of the literature inside and outside Turkey about FATİH Project, common topic in general can be listed as below:

I-Many of the studies include opinions of teachers, students, administrators and parents for FATİH Project and their attitudes to the perceptions and qualifications against the Project (Gürol, Donmuş, & Aslan, 2012; Karataş & Sözcü, 2013; Şahin, Aktürk, & Çelik, 2013; Aytaç, 2013; Çiftçi, Taşkaya, & Alemdar, 2013; Koçak & Gülcü, 2013; Kuzu, Kurt, Dursun, & Güllüpinar, 2013; Bağcı, 2013; Koçak, 2013; Güllüpinar, Kuzu, Dursun, Kurt, & Gültekin 2013; Çoklar & Tercan, 2014; Horzum, Öztürk, Bektaş, Güngören, & Çakır, 2014; Hörküç, 2014; Altın, 2014; Ekici & Yılmaz, 2014; Öz, 2015).

The most prominent feature of the work is also defined as more stakeholders to reflect the perspectives and expectations of the Project. Actually evidence for how the Project make an impression according to the public opinion or limited level of knowledge and level of education is obtained. And these problems have made difficult to apply Project and to obtain data for the implementation of Project and the vision of the Project. Similarities in the projects led the idea that researchers were not aware enough each other's work.

II-Another issue is the focus of researchers determined that in order to assess the implementation of the FATİH Project. However in the assessments which have been done, were focused on only one subject and it seems that the assessments were applied superficially with limited people. In add, teacher incompetence, e-content and software, as a problems of these works (Türel, 2012; Bayrak, 2012; Özdemir, 2014; Çetinkaya & Keser, 2013; Polat, 2014; Çuhadar, 2014; Karaman, Bayrak, & Kurşun, 2014; Aktaş, 2015; Önder, 2015; Alabay, 2015).

But, it has been encountered very few studies in terms of producing solutions against all the problems. The main reason of this situation is that similar studies to The FATİH Project conducted abroad aren't examined in-depth and it is unknown how to do similar work and how the continuation of the project with an organization is maintained. That's why this kind of work is of great importance in terms of giving the researchers an idea.

In today's technological world, the digital era reforms in developed countries, earnings of the country, changing conditions, have been forced all countries to make similar work. Every day, ensuring the necessity of integration of ICT in education is becoming increasingly common. In abroad there are similar works such as FATİH Project which is implemented the effective use of ICT devices in our country. In general, as an ultimate goal of the project carried out:

- To keep up with technological developments across –world
- To reducing the dependence of foreign technology and being predictor country of technology.
- To integrate Technology in Schools learning environment (new generation technologies, class website, the class blog, mobile tools, interactive whiteboards, online media, digital games include a lot more technology, such as computer simulations and computer animations \_ other equipment)
- To train individuals who can effectively use.
- To train individuals who connected with tradition, favorable necessities of the age, use technology effectively, conscious, productive, know reaching way to information and distinguish true and reliable information, qualified, digital citizen and to protect school-age individuals especially is aimed against negative effect of technology. Countries (or government) spend money and make effort seriously for this projects. (Akyüz, Pektaş, Kurnaz, & Kabataş Memiş, 2014; Ayvaci, Bakırcı, & Başak, 2014; Alabay, 2015; Öz, 2015).

In the process of integration into the education system of ICT training South Korea, USA, Germany, Finland, Portugal etc. can be considered among the leading countries.

A Magellan Project which is called Magalhaes Project is the first countable one considered similar to FATİH Project in Portugal literature. The Project takes its name from a famous Portuguese Explorer Ferdinand Magellan known as the first person performing a world tour by sea. Briefly, the Project includes tablet distribution for students aged between 6-10 and network infrastructure and e-content generation and use skills across the country. (Magellan Project, 2013; Pamuk, Çakır, Ergun, Bayram Yılmaz, & Ayas, 2013).

It has many similarities with FATİH Project. Touching them briefly; strengthening the link with the past and history and the historic country name integrated with that country can be an example. For example, the conquest of Istanbul, which performs the start of a new era with the famous Ottoman Sultan Fatih Sultan Mehmet Han and led to the emergence of new developments. Likewise, in the promotion of FATİH Project, a particular emphasis is made on this name and the aims of the project are listed thereafter. Other similarities can be listed as the technology policies including the integration of ICT and similar objectives, technological hardware and network infrastructure investments, teacher and administrator training, some content applications and the essence investments to strengthen local resources of the country and the essence of software project (Öz, 2015; Ayvaci & Başak, 2016b, 2016c).

Another country pointed out similar projects as in the FATİH Project is Finland. With its unique characteristic, Finnish education system has taken interest of many countries. While many projects are being conducted in the country, a technology integration project of Finland Mubiluck is considered one of the most important leading project in the country. The project is carried out with high school students over the age of 13 between the years 2012-2016. In the project, 6 schools are chosen as pilot schools and iPads and tablets were distributed to the teachers and students of these schools. Enriching the learning environment with technology, new learning opportunities have been created for the students. Carrying out different training and education activities are planned for teachers and students by entering a different strategy with this technology. ("Tablets in the classroom", 2013; Polat, 2014).

Whereas there are similarities, there are also different aspects when compared to FATİH Project. First, the Finnish national IT network system to content Edu.fi with EBA in Turkey (Education Information Network) are the first aspects that are similar.

Besides that network infrastructure, technological foundations, methods of supplying and producing e-contents, and as it denoted in the previous part for Portugal, while there are some similarities about other factors of technological integration, approaching more systematically to infrastructure workings may assume as differences (Alabay, 2015).

But the most important difference that is noticeable is in-service teacher training for teachers. Bilici et al. (2013) made clear that the work of information technology for all branches in Finland, teachers who can use the device the technological devices effectively train other teachers in the same branch.

It is stated that Germany has entered into this process with media training and educational videos. It can be said that the process of ICT integration has begun with the arrangements to reduce the harmful effects of media on society. In addition to ICT tools, procuring the Mikroelktro microscope to schools has accelerated the process of using technological equipment. When it comes to 2000s the project known as "Schulen ans nets" has become to spread all around the country and with the use of ICT equipments in this field various software projects have been developed. Service areas have mostly been carried out on websites. However, these developments have proceeded a bit slower than the ones in advanced industrial countries. This case has been approached by the researchers with Germany's traditionalist structure and not being able to adapt to the innovations with skepticism as a result of their social structure. (Lee, 2003; Korea Education and Research Information Service [KERIS], 2010).

When it comes to the Integration of ICT education in the United States, different reforms and aims have been developed according to the people in the government. For example, during the Bush administration in 1900s (G. Helbert walker Bush) 'No Child left Behind Act' Project was seen as a Pioneer till 2000s, however when the government was changed, that is, in Clinton administration in 1996, the Project changed its name as 'Technology and Literacy Challenge' and it started a new period. With this Project it is aimed generally: 1. Teacher Training 2. The ICT Equipment Support that Students can use 3. Improving the internet infrastructures of schools 4. The use of ICT in teacher education. It is also stated that a serious fund is allocated to this Project in this process. However, it is concluded that this process hasn't developed as the White House expected and the results in the provinces inhabited by poor families has been much more worse than the ones living in better conditions in terms of development. (Lee, Yoon, & Lee, 2009; Bernard, 2010).

Apart from this, there are also studies similar to FATİH Project in many countries such as Malaysia, Australia, Singapore, Thailand, Scotland and France.

In the process of the integration of ICT into the education system, education is also undoubtedly one of the most important countries in the Republic of South Korea. Implementing ICT integration process successfully, thanks to technological reforms they have made good results in international tests show they have been referred to as the biggest underlying cause of this situation. So it has been the focus of attention in many countries. Central administration, namely decisions are taken from center and propagated to the general of the country and the exam system of the country, and when ICT process of Korea and teacher education and also parallelism between FATİH Project and process of ICT is analyzed it is determined that Korea is the one of the country which has lots of similar features with Turkey (Lee, 2003; Lee et al., 2009; International Distance Education Center of Korea, 2010).

The first studies in South Korea was determined to be at the beginning of the 2000s. Encouraging first digital content in technological development and information and to educate professionals technologies "On-Line Digital Content Industry Development Act" was enacted (Lee et al., 2009). In this way, in the next process for the development of digital content and the needed software the first steps have been taken. For the next steps it is aimed to translate the school books electronically. Another project is that in South Korea via "Smart Education" Project it is aimed to distribute tablets to 7.5 million elementary and secondary school students and improve the z- book formats such e-textbooks by 2015 (Kim, Yang & Hwank, 2010a) . The main goals of the project are stated as to ensure the efficient use of technology and may be equipped with the requirements of the age and the ease of access to information in tomorrow's changing world of today's students.

In 2013 Economic Policy Research Foundation of Turkey [TEPAV], prepared a report called 'To what does South Korea owe its innovation? Implications for Turkey. It is stated that this country's High-Tech Export has been 10% in 1990s and this rate has been increased at a rate of %130.4 and the country has taken a place with the highest export in this area ranking in the top 5 countries in the world. It is noteworthy that this increase carried out by science and technology innovation in motion is coincided with the integration of technology and education carried out at the same time.

Therefore, those made in the organizational structure and process of this country, a team FATİH Project also being implemented in our country is obvious to provide a positive contribution. Identifying the underlying cause of the success they have achieved in the process of implementation of the ICT in this country and benefiting from their experience will give the opportunity to manage at best. It should be known that the examination of Korea's ICT integration and teacher training process will provide a positive contribution considering the FATİH Project which is applied correspondingly in our country (Başak, 2016).

Some organizations such as UNESCO, ISTE and NEST that have very important activities in the world recently make a team work about the developments in technology in various countries. The outstanding goals that UNESCO has for teachers can be listed as to lead the global world, to increase their status, to lead to the development of professional knowledge, to be active and decision maker in educational policy and to ensure the role as transmitters and administrators. Some of the countries that give the education to the teacher can be listed as Armenia, Azerbaijan, Belarus, Republic of Moldova and the Russian Federation. UNESCO has conducted a number of common activities with these countries (Khoroshilov, 2009; Bernard, 2010).

Considering that these developments took place in Turkey the developments and changes occurring in the world must be followed closely. (Bayazıt & Seferoğlu, 2009). It should be known that knowing the kind of paths have been taken, strategies have been followed especially for the ones being resistant to teacher training and the kind of problems have been faced by these countries for the integration of ICT in their education system will also contribute positively to the FATİH project implementation in our country. Therefore, it is a need to assess the other countries parallel studies in the process of this project's implementation in our country. In this study, FATİH Project has been dealt

with the Republic of South Korea's process, showing the greatest similarity of ICT integration, in detail and FATİH Project has been compared with its components.

### *Aim*

Purpose of this study is to evaluate the process of integration of FATİH Project that is in application process in our country to the education system with the integration process of ICT in South Korea which is getting pioneer with its sample applications in the World.

## **Method**

### *The Pattern of the Research*

In this study, the descriptive scanning method has been adopted. Çubukçu, Yılmaz, and İnci (2016) expressed that it is the mostly used method in the comparative works.

Çepni (2010) has expressed that for the researchers each source is read carefully, the necessary knowledge is noted and with these notes they have made same evaluations by finding the existing sources convenient to its purpose in this method. He has stressed on general tendencies, the presence of alternate thoughts and ideas that shaped into a more clear form when estimated in detail by following the practical. That is why this method was used in this study.

Herdman (2006) has determined for these kinds of studies, also known as compiling studies that it is fundamental for following the innovations about the field of study apart from collecting a specific subject under a voice. These sorts of studies which are realized in a specific field and subjects have the peculiarity of classification and the ability of been utilized. These kinds of studies also include an extensive literature study that support other data of sources and researches articles. Moreover, it is not only brings new comment to the previous publication and it can put new comment get the it has the characteristic of making a synthesis of summarizing from other researchers' approaches, ideas and publication it is also stressed on the deficient and controversial and weak and strong points in literature. For this reason, it states the necessity of giving this these main topics and subjects which unite these sources rather than explaining the each details of each source by arranging them in order.

### *The Extent of the Research*

In this study, at first, the studies that have done before by researchers in same countries (Like Finland, Portugal, Germany, USA and South Korea) which pioneered in the integration process of ICT' Countries' education System has been examined in general. At the end of the study it has been determined that the best similarity to the FATİH Project examined in our country in terms of content and management is with Korean Republic. It is stated that the same way has been followed in the same applications. Furthermore, in spite of some differences like in Turkey, also in this country, decisions are widened by a central administration (Lee, 2003; Lee et al., 2009).

In addition, in Korea, the success that accomplished in TIMSS and PISA which are held internationally, has realized by the technological reforms and by the way it's has raised the attention the innovations in this country. For example, according to the TIMSS 1999, 2007, 2011 and 2015 results, while the success in science was in 5<sup>th</sup> level, it has aroused to 4<sup>th</sup> and 3<sup>rd</sup> level. TIMS 2015 Exam that was applied as the last exam, it aroused 2<sup>nd</sup> level. In terms of math, it has aroused the 1<sup>th</sup> level while it was the 2<sup>nd</sup>.TIMS 2015 Exam that was applied as the last exam, it got the highest point and again aroused 2<sup>nd</sup> level. Also, while the last math score was 60 in the fourth grade, it has been the first with 606 score in the eighth grade, and science point was placed the 2<sup>nd</sup> level. It got the 589 point. It is the lack of just only -1 point after the first country's point. (*Trends in International Mathematics and Science Study [TIMSS], 2011, 2015 Analyze Rapports*).

Moreover, it has also got great attention by increasing its success according to the years in the first 7, 5 and 3 in PISA exams that are held in each three years since 1999 (Programme for International Student Assessment [PISA], 2012, 2015 Analyze Rapport).It was placed again first lines at last PISA 2015 Exams. Thus, the extent of this study is examined in detail by comparing the ICT education and process in Korea and the applications of the FATİH Project in Turkey.



### *The Data Collection and it's Analyze*

As mentioned above, it is executed according to the methodology in this research, too. In the introduction Thematic Compiling study has been essential. Herdman (2006) has an evaluation on the researcher based subject for Thematic Compiling study.

Therefore, in the introduction, the extent of FATİH Project has been examined in detail, the deficient and strong sides have been determined, the necessity of the study has been evaluated after mentioned the similarity and differences of the similar studies in the world.

In the finding section, the Chronological Compiling approach has been essential. Herdman (2006), the developments in a field are investigated by following the way of main theme. He realizes that the subject is analyzed the developments in the process of time and also the specific parts of time. Therefore, it is studied with the details of the ICT integration process of South Korea Republic and Chronological compiling studies.

While deciding on a certain theme different comments and studies have been estimated.

At first the data convenient to the target have been found, read, noted and collected to be evaluated. In the translation to Turkish from English some translations were held by taking care the comments of a second independent researcher at the same subject in same fields because of the fact that the data is mostly originated by foreign sources. In the last parts, in general sense, the studies in Korea have been gathered under certain topics as in FATİH Project. It is also dealt with the comparative processes applied in the FATİH Project after signifying what have done in this country, with whom it was had done for which targets and how it was concluded.

### *Date Collective Tools*

Data have been gotten through data collective tools. These tools consist of four publishing types, which are article, declaration, parts of the thesis and book. While finding the data, a lot of internet sites, which are like YÖK, Google Academy, Publishings of Universities, and some Communities were scanned. During the scanning process, as the key words, which are Fatih Project, New Generation Technology Educations, KERIS (Korea Education and Research Information Service), the Integration of Technology in South Korea, ICT's Education in Korea etc., were written both in Turkish and English. And both country's works that related to integration of technology, got obtained. Some of them were chosen according to suitable for his work's aim. 142 works, which had been applied both up country and abroad, were benefited of FATİH project. 17 works that were related with South Korea, were benefited. As it was stated previous parts, data were compiled by content analyzing.

**Table 1.** The Distribution of the Publication Types, According to Years

Publication Types	2010 and Before		2011		2012		2013		2014		2015		2016		Total Numeral	
	Korea	Turkey	K	T	K	T	K	T	K	T	K	T	K	T	K	T
Thesis	---	---	---	---	---	2	---	4	---	5	---	3	---	3	---	17
Article	6	3	1	5	---	9	3	14	1	19	2	17	---	16	13	83
Announcing	3	---	---	2	---	3	1	9	---	11	---	10	---	7	4	41
Part of book	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1
Total															17	142

## Findings

In this part at first, the studies which have done under the topic of components like in the integration process of ICT' education system in Korea and FATİH Project have been held. These components will be examined in detail under the topic of in service training activities, safe and conscious internet using and precautions, providing equipment software substructure, following and evaluating studies, e-content activities, some problems in practical the certification system (ISST) which is the sign of the sufficiency of teacher in Korea's ICT.

### *In Service Training Activities and Teacher Training*

It can be evaluated that in Korea the most important feature separate from other countries' applications in ICT Integration Process is the education process of the teachers. The politics of education through the teachers and thanks to the educational programs executed by the time and efficient following and evaluation, the teacher training system in Korea is revealed among the best ones in the world. Therefore, every year nearly 50 countries visit Korea to see these activities in there and apply them to their own countries. Many similarities are also emerging in FATİH Project in the next parts.

The ICT developments in Korea have been improved with the applying of the master plans to the education that was prepared by Ministry of National Education for 3 and 5years. The first master plan has been focused on removing the deficiencies of background in primary and secondary schools. The second master plan has been focused on training the teacher who is able to apply classroom activities of ICT technology in the integration process and increasing the sufficiency of teacher.

In this process, briefly called NEIS (National Education Information System) has been developed and so a manageable from central and more efficient and faster interference system has been founded. Between 2006 and 2010, the last master plan has been focused on developing the digital textbooks that are usable in everywhere and thought for different purpose (KERIS, 2009; Kim et al., 2010a).

**Table 2.** The Process of Teacher Training for ICT Integration and In Education Since 1988

PERIOD	ICT Infrastructure and Training Policy	Training Topics	No. Of Trainees
1988-1995	<ul style="list-style-type: none"> <li>• Master plan I</li> <li>• 1998, PCs (XT), 1995, 32-bit PCs</li> </ul>	<ul style="list-style-type: none"> <li>• ICT literacy</li> <li>• Teacher ability to develop multi media materials and use the Internet</li> </ul>	260.000
1996-2000	<ul style="list-style-type: none"> <li>• Master Plan II</li> <li>• 2000, Teacher computers with Internet connection and a projector per classroom in primary and secondary schools</li> <li>• 1997, 1st phase of ICT teacher training for over 25% of teachers annually</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher ability to use and produce educational content and materials</li> </ul>	340.000
2001-2005	<ul style="list-style-type: none"> <li>• Master Plan II</li> <li>• 2001, 2nd phase of ICT teacher training for over 33% of teachers annually (mandatory course)</li> <li>• Also, voluntary courses (15 hrs. per year)</li> </ul>	<ul style="list-style-type: none"> <li>• 2001, 2nd phase of ICT teacher training</li> <li>• Training focus shifted from ICT literacy to ICT integration</li> </ul>	580.000
2006-2010	<ul style="list-style-type: none"> <li>• Master Plan III</li> <li>• Training based on teacher career stages</li> <li>• Continuously facilitating teachers' integration of ICT into schools</li> </ul>	<ul style="list-style-type: none"> <li>• Teaching with emerging technology such as Web 2.0, IPTV, etc.</li> </ul>	In Progress

*This table is quoted from Kim et al. (2010) work, Which is about study of ICT. And it emerges from MEST & KERIS (2007).*

Since the beginning of the 1996 the teacher training has entered in a more serious process and has gained a stronger structure focused on technological integration. In this period, the trainings have been done as teacher classroom activities, more specific courses for trainers and the controllers (inspectors). The teacher trainings have included the levels of integration to education even it is in beginning level and the usage of multimedia means (Son, 2009).

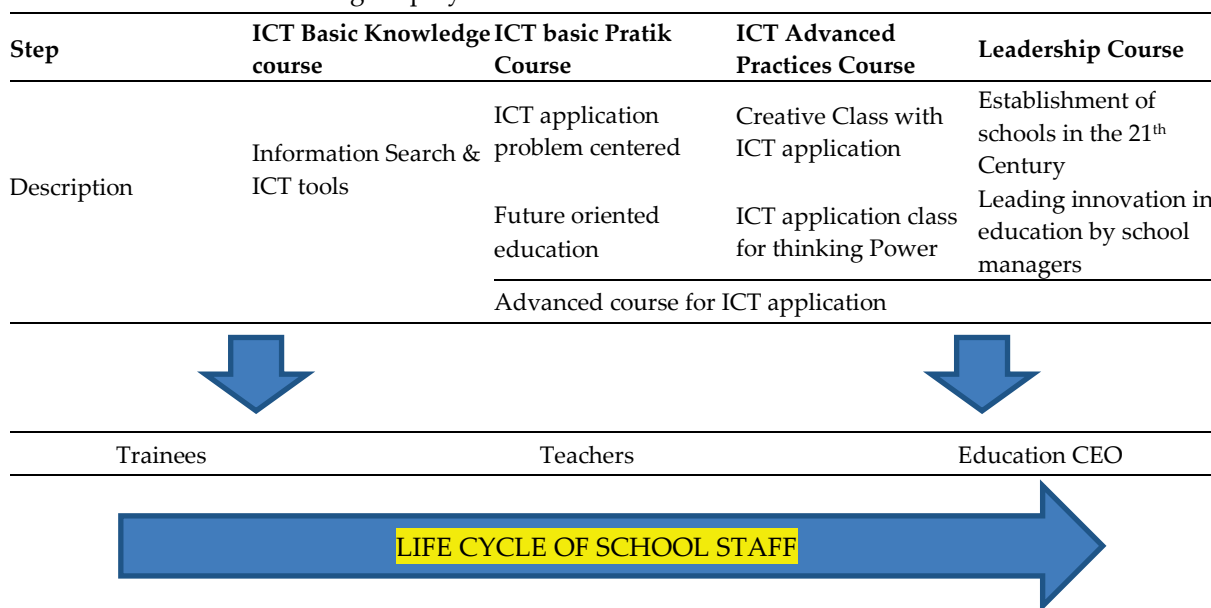
At first step, annually, %25 of teachers has been trained in these educations. Although these educations were not enough in this period, it is estimated that it contributed to both the teachers' pedagogy and teaching program (Ministry of National Education Science and Technology [MEST] & KERIS, 2007)

In 2000s after the contraction of the ICT background every teacher had a computer laboratory and every classroom had a projector. So, teachers used the computer technology in their own educations.

Therefore, the teacher trainings have been directed through ICT's teaching programs and integration process more than ICT literacy. The educations have been realized as obligatory and voluntary according to the specification. The obligatory educations have been provided for every teacher to get certain educational credits by regional educations offices. These trainings had % 33 of content a year for teacher training. Voluntary educations had been held in school at least 15 hours in a year according to the teachers' personal interest and education without formal education credits (KERIS, 2009).

The teacher trainings in ICT education and e-learning have started to increase with the 3. Master - plan since 2006. The Korean government constituted the teacher training system which teaches the ICT technology based on teachers' career steps. In every period, the contribution to what a teacher need has been provided from retired teachers to the current ones and even inspectors. The school CEO (Coordinator Teachers Principles) have played crucial role in ICT education. At the same the Ceos of the school have been controlled on school educations in this process in addition to ICT literacy. The ICT educations were also carried out for school managers. Thanks to the web sites belong to the school common learning programs were built. Furthermore, state -fixing workings were held for ICT educations. As a result, it is said that the school CEOs were educated in ICT education in %33 between 2001 and 2008 annually (KERIS, 2009, 2010).

**Table 3.** ICT Teacher Training Map by Career



*This table is quoted from Corno's (2010) work, Which is about study of ICT Politics. And it emerges from MEST & KERIS (2007).*

### ***The Structure of Institutions' Organization in Korea***

There are three structures that provide the continuity of ICT applications, having strong relations with each other and playing the vital rule. They are briefly called MEST, (Ministry of National Education Science and Technology) KERIS (Korea Education and Research Information Service) and education offices which are 16 rural and controlled location (MPOES)

*i.) Ministry of National Education Science, and Technology (MEST):* It plans and coordinates the educational programs and arranges the ICT master plans circumstances. This plan also provides the development the sufficiency of teacher in a larger frame. For example, teacher-training, teacher-selection and developing the standards and etc. are some instances. With Supporting the teacher training to the last decision institute belongs to this foundation's responsibility

*ii.) Korea Education and Research Information Service (KERIS):* It plans the following evaluation and application of the teacher education program Depended to the central administration, it is charged with every sort of education program in national ICT practical. KERIS improves teacher education programs practical lessons plans 21st century learner training and voluntary educational program (Microsoft Intel programs). Additionally, the training-trainers are all KERIS' duty.

*iii.) Metropolitan Provincial Offices of Education (MPOEs):* It is charged with keeping the applications locally with 16 ones. MPOES do all the arrangements of education programs. Generally MPOES are voluntary education according to teachers own needs due to the fact that MPOES have been the last decision organ budget- counting. These institutions arrange the practical work- plans of the educations programs. This wide- approach has been the first teacher-training program by spreading out in a short time (Hwang, Kim, Jung, & Bang, 1997; KERIS, 2002; Kim et al., 2010a).

### ***The Equipment and Software (web) Infrastructure in Korea***

Since 2000s in Korea, the working of ICT infrastructure has started. The teachers have had computers and internet connection. Computer labs have been founded and a computer and a projector have been assured in each class in every school. Despite of the difficulties in the country this situation comes true by taking a serious cut from the budget. Thus, we can sat teachers started using computer technology for their education very early. Schools and classrooms, for their needs were checked out with more developed and newer technological tools and materials. These investments that to do, brought the Korea a position that it can reach the high speed internet and infrastructure and it is considered one of the best countries.

Late years, with the second and third master plans the purpose of ICT on works around the country gives more proper and better service. On the first master plan (The School Advancement Project) it can be summarized as making and fixing the infrastructure of the school, providing the internet that can be used in classrooms and using the digital tools multimedia programs on computer laboratories, to assure assistant materials for the computers and ICT, also to progress personal support services. It is said that this process has been planned since 1990s and come up today and also some studies have been held on school managing programs and necessary steps were taken about this subject (National Korea Distance Training Centre, 2010).

### ***E- Content Activities in Korea***

The e-content activities around the country are provided by the widespread used e-content service provider websites. Today, the digital books known Z-books are used widespread. In turns, material supported education services for digital books and education software take place among the services about ICT. This configuration is known EDUNET in Korea and it helps providing education contents and sharing of integration of ICT (Hwang 2008). In technology called cutting edge (Innovations appropriate for 21<sup>st</sup> century and the latest and new technological education congenial to them) is changing continuously. That is why, Korean government is revising the educations for this technological innovations and updating the contents. For instance, the studies developed for 21<sup>st</sup> century's schools web 2, IPTV etc. helps teachers' integration to the education of ICT and on this process it helps to practical applications. Since it has been developed in 2008, the shortly called NEST (National

Teacher Training Education Information Service) helps the information needs for teacher's training, guides personal evaluations about teachers' talents and services by giving information and updated events for teacher' training (Hwang, 2008; Kim, Yang & Hwang, 2010b).

Another a long period study is the process of teachers' producing e-contents. Until the end of the 1980s both literature of ICT and the teacher's training known as training integration to ICT can be given as examples. The important thing is that as mentioned above, 1- literature of ICT, 2- providing teachers to get these abilities on training integration in later years and to encourage teachers to get these talents for their career steps. In any case on the third master plan it is said the teachers plan this change. (Song, Kim, Kim, Ban, & Ryu, 2003). In training information and communication services have 3 parts. They are; 1- EDUNET (for teaching and learning), 2- EMIS and NEIS (for Administrators), 3- CHL (For teaching at home).

**1-EDUNET:** In training the material support about using multimedia for the level of the school consist of lesson contents lesson plans and evaluation activities. EDUNET is educational portal of national training and teaching activities. This portal provides a good a good cooperation between central and local administration.

**2- EMIS:** Mostly, it consists of statically information about ICT integration of the staff for local training offices and school administrators, about financial issues.

**3-CHLS:** It provides online individual training after school, and tutor support for school training CHLS service. By providing equal opportunities for the socio-economic diversity among the students it makes a bridge for them to train after school with special opportunities. It was developed for this purpose. The common aim of these services is to provide efficient learning atmosphere, increase the product of using Bit, improve personal development and get a teachable, learnable and manageable surrounding in all over the country. (Kim et al., 2010a, 2010b).

#### *Conscious, Secure and Permanent Internet Using and Efforts on Getting Standard in Korea*

The use of e-learning technology in education lessons is rising in Korea. To be able to reach to better levels and prevent the negative effects in terms of quantity, the standardization studies have been held. The renewing movements that started with e-state and widens in national size can be shaped by the profit makers and those who have self-interests. Therefore it is very important to develop the national standards in order to constitute the sufficient and quality systems for the education researchers with the common study on the application and data-sharing management services (Khoroshilov, 2009).

That is why national standards have been developed for e-learning. Firstly, Korea Educational Metada (KEM) enacted. In addition to this, Joint Technical Committee (JTC) has been founded in 2008. Moreover, Korean's e-learning standardization has been developed to have the international standardization like International Organization for Standardization (ISO) and International Electro technical Commission (IEC). With this, it has been planned to give a more qualified e-learning service. Eventually, a secure, qualified e-learning congenial with international criteria has been constituted. (eqas). Thanks to this, besides reaching the secure and accurate data, it is aimed to protect the education institution from the harmful effect in cyber society and bring it to a better location. Also MEST has founded a new central briefly called ECSC (Education Cyber Security Center). The central has been functioned with the E-safety and E- ethics (National Korea Distance Training Centre, 2010).

### *The Following and Assessment Activities in Korea*

The following and assessment have a vital point on behalf of saving the current systems in Korea. Several planning have been done in this process to evaluate the results and provide better developments. (Hwang, 2009).

The assessments of the education programs about ICT are examined in three parts. 1-To determine the ICT'S level of application at schools, 2-To determine process of the literacy of the students, 3-To evaluate the great national projects by utilizing from the international evaluation standards.

The Korean government is not only contented with the national applications but it also makes its relations with the entire globalizing world stronger in order to have a word and follow the developments for certain. Every year more than 50 countries visit Korea Republic, develop new relations to apply the best samples in the country and collaborate with it. Counseling centers like ODA and EDCF have been founded for ICT practices (Hwang, 2009).

In Korea, even though there were some practices that other countries have utilized from, there have been some faults. In 2000s, in a study about the master plan that was held by Lee, it is stated that a study that should have been accomplished in 2002 had been completed 2 years before. The reason of this is the determination of the executers and the planners of the master plan and they do their best in their job. Another reason is stated as to catch these innovations to the new education program prepared in 2000. However, this situation has brought some troubles in the country. For instance, it is estimated that it was used immediately without doing enough researches, thus some teachers could not use ICT in their class sufficiently and separate enough time for their education and the diversity between the practices of ICT and the school practices. Also because of the fact that the schools had a competition to prepare the students to the collages have made difficult in widening of the process to the entire world. Thus, it is said that the real integration of the ICT to the education has been realized after 2001. Perhaps it was why the government has wanted to use the ICT activities at least 10 percent in the first grade of primary schools. In order to reduce the reaction and relieve the atmosphere the certification system has been started in all the second grade schools for the teachers who are supposed to oppose this (Lee, 2003; Lee et al., 2009).

### *Korea's ICT Directed for Teacher Sufficiency In Korea, (The certification system), (ISST)*

It has been consisted of resistant to change and the program aimed at winning Application segments that are not at the desired level in terms. Korean Government between 1999-2002 and 2002-2004 is said to be improved types of indicators of teacher's competence for ICT. The first indication of (ICT Skill Standard of Teacher) briefly ISST is to improve the skills of teacher in ICT standard for implementation in schools. This competence focused on teachers' computer literacy skills and professional development on the process of obtaining information. The other second's indicator has been to use in the profession and training (Song et al., 2003).

At the end of the 1990s the ministry of science and technology established ISST in order to speed up the process of obtaining information for the professional development of teachers and computer literacy. ISST and certification system are determined to improve both the ICT Skills of teachers and teacher training. This certificate based on ISST teacher's specialist teachers vice principle is said to develop the measurement and evaluation tools. The Korean government has provided 10% of teachers receive certificate based on ISST. The system of ISST certification identifies the teachers who apply for an ICT skills increase their motivation. The government has reported that teachers with this certificate privilege in the course of recruitment. Metropolitan and Provincial offices of education States at that those who

have this certificate privileged and supported especially the rise of new teachers in the profession and transfer (KERIS, 2002).

In context of ISST certification areas according to various categories standards and specifications are subject to those categories is located for ICT specialist teachers vice principle and school manager the following table summarized some features and areas of competence of ISST. These standards focus on the basic ICT literacy proficiency rather than the solution of the problem that teacher experienced in information technology. It's been done at the same Parallel indent in the certification system for second grade students through the country. Here the aim helps to determine students computer literacy and assess their level. It has been given priority to students showing these features and skills while choosing students to college (Kim et al., 2010b).

On the same line the certification system has also been done for the second grade students in all over the country. The purpose here is to determine the level of computing literacy of the students and help to evaluate them. It is also has been outstanding for the colleges while choosing the students who reveal these skills (KERIS, 2010).

With the ISST, research and development activities have been moved to 2004. This teacher training competence has been developed on the working life, learning, guidance and on the basis of management and professional development; however it's mention that it hasn't been applied to the country. Teachers have a very important role in ICT training. They are responsible for what kind of ICT and what level ICT they will use. So since 1980s the Korean Government has been offered assistance with the mean teacher self ICT literacy and education integration. (Son, 2009).

The teachers have a very important statue in ICT educations. They are responsible for the decision organs of what kind and how much of ICT will use. So the Korea government supports them about ICT the integration of education since the end of the 1980sat first terms since it was the introduction for ICT, its literacy had been given more than its integration. There are program information programming application system and the presentation program within these trainings between 1988 and 1995 (Kim et al., 2010a).

**Table 4.** A Summary of the ICT Skill Standard for Teacher (ISST)

Category	Area
Information gathering	Identify location, access, and read
	Gather and evaluate
	Store and Manage
Information analysis and processing	Produce, edit, and word-process materials
	Process and analyze spreadsheet materials
	Produce and edit multi media materials
	Produce and edit presentation on materials
	Use and manage the NEIS system
Information transfer and exchange	Present and transfer
	Communication and exchange
Information ethics and security	Understanding the information society
	Prevent distribution of harmful materials
	Protect intellectual property
	Manage personal information
	Keep netiquette

*This table is quoted from Song et al. (2003). Which name is The Development and Implementation on of Measurement Tools for Evaluating Teachers' ICT Use for Their Teaching. And it is emerges KERIS Research Report).*

In Korea e- learning and ICT Technology is a result of the integration process of education is said to be a very solid structure behind its success. This systematic implementation mechanism supporting adequacy budgetary, appropriate working capacity, private sector and the states are successfully cooperated (Kim et al., 2010a).

The most important factors that affect the integration of ICT own education and the successful implementation of e- learning are as follow.

***A)- Effective Organizations in the Application***

The best possible way of defective underlying the success of e-learning Application is to fulfill the duties and responsibilities with the component authority that is after human resources in research and development. Offices that connected to the central government establish basic policy the budget is prepared for the application and development. Application is performed under the guidance of modes. With this process KERIS Applications are evaluated by collaboration. In this way success has been achieved by following the systematic and planned process.

***B)- The Process of Cooperation in Practice with The Main Executors and Sub-Executors***

Corporation continues in the application of the main and intermediate players. For the same project implemented through the country Association between these two elements and cooperation has become an important factor in achieving success.

***C)- Adequate Financial Resources to Support The Implementation of ICT in Education.***

Firstly it was provided computer adaptation of the primary and secondary levels. Then the project application after providing monetary stability and security has encouraged investment to be made in this area. In this process it was cooperated with the ministry of information and economy. Schools connected to the Internet at high-speed and ICT Applications have been implemented in a more effective and faster way.

***D)-The Establishment of Effective Monitoring Ants and Evaluation System***

E-learning policy not only was mechanical and providing a system that enables spread of Internet technology but also applying this technology for teachers and other people what they think about the system and the system old legal practice success. Since 1997 elevation working as begun in this way gun in Korea Republic.

***E)- Consumer Oriented Political Practices***

The most important external factors in e -learning policies are teachers, students and consumers. Since technological applications affect the lives of other people living in the surrounding area of country, it should not be noted that teachers and students of consumers outside. If the teacher is against this system or has not utilized from the system it can be said that the system has failed. So Korea Republic held the system with the consumer oriented applications.

***F)-Monitoring Adaption to The Policy That Social Change and Technological Innovation***

Internal and external factors in the success or failure both educational policies very important role. E-learning policy should help and play the unifying role into the communication technology, but it changed quickly. The acceptance of educational paradigms by society affects the success of learning. Community reactions should be precisely determined ants the on personal rights and democracy can affective to soften resistance to change. Korea convinces the community that aid resistant to changes in the offensive of line was aiming to get them by taking appropriate measures. (Lee, 2003; Kim et al., 2010a).



## Discussion and Conclusion

In this part, the works which are applied at Republic of South Korea and the some establishments are responsible for this Project, comparing details are dealt with in headline of FATİH Project. It is mentioned about the similar sides and different sides of the project. By indicating the successful applications, it is suggested that the same applications can be used for FATİH Project.

### *In the View of the Substructure of Equipment and Software:*

It can be said that first of all, doing the necessary repairment and innovation of the network is very important step at the innovation process of the current substructure in Korea. Budget, which is given to cover the equipment of ICT at school, is given any none of the cutting and it makes the development easier. At this level, applications that are made by Korea Government, are shown to the same in our country. It started to innovate the substructure by co-operating with Ministry of Communication Transportation and Ministry of National Education and Telekom in our country. Fiber optic network, which can be thought to wide across the country, equipment of ICT (interactive white board, tablet, functional printer etc.) which can be given to the schools, can be given in these works. (FATİH, 2012).

In Korea, planned works of equipment and substructure which are applied with prepared 1. 2. and 3 master plans at allocating the long years, it makes easier to make effective investment for the future and it cause to confront less problems. It has not been used systematically in our country, even though distinction of the master plans (phase1, phase 2 and phase 3), which are the same application at Korea to pilot schools and some science high schools, has been seen.

Before occurring problems, which are the first step, have not been determined exactly at pilot schools, Phase 2's substructure has been applied around the our country within a short time. Investments of Phase 3's substructure are planning for elementary and secondary schools. Since investments of substructure have not been made by one hand, it cause some problems in terms of time and quality. Because each company works independently and divergently from each of themselves. And it is a difference from Korea's substructure applications. For instance; there are interactive boards in some schools, since there is not internet connection, interactive boards are not used effectively or although there is network substructure, interactive boards cannot be attached.

It is one of the another different application at Korea that the problems which can be seen for substructure and tools of equipments and software. It is exactly evaluated that needs of the technic personal is provided by MPOE's own establishment. This situation gives a possibility to interfere the deficiencies (Hwang, 2008). When the any problem, which is dealt with this Project, is seen at schools in our country. It is planned that the solution of these problems is carried out by concerned company's service network at some region's center. It is free for repairmen and maintenance during first five years.

Unfortunately, it can be caused that enough service cannot be adequate and it can be taken a long time to interfere the difficulties at schools, which is especially at some regions where there is not widespread network service, to interfere the difficulties. Even if the teacher, who is duties as a trainer teacher at schools, is thought to remove this deficiencies, he/she cannot be effective to this topic because of his/her given education. For this reason, there is a necessary for technic persons who are educated for this project at our schools or establishment of the province.

### *In the View of the Teachers' in-Service Training to Usage of ICT at Lessons:*

Teachers' in-service training is the most attractive maybe the most important thing in Republic of Korea. Providing to get necessary knowledge to usage of ICT to teachers is the one of the most important factor. Paradigms, which are the new to aim at usage of ICT at education, are required to make new ways in both teaching and learning. Even if how the technology occurs the intensive usage of the technology process to teachers, teachers should know and want to have the confirmation which is one within the technology, use more time from technology because of the nature of this new paradigm in future, be more willingly to use the technology in their own training and education process (Son,

2009). Even if the countries have changed something about at education to get better level from their education's current level, it is more important that these changes how can be thought and how can be processed by teacher at the schools, where is the actual application of these changes.

It is undoubtedly indicated that teachers' training is how much important in this situation. It is expressed that changes are not a proper reason, despite the teachers. It is suggested that changes are within the teachers who are the actual users. Otherwise some changes' success, which can be occurred in life, can confront a lot of difficulties and this situation is expressed by researchers. (Başak, 2008)

According to this new process for usage of ICT technology to teachers in the future, teachers should required to complete their training and personal developments effectively to new generations who will come to schools and will shape the success at schools. This situation will be very important thing for this reason. Consequently, it is required to develop new ways to this innovation (Cornu, 2010).

So, teachers' training are seen the important thing in Korea. When it is compared with other countries, their ways, are training of teachers, are very noticeable. The role of training of teachers are very important at reforms which have been occurred successfully at their country. It is noticeable that teachers' training is based on the master plans about ICT at Korea. Master Plans are very comprehensive, when they are examined. For instance; it contains from healing of substructure of ICT to works of the developing of context. There are a lot of subjects place in master plans. Thanks to this situation, it seems that integration of ICT is used more systematically around the country. Thanks to this situation, the titles of the training of teachers are applied initiatively in a line. And it is provided with a national support (KERIS, 2010).

It can be expressed that this approach contributes to get more effective results about teachers' training. It is also known that if the teacher do not use the knowledge, which he/she learned it, in his/her classroom activity. There are inadequate at substructure, there are some difficulties about content, it should not be forgotten that these changes can cause disappointment and many teacher can feel disappointment about these changes.

Content, which is at Korea's education, is continuously changing by considering new necessities. Teachers become quickly accustomed to be with ICT and they behave willingly at education. Educations, which are satisfied with enough situation and in need of the necessity, have been developed by KERIS. Teachers' training should be determined by using the many researchers' results or it is called as an cutting-edge, what is the requirements of conditions, should be used in teachers' training (KERIS, 2009).

It should be noticed that teachers' new roles at education and teachers' sufficiency's at ICT's education in future teachers' training. In the view of this point, teachers' expert is very important. ICT education should help both teachers' learning and teaching and their becoming of expert. Finally, because school's CEO and school's director has the fundamental decision role during this process, their education is very important in the future teachers' training (Kim et al., 2010b). It is one of the similar thing both in Korea and in our country that schools' director have been given training after teachers' training at introduction of the FATİH Project.

There is a set of plans that are about teachers' training, are related with FATİH Project and these can be seen. These plans, are planned by using face to face and EBA platform and their numbers can be reached 110, have been planned to give by UZEM. Besides through distance-learning, teachers' training have been given with EBA. This application has ever been started at 2016. Educators, who have given the training about various subjects, have given the subjects synchronously and asynchronously at Ministry.

At face to face training, there are eight hours about the introduction of the FATİH Project and there are thirty hours about the skills of the usage and installation of tools of ICT equipments, searching the materials, and the presentation of the subjects at the interactive boards (Education Information Network [EBA], 2016).

There are two important points are: Educators and the content of the training in this process. At the works of many researchers are about this topic, getting observations, which occurred by researchers' himself both face to face conversations and phone conversations, are from Ministry and National Education Directorate and the people who got educated at pilot schools and occurred this applications. It is determined that ICT's integration is at education process is not the same as in Korea, it is more the level of ICT literacy. The work, which has been done on this topic by Bayazit and Seferoğlu (2009), is mentioned about by many similar deficiencies in our country when comparing with other countries. Although EBA is more emphasized at introduction of the Ministry of National Education, teachers' training are involved more literacy of ICT application (e.g.: introduction of the interactive white boards etc.). It is required to have definite skills for teachers who will occur this application. So, teachers' training should be given by considering with many components. Besides, teachers' training should be given by experts who are similar at Korea applications, where experts are specialists at KERIS, MPOE and NEIS, focusing on both this area and establishment.

Otherwise, it is expressed as an unfunctional by many researchers that it can bring many deficiencies while ICT are given by teachers, who are not experts and are not specialists about in this area and do not understand the essence of this topic. These teachers are trainer teachers are at classical training (Uçar & İpek, 2006; Gültekin & Çubukçu, 2008).

Teachers, who are dutied in these training, are trainer teachers. These teachers' field education level are inadequate because of the absence skills of the content of each branch (e.g.: maths, science, turkish, english etc.) ICT tools and application. So this situation effects the education negatively and many researchers indicate that there is a necessary for more planned and more comprehensive teachers' training (Seferoğlu, Kurtoğlu, & Akıncı, 2012; Tatlı & Kılıç, 2013; Genç & Genç, 2013; Kırallı, 2013; Özkan & Deniz, 2014; Banoğlu, Madenoğlu, Uysal, & Dede, 2014; Birişçi & Uzun, 2014). In addition, teacher, who are dutied as an educator at these training, becoming the same branch is both give many facilities to know the teacher's his/her own field's applications and softwares and teachers become more willing to participate in application training.

By bringing changes, which are about the branch field training, are planned by Ministry of National Education at this topic. This situation is the same as in Korea and Finland. And it is determined that works of Bilici et al. (2013) are parallel with the same opinions. As it is indicated in the previous part, because trainer teacher's education level is not naturally enough about this topic, when their role is compared with world's application, their role become to be discussed. Education faculties also hastily give teachers' training, which provides more effective useful teachers' training to this Project, and comprehensive changing should be considerate.

***In the view of the Effective ICT Usage at Education:***

It is determined that there are big differences between for some teachers' applications at classroom and applications at education programme, according to some researchers' works, at Korea in 2000. The reason why of this situation is one of them that some changes are not exactly understood by some teachers. These some changes are quickly applied the applications (Lee, 2003). The other is that there are some difficulties of ICT usage around Korea, because there is a competition, where students are educated to win the college exams. So, integration of the tools and equipments of ICT are obliged to use the teachers' education programme, which contains %10 of their education programme around the world. First of all, it caused reactions, these reactions were overcome in the course of time.

It is expected to make up negative effects to FATİH Project. Because of the exams such as TEOG, LYS and LGS and teachers who do not exactly understand the reason of FATİH Project or do not get the enough trainings of the FATİH Project around the country.

ICT contributes a solution to negative effects at teachers' training at Korea, and ISST certification system is attracted. By combining teachers' career training step at the education, it contributes directly and indirectly teachers' training, which contains integration of the ICT's training and skills of the career development.

Applicant teacher, who has got this certificate, is preferred to work at public establishment. Besides it provides many facilities such as teachers' career, appointment etc. So it encourages the teachers to use the ICT at their education on programme, it gives motivation. In short, it forces the usage of ICT. In the view of the future, it helps teacher training, by continuously making it more stronger.

This approach can be shown in our country. Its scope can be expanded and this reason can be thought by academician at universities. It even contributes new approaches to integration of ICT and education by giving addition certificate as a skill certificate at student placement test.

Because of the widespread of technology at around the Korea, it cause that many teacher use the technology at their education programme (Bernard, 2010; Kim et al., 2010b). In our country, if e-books are successfully integrated at education programme, if traditional books contain more e-content, if politics and strategists consider existent situations of schools and teacher, it will get positive results in our country.

Moreover, there is a necessary some establishments, such as NEST is at Korea, which help to find the information about the teacher training, lead at the evaluations, about the teachers' skills and person's himself/herself giving information about current situations to teachers' training.

#### *In the View of the Providing and Management of the e-content*

Even if it is not very easy to integration of the ICT education programme and ICT technology around Korea, it should be known that the level of the ICT's usage is quality is more than ICT's usage quantity. In addition to that, the number of interest to integration of the ICT is increasing because of the widespread of e-book recently. Because e-book means that it is more than the previous one (Kim et al., 2010a).

In our country, EBA is responsible for this role and by starting to use the EBA, it is clear that we will get very effective results. It is attracting with changes and is giving hopes day by day. However, it should not be forgotten that the structure, which contains current and rich content, effective presentation and usage, increases the interest of users. For this reason that, EBA's new internal plan face is made up with more effective, easier and useful structure. The services that help to give information at Korea, contribute a lot of helps to users during the process. Collective work, creativity, network among teachers are one of the something to carry out the quality education process. Applications at Korea are different from EBA, since they give services in many service-providing.

EDUNET which is made up an educational portal to national education process. It provides an effective enough co-operation with center management and local management. EMIS and NEIS are also used about works of management. When EMIS and NEIS are compared with e-okul, mebbis which are used in our country, there are a lot of similar sides. CHLS service has been developed to support equality of possibility to social-economical differences, by contacting special bridge. It provides learning at home after school. Thanks to widespread and quick network, students and teachers are given education about learning at home after school. Similarly, EMIS, NEIS, NES give the same service in the parallel roles. So, EBA should be again examined this similar structure, which departs explicitly fields of the duty. (EBA, 2016)

Moreover, it is aimed at using EBA after school, too. And it is aimed at taking advantage of e-content sites to students. But it is determined that even though teacher access the e-content sites at everywhere, students can only access limited e-content sites by using their own motto. It results from commercial e-content sites' benefit at EBA, because it is not free for students. Also, these sites can be accessed in internet network. This situation will be possibility inequality to students who are poor places which have not got enough substructure.

Recently, Ministry of National Education has taken into consideration this that, it plans responsible for some branch teachers to EBA studios, which are the mostly like MPOE at Korea, place at 12 administrative province in our country during the production process. For this reason that, approximately 1000 teacher were given at first step and at second step education about process of e-content and some of these teachers were wanted to develop e-content at EBA studios. Besides, teacher, who were in this education, were wanted to develop skills of using ICT's tools and equipments, give necessary support to integration process and give education to teacher. These are the other aims of this context (EBA, 2016). This context is similar to KERIS, NET that gives and supports from local at Korea. By using this, it provides economic profit to pay about both e-content and to develop e-content escaping from private company, it goals to get more effective results about teachers' training and support to teacher, which is similar applications of the leading country at integration of ICT.

#### *In the View of Conscious, Safety, Manageable and Measurable Usage at ICT*

Changing movements which start with e-government and are widespread national around, can be shaped by various self-interest and profit-providers. It is most important thing to develop quality and enough systems to researchers of education with a cooperation-work of management of application service and sharing-knowledge service. So, every country should have a special standardization process where it has own content and have enough quality categories providing a leading (Hwang, 2009).

For this reason, national standardizations have been developed to e-learning at Korea. First of all a law is made up by Korea Educational Metadata (KEM). In addition to this, Joint Technical Committee (JTC) was established. Besides, by establishing International Organization for standardization (ISO) and International Electro technical Commission (IEC), it goals to provide international standardization, e-learning's standardization has been developed. It is planned to give more qualify e-learning. As a result, according to international factors, E-Learning Quality Assurance System was established (EQAS). Owing to this, people not only get safety information but also it aims at bringing the education scope better place at Cyber Field. Also, MEST Education Cyber Security Center (ECSC), which was a new center, was established. It brought useful with e-safety and e-ethic education programme. Such as ODA and EDCF centers were established to inform ICT applications. It is probably happen that applications, which have been carried out during standardization at Korea, will be occur with same problems for expecting e-learning and distance-learning. (Hwang, 2009; Korea National Distance-Learning Center, 2010)

110 UZEM, is another changing, is thought about with EBA, becoming more active to give education by using this way. In the view of the quality of training, content and establishment, it is shown to give more quality contributions both works of the country's national and international standardization at during the BIT integration process. In addition, e-ethics should be carried out in our country just like in Korea. It can overcome negative problems, which can occurs at virtual fields such as inappropriate communication, asocial, appropriation, protecting private knowledge, sextinct, counterfeit, swindler etc. And it can overcome the negative results from wrong learnings.

### *In the View of the Politic Deciders*

Many factor encourage the success of the BIT's education programme and applications at Republic of Korea. When it is examined as a structure, MEST, KERIS and MPOE's place at every step at application. Even if governments and system change, the works which are long-term, go on. Education policies are held far from some negative discussions (Bernard, 2010). Politic deciders should also be at every step in Turkey. Moreover, there is a need for some establishments such as KERIS, to give training to determine the problems at applications. It is considered to bring changing and development movement at education and e-learning, when first of all Ministry of National Education and such as TÜBİTAK, YEĞİTEK establishments have the determined, regular and effective attitude to increase the success.

### *In the View of the Observation and Evaluation*

The importance of the national projects' observation and evaluation is getting more emphasized at Korea. Korea Government's observation and evaluation system observe very effectively and determine the exactly the developing process, where occurring current problems, getting results' various dimensional checking, projects' occurring process. (Kim et al., 2010b.)

This process were trying to observe at pilot works at about FATİH Project. But it is not effective. People, who are dutied for this evaluation, did not deal with exactly how to carry out or what to carry out or how much the evaluation, they evaluate the works and they got the results from surveys which showed students' and teachers' opinions at the evaluations.

For instance; evaluations are at Korea,

1. To determine the application level of ICT at schools.
2. To determine the ICT literacy of students and teachers.

3. By using the international evaluation measures, it is expressed to make up of national project's has evaluating content. In this view, there is a necessary an evaluating system, which emerges from establishments' out just like at Korea. it should be exactly known that other countries how to carry out this process. For example; at the beginning of the Project, by using of the ICT tools, it is seen as an effective step to overcome these occurring problems about effective observation and evaluation process. Just like ISST applications are at Korea, It can bring a solution to teachers, who are the resistance to these changes to usage of the ICT tools.

Finally, it should not be forgotten that private company is getting involved in these works. It is very important to give changes by involving each part of the societies and societies' needs and potential (Cornu, 2010). Because it is realized that each one is a consumer except from school.

As it was mentioned previous part, it is seen that the changes which apply in Korea, are focused on changes. This situation is considered about our country. Judgement, which is emphasized very often about inequality of regions, gives positive attitude to this change at the applications of changes at Korea. So, the mechanisms of national political deciders should focus on to eliminate regular and economic inequality among the students, it should bring success of the strong justice mechanisms at education, by co-operating with public and private establishments.

Especially, even if the accessible is not the most important key point for in-developing countries. It should be considered that the differences in which the development of social and culture fields, the skills of people such as digital literacy.

## Suggestions

FATİH Project planned many changes, which contain many topics at the level of both at schools and at community for Turkey. However, when this process is compared with other countries, especially Korea, it is determined that some topics must be dealt with again. First of all some subjects, it is indicated to apply a set of new changes about teachers' training and teachers' training content. Otherwise, teacher cannot apply this Project effectively and effective results con not be got. This situation is explicitly seen. There is a necessary for certification system, which is the same process by co-operating with ICT's integration, and brings a lot of positive contributions at Korea, is for our country, too.

Besides, it should be known that a set of works for e-content's context are required to increase the level of both national and international standardization. And content organization has an important role in this process. Reaction of community should be considered and politics works, which focus on consumers, should be dealt with. These deficiencies can be said as the most indicating deficiencies. Finally, politic deciders are suggested that this Project, which is at the similar establishment at Korea, should be encouraged.

In the future, researchers who want to research about this topic, they could make similar researchers to get more qualify information if they make their researchers by comparing the several developing and developed countries, in which the integration of the technology applied successfully in their own countries, just like in this work. In these countries, success of the students and students' competence progress fields could not be mentioned exactly in this work. However this deficiency could be overcame by comparing the data by other researchers. Researchers, who want to research about FATİH Project, are suggested that they evaluate without-support evaluation systems instead of intuition's own observing and evaluation systems, like in Korea.

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