THE EVALUATION OF THE QUALIFICATIONS OF TEACHERS WORKING WITH STUDENTS WITH AUTISM IN TURKEY IN TERMS OF VIEWS OF TEACHERS AND PARENTS

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ABSTRACT

Individuals with a diagnosis of autism are placed in different educational environment depending on the characteristics and needs. In the process of determining the educational environment, the individuals should be placed the most appropriate educational environment starting from the least limited environments and considering the characteristics and needs. According to the Special Education Services Regulation (2012), these individuals no matter which institution they are, teachers need to prepare the individualized education program, because individuals with autism may show different characteristics. Teachers are the most important elements with the regards to the expected positive results from the education of the Autistic individuals. The main tasks of the teachers are planning, admimistering and evaluating of educational activities. It is emphasized that the teachers should be educated with the knowledge of the field, world knowledge and professional teaching knowledge. In this sense, it is expected that the teachers who work with individuals with autism should have knowledge about the autism, the education of autistic individuals, scientific based education and training applications used in training individuals with autism. In the researches, the families with children with autism stated that they need the support to help their children, provide appropriate support services.

This research is related with the efficiencies that should be of the teachers working in the field of autism, determined in reference to the families and the teachers working in the field. 23 families and 24 teachers from Konya, Edirne and Afyon provinces joined to the research. The research data were obtained from semi-structured interview form. The obtained data were analyzed descriptively. According to the findings; it is determined that the teachers should have efficiencies in the behavior modification, usage of the appropriate methods and techniques, knowledge about autism, effective communication, effective communication with the family and environment, being tolerant, being patient, planning and applying the teaching.

Keywords: *Autism, special education teacher, teachers' efficiencies.*

INTRODUCTION

Individuals who were diagnosed with autism can continue their education in different educational environments. No matter which educational environment they are in, autistic individuals are expected to develop independent living skills in the educational process, because education is defined as the process of behavior changing (Ertürk, 1994; Ergün et al., 1999). Autistic individuals are different from other handicapped in terms of the behaviours they exhibit and their capabilities. (Hallahan and Kauffman, 1997; Friend, 2006; Heward, 2003; Diken, 2008; Baykoç, 2014). Autism is defined as a developmental disability which presents itself with communication and behavior disorders (Kırcaali-İftar, 2012). There are sub-categories related to autism spectrum disorders, but DSM-5 adopted a three level scaleand

the basic characteristics are defined as social communication, limited interests, and repetitive behaviors (Ertuğrul, 2013). Without the appropriate educational arrangements, autism becomes a lifelong handicap that affects the lives of the individuals and the people around them. With necessary arrangements, many autistic children can get rid of these problems at a great extend, and continue their lives with their peers who exhibit regular development, and the society (Güleç Aslan, Kırcaali İftar, Uzuner, 2009). Research shows that use of scientific methods and techniques in their education can result in positive behavior changes among autistic individuals (Güleç Aslan, Kırcaali İftar, Uzuner, 2009; De Boer, 2013; Ben-Arieh, 2013; Charlop-Christy, 2013; Stichter and Conroy, 2013).

Teachers are one of the most important elements of education process. Teachers are primarily responsible for the planning, implementation, and assessment of education process (Ertürk, 1994; Büyükkaragöz and Çivi, 1994; Bilen, 2002; Ergün et al. 1999; Polloway, Serna, Patton, Bailey, 2013; Borich, 2014). From this perspective, teachers need to prepare and implement individualized educational programs considering the individual features and needs of autistic individuals (Sarı and İlik, 2014; Avcıoğlu, 2015).

In these terms; the qualifications expected from the teachers of autistic individuals are defined as to be able to communicate with the students (Prodromou, 1991), knowing students, their needs and skills well (Yeşilyurt, 2006), to able to enable student participation and assess achievement (Aksu, 2000), to be able define lack of knowledge and skills among students and take necessary precautions (Erden, 2007), to able to focus on the target, plan and solve problems (Stix, Hrbek, 2006), and approach students in a flexible manner (Stronge, 2007).

A research conducted by Turkish Ministry of National Education (MEB) defined the necessary competencies that teachers need to have. These competencies are defined as general competencies and field specific competencies. Field specific competence domains include the special education field. Within the special education field are, teaching visually handicapped, hearing handicapped, mentally retarded children domains. Teacher competencies for special education field include communication and social competencies, adapting educational programs, cooperation with school, family and other professional groups, behavior management and professional development sub-domains (MEB, 2008). Within the extent of Council of Higher Education (YÖK) Development of National Education Project, pre-service teacher competencies are split into field knowledge, planning, education process, classroom management, communication, assessment, and recording and other professional competencies categories (YÖK, 1998).

There has been some research on teacher competencies, but there are no researches on the competencies of teachers who serve for the education of autistic individuals. For this reason, the purpose of the present research is evaluating the qualifications of teachers working with autistic students in Turkey in terms of teacher and parent views.

Purpose

The main purpose of the present research is evaluating the qualifications of teachers working with autistic students in Turkey in terms of teacher and parent views. In accordance with this main purpose, the present research seeks answers to the following questions.

1. What are the views of parents about the qualifications that teachers who work with autistic students in Turkey should have?

2. What are the views of teachers about the qualifications that teachers who work with autistic students in Turkey should have?

METHODOLOGY

The present research is qualitative research, the purpose of which is evaluating the qualifications of teachers working with autistic students in Turkey in terms of teacher and parent views. Qualitative researches use qualitative data collection methods such as observation, interview, and document analysis, and aim at presenting incidents in their natural environments in a realistic and holistic manner (Yıldırım and Şimşek, 2008). Data collected in the present research were obtained through semi-structured interview forms, because interview technique is considered as the most efficient data collection technique for qualitative research process (Punch, 2005; Geray, 2006; Kuş, 2012).

Literature review was conducted to prepare the interview form, and the questions in the interview form were created based on obtained information. The questions were presented to three field specialists for their opinions and the questions were re-organized in accordance with their opinions. The pre-implementation of the interview form was conducted with 5 teachers.

Twenty-three parents and 24 teachers participated in the present research. Sixteen of the participants are mothers and 7 of them are fathers. Sixteen of the teachers are female and 8 of them are male. Age range for the participants is 35-50.

Data Collection

For the implementation of the interview form, volunteers among the parents who had autistic children, and teachers who serve at schools where autistic children were educated were determined. A participation contract was signed with volunteer parents and teachers. For the interview, appointments were made with the teachers and parents, and the interviews were conducted on the appointed day and time. The questions were asked orally to the participants, and their answers were recorded by the interviewer in writing. The interviews took around 25 minutes.

Data Analysis

Descriptive analysis was conducted on data collected through semi-structures interview forms. After studying the obtained data, common concepts were defined, and the frequencies and percentages of the findings are presented.

FINDINGS AND INTERPRETATION

This part includes findings related to the views of parents and teachers working with autistic children about the qualifications teachers should have.

Table 1. Knowledge domains of the participating parents about their children's incompetencies

Knowledge domain	f	%
Autism	8	35
Education of autistic children	8	35
Nutrition in autism	4	17
Care of autistic children	3	13
Total	**23**	**100**

Table 1 shows that 35% of the participating parents consider themselves competent in the autism domain, 35% consider themselves competent in the domain of education of autistic children, 17% of them consider themselves in the domain of nutrition in autism, and 13% of the consider themselves competent in the domain of care of autistic children.

Table 2. Information resources of the participating parents

Information resources	f	%
Teacher	5	22
Internet	5	22
Experience	4	17
Doctor	4	17
Books/Magazines	2	9
Other parents	1	4
Psychologist	1	4
Seminar/Conference	1	4
Total	**23**	**100**

Table 2 shows that most of the parents get information from the teachers and the Internet. This finding indicates that parents try to get information from various resources. This finding also indicates that parents of autistic children cannot get enough information about the education of their children from the teachers.

Table 3. Qualifications teachers should have according to the participating parents

Teacher qualifications	f	%
Behavior change	6	26
Appropriate method and technique selection	4	17
Knowledge of autism	3	13
Effective communication	3	13
Tolerance	2	9
Effective communication with parents and the environment	2	9
Patience	2	9
Planning and implementation of education	1	4
Total	**23**	**100**

Table 3 shows that, 6 of the parents think teachers should be competent in behavior change, 4 think teacher should be competent in selection and implementation of appropriate methods and techniques, 3 think teachers should have knowledge of autism, 3 think teachers should have effective communication skills, 2 think teachers should be tolerant, 2 think

teachers should be able to communicate with the parents and the environment effectively, 2 think teachers should be patient and 1 of them thinks teachers should be competent in planning and implementing the education.

Table 4. Views of participating teachers about their competencies in the education of autistic children

Views about competence of self	f	%
I feel incompetent	19	79
I feel competent	5	21
Total	**24**	**100**

Data presented in Table 4 show that, 19 of the participant teachers feel incompetent about the education of autistic children, and 21% of them feel competent. These findings indicate that an important part of the teachers consider themselves incompetent about the education of autistic children.

Table 5. Qualifications teachers should have according to the participating teachers

Teacher qualifications	f	%
Patience	6	25
Tolerance	5	21
Knowledge of autism	4	17
Planning and implementation of education	3	13
Appropriate method and technique selection	2	8
Effective communication with parents and the environment	2	8
Behavior change	1	4
Self confidence	1	4
Total	**24**	**100**

Table 5 shows that, 6 of the teachers think that teachers working with autistic children should be patient, 5 think that teachers should be tolerant, 4 think that teachers should have knowledge of autism, 3 think that teachers should be competent in planning and implementation of education, 2 think that teachers should be competent in appropriate method and technique selection, 2 think that teachers should be able to communicate with the parents and environment effectively, 1 thinks that teachers should be competent in behavior change, and 1 thinks that teachers should be self-confident.

DISCUSSION

The present research found that, parents of autistic children found themselves competent about their children's autism, education, nutrition, and care. It was also found that, parents use various resources to get information about autism. Parent primarily consult to teachers, and doctors, and use Internet, their personal experience. Parents use more than one resource, which indicates that they cannot get the information they need from one resource. At this point, it is interesting that they cannot make enough use of books/magazines and seminars/conferences. This finding may suggest that these resources cannot address to parents.

Among the qualifications parents think teachers should have are the competence in behavior change, and use of appropriate methods and techniques. This finding is in agreement with the findings of other researches in literature (Güleç Aslan, Kırcaali İftar, Uzuner, 2009; De Boer, 2013; Ben-Arieh, 2013; Charlop-Christy, 2013; Stichter and Conroy, 2013). Additionally, parents expect teachers to be competent in planning and implementing education. This finding is in agreement with Sarı's (2014) and Avcıoğlu's (2015) findings that teachers should plan and implement education programs considering the individual features and needs of autistic individuals. Another finding that, parents expect teachers working with autistic students be able to communicate effectively, have field knowledge, competent in planning and implementing education, and tolerant towards students is in agreement with YÖK (1998), MEB (2008), and Stronge (2007).

Teachers who participated in the present research reported that they found themselves incompetent about the education of autistic children. Analysis of YÖK teaching programs shows that knowledge and courses about autism in special education and other teaching branches is not at the expected level, which is in agreement with this finding of the present research.

Another interesting finding of the present research is that, parents' and teachers' expectations from the teachers working with autistic children are similar. Both groups of participants defined the qualifications of good teachers as competence in selecting appropriate methods and techniques, tolerance, patience, field knowledge, competence in behavior change, and effective communication skills.

CONCLUSION AND SUGGESTIONS

The purpose of the present research was evaluating the qualifications of teachers working with autistic students in Turkey in terms of teacher and parent views. The present research found that parents use various resources to get information about autism, and consider themselves competent about autism, education, nutrition, and care of autistic children. It was also found that, teachers working with autistic children didn't find themselves competent in the education of autistic children, and the qualifications expected from teachers working with autistic children defined by both parents and teachers were similar. These qualifications were, field knowledge of autism, competence in appropriate method and techniques, patience, tolerance, to be able to change behaviors, and positive communication skills. The following suggestions can be offered in accordance with these findings.

1- Further researches should be conducted about the qualifications teachers working with autistic children have.
2- Pre-service teachers to work with autistic children should have classes and courses about autistic children during their pre-service.
3- Teachers working at environments where autistic children are educated should have in-service training.

REFERENCES

[1] Aksu, M. (2000). Yükseköğretimde Eğitim Ortamları, Öğretim Birliğinin 75. Yılı Eğitim Bilimlerinin Dünü Bugünü ve Yarını. Ankara: Ankara Üniversitesi Basımevi.

[2] Aslan, Y.G., Kırcaali İftar, G., Uzuner, Y. (2009). Otistik Çocuklar İçin Davranışsal Eğitim Programı (OÇİDEP) Ev Uygulamasının Bir Çocukla İncelenmesi. A.Ü. Eğitim Bil. Fak. Özel Eğitim Dergisi, 10 (1), 1-25.

[3] Avcıoğlu, H. (2015). A'dan Z'ye BEP. Ankara: Vize Yayıncılık.

[4] Ben-Arieh, J. (2013). Ortak Dikkat ve İlgi Rutinleri Nasıl Kullanılır? (Çev. S. Topbaş, A. Kılıç). Detay Yayıncılık.

[5] Bilen, M. (2002). Plandan Uygulaaya öğretim. Ankara: anı Yayınları.

[6] Borich, G. D. (2014). Effective Teaching Mathods. Pearson Education Inc.

[7] Büyükkaragöz, S., Çivi, C. (1994). Genel Öğretim Metotları. Konya; Atlas Kitabevi.

[8] Charlop Christy, M. H. (2013). Fırsat öğretimi Nasıl Yapılır? (Çev. S. Topbaş, A. Kılıç). Detay Yayıncılık.

[9] De Boer, S. J. (2013). Ayrık Denemelerle Öğretim Nasıl Yapılır? (Çev. S. Topbaş, A. Akyüz-Toğram). Detay Yayıncılık.

[10] Erdem, E (2007). Eğitimde Yeni Yönelimler. (Ö. Demirel, Ed.). Probleme Dayalı Öğrenme. Ankara: Pegema YAyıncılık.

[11] Ergün, M., diğ. (1999). Öğretmenlik Mesleğine Giriş. Ankara: Ocak Yayınları.

[12] Ertürk, S. (1994). Eğitimde Program Geliştirme, Ankara: Meteksan.

[13] Fidan, N., Erden, M. (Eğitim Bilimine Giriş, Ankara: Kadıoğlu Matbaası.

[14] Friend, M. (2006). Special Education. Pearson Education Inc.

[15] Geray, H. (2006). Toplumsal Araştırmalarda Nicel ve Nitel Yöntemlere Giriş. Ankara: Siyasal Kitabevi.

[16] Hallahan, P. D., Kauffman, M. J. (1997). Exceptional Learners: Introduction to special education. Boston: Allyn Bacon.

[17] Heward, W. L., (2003). Exceptional Children: An introduction to special education. Columbus, OH: Merrill/Prentice Hall.

[18] Köroğlu, E. (2013). DSM-5 Tanı Ölçütleri. Ankara: Hekimler Yayın Birliği.

[19] MEB (2008), Öğretmen Yeterlikleri. Ankara.

[20] Polloway, E. A., Serna, L., Patton, J. R., Bailey, J. W. (2013). Strategies for Teaching Learner with Special Needs. Pearson Education Inc.

[21] Punch, K. F. (2005). Introduction to Social Research Quantitative and Qualitative Approach, (Çev. D. Bayrak, H. B. arslan, Z. Akyüz). Ankara: Siyasal Kitabevi.

[22] Sarı, H., İlik, Ş, Ş. (2014). Bireyselleştirilmiş Eğitim Programı. Ankara: Vize Yayıncılık.

[23] Stichter, J. P., Conroy, M. A. (2013). Sosyal Beceriler Nasıl Öğretilir ve Akran Sosyal Etkileşimi Nasıl Planlanır? (Çev. S. Topbaş, E. Cangi). Detay Yayıncılık.

[24] Stronge, J. H., Tucker, P. D., Hindman, J. L. (2004). Ahndbook Qualitative of Effective Teacher. Alexandria, Virginia: Association for Supervision and Curriculum Development.

[25] Yeşilyaprak, E. (2006). Öğretmenlerin Öğretim Araç ve Gereçlerini Kullanma Durumlarını Etkileyen Faktörler. Elazığ: Fırat Üni. Sosyal Bilimler Enstitüsü.

[26] Yıldırım, A., Şimşek, H. (2008). Sosyal Bilimlerde Nitel Araştırma Yöntemleri. Ankara: Seçkin Yayınevi.

[27] YÖK (1998). Fakülte-Okul İşbirliği. YÖK/Dünya Bankası, Milli eğitimi Geliştirme Projesi Hizmetöncesi Öğretmen Eğitimi. Ankara.

AN EXAMINATION OF THE PROBLEMS ENCOUNTERED BY PRESCHOOL TEACHERS IN MAINSTREAMING PRACTICES IN TERMS OF THEIR OWN OPINIONS

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ABSTRACT

In Turkey, preschool education of children with special needs has become compulsory in Special Education Services Regulation (SESR) (2006) which was prepared depending on the provisions of Legislative Decree on Special Education no.573, which was enacted in 1997, and it is observed that mainstreaming has received a definition parallel to the one given in the international literature. A growing number of children with special needs are taken away from the environments reserved just for them and are receiving education in kindergartens with their peers. What is aimed in this research is to reveal which problems preschool teachers having mainstreaming students experience in kindergartens. The study group of the research consists of 21 preschool teachers, which have mainstreaming students in their classrooms. In this study which is a case study depending on qualitative data, the needed data were collected by using Semi-structured Interview Form which was developed by the researchers and included six questions. In the collected research findings, the preschool teachers state that the diagnostic qualification formal reports given to mainstreaming students do not reflect the personal characteristics of children and therefore this situation affects the preparation of Individualized Education Programme which is tailored to the child negatively. Additionally, it was included in the findings of the research that preschool teachers do not receive the academic knowledge sufficiently.

Keywords: Preschool period, child in need of special education, special education, mainstreaming education, preschool teacher.

INTRODUCTION

Preschool period, which is the first stage of education and includes learning, forms a basis to other periods of human life. However; this period is very important not only because of being a preparation period to youth and maturity but also it is important by itself. Communication with people starts from birth and continues lifetime with improvements. In this relationship for realization and continuity of communication it is necessary for individiual to perceive messages and product appropriate messages, mutually. Due to the growth in a limited environment many disabled children can't communicate properly and disorders and maladjustments may show up more when compared to normal children. The necessity of Inclusive Education that is an intregration of disabled children and normal children with an additional education programme is a defended opinion and a subject emphasised by adopted education programmes (Konuk, 2005; Oktay, 2002; Bricker, 2000; Uğurlu, 1993).
Inclusive education is defined as a period aspiring social acknowledgement and reintegration into society of disabled children starting with childhood period which will continue and also defined as the educational, social and period integration with normal coevals within the

framework of individualised programmes, under the responsibility of normal and special education staff (Balaban, Yılmaz ve Yıldızbaş, 2009; Metin, 1997).

Turkish Republic accepts that mentally retarded and physically handicapped children should have a life that assures their prestige, develops their self-confidence and includes them to social life effectively by signing Universal Declaration of Human Rights and United Nations Children's Rights protocols. Lastly, Turkey recognized disabled people's education rights with United Nations Convention on the rights of disabled people and internationally assured that disabled people will have educational opportunities lifelong and will include every level of disabled people underlying equal opportunities. According to this for each citizen, Turkish Constitution guarantees educational rights. Within the framework of special Education Law no: 573 it is said that 'Children with Special Educational needs' education is continued with their peers in accordance with individualised education plannes in all kind of schools and institutitions with appropriate methods and techniques (Law No: 12).

Again Turkish Costitutiton no: 10 opens a road to positive discrimination for disabled people. Scientific reseraches and application experiences show that it is the most ideal method for disabled people to take education with their peers.

Just as our children live together in social life, in Professional life and in family life schools will prepare children to real life no matter what their individual differences are (Mesleki Eğitimde Bütünleştirme Uygulamaları, 2013; http://orgm.meb.gov.tr/Mevzuat/573.htm).

It is defended that for socially insufficient children their peers are positive models in inclusive settings and therefore; children gain positive social behaviours and this increases the recognition by their peers and besides social developments these help children gain many skills in other areas (Altıntaş, 2014). In these environments teachers have important responsibilities in each stage of education. Positive behaviours of teachers to students in inclusion at schools will effect normal students positively. This will provide easier and quicker recognition to students in inclusion. Also every child may display positive model behaviours by telling other students that they are also valuable individuals (Sarı, 2002). Educators' attitudes towards disabled individuals are the key determinants of their attitudes towards inclusion. Educators' positive attitudes towards disabled children are very important in terms of himself/herself, normal children and children in need of special education (Temel, 2000). Education based on inclusion in early period will prevent children in need of special education feel themselves discriminated and correspondingly prevent adaptive behaviour problems. This shows the necessity and importance of preschool period in inclusion (Rapor, 2004). In their reserach Daniel and King (1997) revealed findings that shows class replacements related to inclusive education increases students reading marks who have learning and language problems (In: Jobling et al., 2003).

Teachers and parents of students who don't have any disabilities notified that their children's developments are better thanks to inclusion and they also notified that their children gain more positive attitudes in inclusion process (Gregory, 1996). Children's participation in integrated education effect family's attitutes positively towards integration (Konuk, 2005; Diamond **et al.,** 1994,). Secer (2010) revelaed that in-service education programmes effect teachers' attitutes positively in his research on determining 66 preschool teachers' attitutes towards inclusion. Because teachers' attitutes towards inclusion educations' problems showed significant differences in terms of pre-test and post –test. In their research Sucuoğlu, Bakkaloğlu, İşcen Karasu, Demir and Akalın (2013) aimed to examine pre-school teachers' knowledge of inclusion and attitutes towards inclusion and to determine the relationship between their knowledge and attitude. With the results of the analyses some specific information on what teachers know and what they don't know about inclusion is obtained. The necessity of teachers' knowledge and experience in inclusive education and in students in need of special education is emphasised to meet the needs of special children in their classes.

In many research which examine inclusive education in Turkey (Güven and Önder, 1995; Seçer, Çeliköz, Sarı, Çetin and Büyüktaşkapu, 2010; Kayılı, Koçyiğit, Doğru and Çiftçi, 2010; Şahbaz and Kalay, 2010; Gürgür, Kış and Akçemete, 2012) it is expressed that there are some other problems along with negative attitutes towards inclusion. Managers, parents and teachers often brought forward problems within the application process and emphasised that due to these problems children in need of special education who are still in preschool classes cannot benefit fully. Basic problems in preschool period in inclusive education are determined as the abundant number of children, insufficient support services for teachers and children, insufficient knowledge about inclusion of managers and teachers and negative teacher attitutes. After the legal regulations related to the inclusion of children in need of special education, their numbers increased in preschool period every year.

Although many teachers support preschool inclusion, they don't want children in need of special education in their own classrooms because of insufficient knowledge and skills. The most important component of inclusion is the teacher and to increase the success of inclusive education teachers shouldget preapared to teach in heterogenous classrooms which include children who are in need of special education and who aren't (Sucuoğlu **et al.,** 2013). In their research on determining the needs of preschool teachers in inclusive education process Akalın, Demir, Sucuoğlu, Bakkaloğlu and İşcen (2014), found that to perform a succesful inclusion, functional teacher education programmes which will help increasing experiences and knowledge and developing positive attitutes should be implemented alongside with providing suitable physical conditions and support services to teachers. Also teachers stated that they need an effective education process on this subject. Because again teachers stated that they have problems in communication and supporting communication of students who are in need of special education and also they stated that they would like to know how and what to teach to these children. As in every level of education teachers should do the necessary regulations to give a successful inclusive education by taking into account students' differences.

In addition, using appropriate teaching methods and strategies, adapting teachings and providing equal learning opporunities to normal and disabled children are essential factors for a successful inclusion (Bricker, 2000). However according to some conducted researches, teachers don't have the necessary qualifications to meet the skills expected from them. Küçük Doğaroğlu and Baboğlu Dümenci (2015), examined the suggestions related to approaches of preschool teachers towards inclusive education and their adaptations, their tendency about education and their fundamental knowledge levels and inclusive education applications. Even though teachers exhibit positive attitutes, due to the insufficient knowledge of inclusion applications they approach negatively. To minimise the strenghts some suggestions as getting variety of educations and the necessity of special education consultants in each school are determined. Because the idea that teachers are responsible for development and improvement of children who are in need of special education is accepted. Additionally; teachers are expected to have new roles such as providing all the children in their classsrooms to participate actively in learning activities, following the development, creating effective learning environment, using different learning methods and strategies and interacting and coordinating with families (Bruns and Mogharberran, 2009). Temel (2000), studied with 118 teachers aiming to obtain thoughts of these teachers about inclusion. Findings of the research revealed that taking special education courses effect teachers' opinions positively. Scott-Little, Kagan and Frelow (2003) specified that to be more effective on disabled students in their classrooms preschool teachers in inclusive settings need consultancy services on special education alongside the need of teaching, material and technique subjects.

The purpose of this research is, apart from determining inclusive education's current situation approaching as solution oriented, by examining key people's feelings and thoughts deeply

who work on this subject and by determining the problems of these people especially in the process, determining the problems they face and their suggestions. Researchers conducted such a study by Taking into account the insufficient qualitative researches (Altun and Gülben, 2009; Varlıer and Vuran, 2006; Gök and Erbaş, 2011) with this group of teachers,.

METHODOLOGY

In this section Research method is presented in a detailed way.

II.1. Research Method
This research is aimed at obtaining opinions and suggestions of preschool teachers' problems in kindergardens who have inclusive students. The research is a case study conducted with semi-structured interwiev technique based on qualitative data.

II.2. Study Group
The research was carried out with volunteer 21 teachers who work in preschool inclusive classrooms. Depending on the confidentiality policy, teachers' real names weren't used. Code names were given to each teacher. Teachers who participated in this research were graduated from related departments and had professional experiences for average 7.5 years and their ages were between 30-40.

II.3. Data Collecting Instruments
Data was collected with the semi-structured interview form, which was developed by researchers. Interview which is a quite effective method to reveal people's perspectives, experiences, feelings and perceptions (Yıldırım and Şimşek, 2008), is preferred to find out the strengths and problems of preschool teachers during inclusion education process. In this case study which is based on qualitative data, the data were collected with semi structured interview form that included 6 questions, formed by an expert opinions and developed by researchers. Interview form included two sections as 'Interviewer infomation form' and 'Interview Question Form'. Questions which will be asked to teachers during the semi structured interwieves, were included in Interview Question Form . While determining the questions firstly literature review was reviewed and studies on inclusion and special education were reviewed. Then some expert opinions about the questions on the question forms were taken from experts in special education department. In addition pre interview was carried out with one preschool teacher who worked in the area and this interview was evaluated and revised by the second researcher. According to the feedbacks, necessary revisions were made and the last formation of the question form was made. Six questions in Interveiw Question form included questions such as 'what are the problems that you face while preparing a programme in inclusive education applications', What are strenghts that you face about family participation? ')

II.3.1.Collecting Data
Data were collected in the afternoon as teachers who have inclusive students requested. Recorder, pencil and paper were used while interviews. Before starting the interviews the researcher met with the teacher, summarised the purpose of the study and recorded the teachers' answers for the questions in interviewer information form. Afterwards, researcher took permission from the participants turned on the recorder and interviewed. During the inteviews questions were asked in a different form by not changing the content. Interviews took between 30-60 minutes. The researchers noted down the important points and observations for the study.

II.4.Data Analysis

After the semi-structured interview, recordings were transcribed into papers. An experienced expert on qualitative researches made transcriptions without any editing and teachers who participated in the research were given codes   (T1, T2, etc). In this stage researcher confirmed the transcriptions by listening two interviews chosen randomly. Then transcribed data transferred respectively to the interview form which was prepared with computer as interviewee-interviewer. After this stage themes and sub themes were created. These studies were carried out by two researchers independently in different places at different times. Next, researchers came together and controlled consensuses and dissensuses on the created codes, themes and subthemes, and tried to make reconciliations.

In this qualitative research except from the transcriptions, opinions were received from the participants to provide validity and reliabilty study which is defined as Data triangulation (Özaydın and Çolak, 2011). Participants wrote their answers to the questions in the interview form. Received opinions in a written form were used as a support data in parallel with themes and sub themes. After the reliability study inductive analysis (Yıldırım and Şimşek, 2008) was conducted by the researcher and the analysis were completed.

Each interview were analysed and themes were determined, for each determined themes, sub themes were created, teachers codes were determined in each sub themes, each teacher's frequencies (f) who commented on themes were determined and example statements of teachers were selected. Results of the data, obtained themes are presented in Table 1

Table 1. Themes which came up as a result of the obtained data analysis from the interviews with preschool teachers

Sequence	Theme
1	Opinions related to the problems /strenghts faced during preparing a programme
2	Opinions related to strenghts/problems of support education services which should be in the process of inclusion
3	Opinions related to strenghts/problems faced during preparing physical environments
4	Opinions related to strenghts/problems of family participation
5	Opinions related to strenghts/problems about managerial processes

FINDINGS

Findings in the research are presented by taking into account 5 themes as a result of interviews' data analysis with teachers who participated in the research.

III.1. Opinions related to the problems /strenghts faced during preparing a programme
After emphasising on the importance of preparing an individualised Education Programme for inclusive students Interviewed preschool teachers in inclusion indicated that reports prepared by Counseling and Research Center do not reflect children's developmental features. All participator teachers indicated a common view on this topic. T5 stated that 'purposes in reports coming from Counseling and Research Center defined as either above or below from child's performances and this makes preparing Individualised Education Programme more difficult'.

III.2. Opinions related to strenghts/problems of support education services which should be in the process of inclusion

Interviewed preschool teachers in inclusion emphasised the insufficiency of support education services in this process (special education consultancy, resource room/support education room and cooperative teaching). According to this T14 stated that 'we do not have especially reserved individualised education corners. When necessary we arrange a place and study with the child individually. We have one support education room but we can't use it because of the insufficiency of materials and teachers. Also we can't spare time for inclusive students due to the class size'. T19 stated that 'Actually even if we have the opportunity we don not use it. We should arrange the necessary environment and support. W emay arrange a flexible programme for inclusive students instead of expecting eveything from others. But we may need information support for this'.

III.3. Opinions related to strenghts/problems faced during preparing physical environments

Interviewed preschool teachers expressed their views, as there are insufficient opportunities to create physical environments. T12 stated that 'I always have to raise my voice because our class gets so much voice from outside even though our classroom's light is adequate', T18 stated that 'We have difficulties when our technological vehicles break down and sometimes when we want to use technological vehicles we don't have necessary materials', T4 stated that 'Because we have problems in resources for adapting units I can't even arrange seating as it should be'.

III.4. Opinions related to strenghts/problems of family participation

All of the preschool teachers who participated in the reserach indicated that families are an important factor in inclusion and they don't have the necessary support from families. T20 stated that 'unfortunately families aren't sensitive to their children. Some of them are attentive towards their children and some of them just send their children away, to school', T6 stated that 'families are not sensitive to their children's physical cleaning /hygiene', T3 stated that 'families don't attend to the meetings very often, even we may call all parents we can't meet with all of them in face to face meetings. Unilateral education is not sufficient. Relationship only between teacher-student isn't sufficient, we need parent support', T7 stated that 'Some parents may misunderstand what teachers say about the student and they may be offended, even we send parent information forms regularly each month, not many families send the forms back'.

III.5. Opinions related to strenghts/problems about managerial processes

All of the preschool teachers who participated in the reserach expressed their opinions related to strengths/problems in terms of managers and legal issues. T13 stated that 'our manager at school has a nice personality but i can't get the sufficient support for inclusion such as resource room', T9 stated that 'Inspections are hard. Inspectors aren't sometimes experts on the subject and it is difficult to persuade them and sometimes they want unnecessary paperwork', T11 stated that 'Even though these children are thought legally, unprepared environment during applications and insufficient knowledge on this subject make the aplications hard for teachers.

DISCUSSION

The preschool teachers in inclusion who participated in the reserach expressed their opinions related to strengths/problems faced during preparing a programme. Apart from the

information requirements on special education needed by teachers especially in this area, problems about the reports received from Counseling and Research Center effect inclusive education applications negatively.

Sucuoğlu, Bakkaloğlu, İşcen Karasu, Demir and Akalın (2013) indicate that to increase the success of inclusive education applications in Turkey, teachers should have more knowledge and should be more experienced in inclusion.

Researchers expressed their opinions about the problems related to support education services which should be in inclusion process. When considered that special education support services may be presented in inclusion applications and categorized as Special Education Consultancy, cooperative teaching, and resource room applications preschool teachers opinions gain qualification. In their research on determining the needs of preschool teachers in inclusive education process Akalın, Demir, Sucuoğlu, Bakkaloğlu and İşcen (2014), found that, to perform a succesful inclusion functional teacher education programmes which will help increasing experiences and knowledge and developing positive attitutes should be implemented alongside with providing suitable physical conditions and support services to teachers. In this research it is found that 28% to 55% teachers find themselves sufficient in using different teaching methods, in managing their classrooms, in controlling problematic behaviours and in cooperating with families however nearly half of the group (43%-60%) find themselves insufficient in individualising teaching, in choosing appropriate teaching material, in evaluating performance of children who are in need of special education, in managing their classrooms and in dealing with problematic behaviours. In their research with teacher candidates Gürgür, Kış and Akçemete (2012) present that children in need of special education who take place in inclusive education applications should get support services. They explained this as learning slower than their peers, academic failure and insufficiency in social skills. Therefore; support special education services are important prerequisite for inclusive education applications' qualification. Küçük Doğaroğlu and Bapoğlu Dümenci (2015), identified teacher opinions which express preschool teachers' approaches to inclusive education and their adaptations, their educations in special education, basic knowledge levels related to special education and their suggestions related to inclusive education applications and the necessity of special education consultant at schools.

Pre-school teachers expressed their opinions about the problems related to creating physical environments. In their research related to the needs for inclusive education applications Akalın, Demir, Sucuoğlu, Bakkaloğlu and İşcen (2014), emphasised that teachers can't make adaptations in teaching materials and methods and they don't have necessary teaching equipments in classrooms. Also in their research with 10 preschool teachers Altun and Gülben (2009) state that due to insufficient knowledge, teachers have difficulties in making physical and teaching adaptations towards children's needs. In a conducted research by Gök and Erbaş (2011) it is tried to determine opinions and suggestions of preschool teachers working in pre school education institutions and who have inclusive students in their classrooms. According to this even though teachers have positive opinions on the necessity of inclusive education because they have limited knowledge they generally remain insufficient and therefore they have problems in their classrooms. Özaydın and Çolak (2011) state that teachers have adaptation problems because of the classroom size. In a research conducted by Varlıer and Vuran (2006) opinions of preschool teachers' related to special children's education via inclusive education are determined and it is suggested by the teachers that they would like to be informed with seminars, conferences and meetings intented for the solutions of problems in preschool education and they would like to have limited class size.

Problems related to family participation are expressed by the reseachers. In their research Özaydın and Çolak (2011), state that teachers think they generally can't get support from families and they think that they are in need of working cooperatively with families during the

inclusion process. In their research with teacher candidates Gurgur (2012) emphasised to note down that in the planning process meeting with families should be added.

Because it is emphasised the importance of including families in the planning process and therefore families who are both important resources of valuable information and important supports for the applications may actively participate in the process. Many interviewed teachers mentioned that they have difficulties in persuading participation of families. However; it is very important to include parents in the process and determining targets which involve parents while planning child's education process (Üstün, 1993).

Opinions are expressed related to the managerial process problems. In their research Özaydın and Colak (2011) state that teachers aren't supported by school managers. It is thought that during the inclusive education applications enhancing school's physical conditions with the encouragement (creating resource rooms, creating environment and time for familt meetings, guiding teachers with in-service educations, pioneering in delivering materials for classrooms) by managers will increase child's success.

CONCLUSION AND SUGGESTIONS

Conclusions and suggestions are presented in a detailed way in this section.

V.1. CONCLUSION

To conclude, when researches dealing with the opinions related to problems faced during inclusive education applications are examined, families' , school managers' and teachers' opinions are taken into into account. In inclusive education the most important factor effecting success in inclusive education applications is undoubtedly teachers and their opinions.

Therefore; examining teachers' opinions related to the inclusive education application problems in preschool period in which individuals start becoming a real individual,is very important to minimise the problems.

When, formulation of inclusive students' education under the light of reports examined, it is thought that being in touch with Counseling and Research Center because of the problems will increase the educational input of children. Also teachers' thoughts are identified about the subjects such as failure of physical adaptations because of the insufficient knowledge of teachers, insufficiency in special support education services and insufficiency of 'how to applicate' knowledge and problems related to provide active participation of families. To minimise all these problems and to qualify teachers in this area in –service tarinings, courses based on applications, seminars may be arranged. In Addition; for teachers and students special education consultancy support services should be provided. Solution- oriented meetings, information seminars may be arranged by school managers to minimise the problems that parents and staff faced in inclusive education. Help may be demanded from school managers for providing materials and in-out physical arrangements. Encouraging applications may take place for teachers who are the fundamental part of inclusive education applications

V.2.SUGGESTIONS

Subjects may be deeply examined by determining different themes in different eduation levels and with the support of different participants. Besides; physical, social and academic arrangements shouldn't be thought separately. Effective planning and effective application in each step will provide successful inclusive education applications.

REFERENCES

[1]   Akalın, S., Demir, Ş., Sucuoğlu,B., Bakkaloğlu,H., İşcen, F. (2014). The Needs of Inclusive Preschool Teachers about Inclusive Practices, Eurasian Journal of Educational Research, Issue 54, 39-60.

[2]   Altıntaş, E. (2014). Özel Eğitim Dersinin Kaynaştırmaya Yönelik Tutumlar ve Kazanımlar Bakımından Değerlendirilmesi, Kafkas Üniversitesi, *e – Kafkas Eğitim Araştırmaları Dergisi*, 1(3).

[3]   Altun, T. ve Gülben, A. (2009). Okul Öncesinde Özel Gereksinim Duyan Çocukların Eğitimindeki Uygulamalar Ve Karşılaşılan Sorunların Öğretmen Görüşleri Açısından Değerlendirilmesi, *Ahmet Keleşoğlu Eğitim Fakültesi Dergisi,* 28, 253-272.

[4]   Balaban, M., Yılmaz, Ö., Yıldızbaş, F. (2009). Okul öncesi eğitimde kaynaştırma eğitimi uygulamalarına ilişkin öğretmen görüşlerinin incelenmesi. *I. International Congress Of Turkey Education Researches,*1-3 May, Çanakkale.

[5]   Bricker, D. (2000). Inclusion: How the Scene Has Changed, Topics in Early Childhood Special Education (TESCE), 20:1, 14-19.

[6]   Bruns, A. D., & Mogharberran, C. C. (2009). The Gap Between Beliefs And Practices: Early Childhood Practitioners' Perceptions About Inclusion, *Journal of Research in Childhood Education, 21*(3), 229-241.

[7]   Diamond, Karen E., Linda L. Hestenes, Caryn E. O'Connor. (1994). "Integrating Young Children With Disabilities in Preschool:Problems and Promise", Young Children, S. 70-73.

[8]   Gök, G. ve Erbaş, D. (2011). Okul Öncesi Eğitimi Öğretmenlerinin Kaynaştırma Eğitimine İlişkin Görüşleri Ve Önerileri, *International Journal of Early Childhood Special Education, 3*(1), 66-87.

[9]   Gregory, S. P. (1996). "Inclusive Education For Preschool Children With disabilities", Support for Learning, Vol:11, No:2, S. 78-79.

[10]   Gürgür, H., Kış, A., Akçamete, G. (2012). Examining Pre-Service Teachers Opinions about Providing Individual Support Services to Mainstreaming Students, Elementary Education Online, 11(3), 689-701.

[11]   Güven, Y. ve Önder, A. (1995). Okulöncesi Eğitim Kurumlarındaki Yönetici ve Öğretmenlerin Özel Eğitim Gerektiren Çocukların Kaynaştırılmaları Hakkındaki Görüşleri, 11-13 Ekim Hacettepe Üniversitesi Çocuk Gelişimi ve Eğitimi Bölümü 2. Özel Eğitim Kongresinde sunulmuş bildiri. Ankara.
        http://orgm.meb.gov.tr/Mevzuat/573.htm

[12]   Jobling, A., Kristina, E. Kraayenoord, V., Watt, A., Elkins, J. (2003). "On the Way to Integration", Inclusive Education In The New Millennium, Hong-Kong: Contemporary Development Company,Rm 1302, Kodak House II, S. 174-185.

[13]   Kayılı, G., Koçyiğit, S., Doğru, S. S. Y. ve Çiftçi, S. (2010). Kaynaştırma Eğitimi Dersinin Okul Öncesi Öğretmeni Adaylarının Kaynaştırmaya İlişkin Görüşlerine Etkisi. *Mehmet Akif Ersoy Dergisi, 10*(20), 48-65.

[14]   Konuk, R. (2005). Anaokulu Ve Anasınıfına Devam Eden Normal ve Entegre Eğitimi Alan Çocukların Ebeveynlerinin Okulöncesi Eğitim Kurumu Seçimini Etkileyen Etmenler, Selçuk Üniversitesi, Sosyal Bilimler Enstitüsü, Yayınlanmamış Yüksek Lisans Tezi, Konya.

[15]   Küçük Doğaroğlu, T., Bapoğlu Dümenci, *S.S.* (2015).Sınıflarında Kaynaştırma Öğrencisi Bulunan Okul Öncesi Öğretmenlerin Kaynaştırma Eğitimi ve Erken Müdahale Hakkındaki Görüşlerinin İncelenmesi, Hacettepe University Faculty of Healty Sciencses Journal, Vol 1, No Suppl2.

[16]   Metin, N. (1997). "Okul Öncesi Dönemde Özürlü Çocuklar için Kaynaştırma Programları", Özel Eğitim Dergisi, 1 (2), 32-36, Ankara.

[17]   Oktay, A. (2002). Yaşamın Sihirli Yılları: Okulöncesi Dönem, Üçüncü Baskı, İstanbul: Epsilon Yayıncılık, S. 63-222.

[18]   Özaydın, L., Çolak,A. (2011).Okul Öncesi Öğretmenlerinin Kaynaştırma Eğitimine Ve "Okul Öncesi Eğitimde Kaynaştırma Eğitimi Hizmet İçi Eğitim Programı"na İlişkin Görüşleri, Kalem Eğitim ve İnsan Bilimleri Dergisi, 1 (1), 189 – 226.

[19]   Sarı, H. (2002). Özel Eğitime Muhtaç Öğrencilerin Eğitimleriyle İlgili Öneriler, Pegem Yayınları, Ankara.

[20]   Scott-Little, C., Kagan, S. L. ve Frelow, V. S. (2003). Standards for preschool children's learning and development: Who has the standards, how were they developed, *and how were they used?* Greensboro, North Carolina: University of North Carolina, SERVE.

[21]   Seçer, Z., Çeliköz, N., Sarı, H., Çetin, Ş. ve Büyüktaşkapu, S. (2010). Okulöncesi Eğitim Kurumlarında çalışan Öğretmenlerin Kaynaştırma eğitimine yönelik tutumları (Konya ili örneği). *Selçuk Üniversitesi Ahmet Keleşoğlu Eğitim Fakültesi Dergisi, 29,* 393-406.

[22]   Seçer, Z. (2010). "An Analysis of The Effects of In-Service Teacher Training on Turkish Preschool Teachers' Attitudes Towards Inclusion", International Journal of Early Years Education, 18:1.

[23]   Sucuoğlu, B., Bakkaloğlu, H., İşcen Karasu, F., Demir, Ş., Akalın, S. (2013). Inclusive Preschool Teachers: Their Attitudes and Knowledge about Inclusive, International Journal of Early Childhood Special Education, Cilt: 5 Sayı: 2.

[24]   Sucuoğlu, B., Bakkaloğlu, H., İşcen Karasu, F., Demir, Ş., Akalın, S. (2014). Okul Öncesi Öğretmenlerinin Kaynaştırmaya İlişkin Bilgi Düzeyleri, Kuram ve Uygulamada Eğitim Bilimleri, 14(4),1467-1485.

[25]   Şahbaz, Ü. ve Kalay, G. (2010). Okul Öncesi Eğitimi Öğretmen Adaylarının Kaynaştırmaya İlişkin Görüşlerinin Belirlenmesi, Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, 10(19), 116-135.

[26]   T. C. Milli Eğitim Bakanlığı Özel Eğitim ve Rehberlik Hizmetleri Genel Müdürlüğü, Özel Eğitimin Güçlendirilmesi Projesi (2013), "Mesleki Eğitimde Bütünleştirme Uygulamaları", Ankara.

[27]   Temel, F. (2000). Okul Öncesi Eğitimcilerinin Engellilerin Kaynaştırılmasına İlişkin Görüşleri (Opinions of Early Childhood Educators Toward Inclusion of People with Disabilities). Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 18, 148-155.

[28]   Uğurlu, H. (1993). "Okulöncesi Eğitimde Entegrasyon", 9. Ya-Pa Okulöncesi Eğitimi ve Yaygınlaştırılası Semineri, İstanbul: S. 321-325.

[29]   Üstün, E. (1993). Okul Öncesi Dönemde Çocuk-Aile-Okul İşbirliği, Ya-pa yayınları, Ankara.

[30]   Varlıer, G. ve Vuran, S. (2006). Okul Öncesi Eğitimi Öğretmenlerinin Kaynaştırmaya İlişkin Görüşleri. Kuram Ve Uygulamada Eğitim Bilimleri. Educational Sciences: Theory & Practice, 6, 578-585.

BUILDING TECHNOPRENEURSHIP
THROUGH COLLABORATIVE KNOWLEDGE CREATION
WITHIN POLYTECHNIC EDUCATION AND INDUSTRY

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ABSTRACT

Polytechnic is one form of vocational education, emphasis on the quality of the graduates are qualified, competent teachers, discipline, skills and attitudes that are characteristic of polytechnic. Polytechnic was established with the aim of creating a porfessional human resources who has expertise in accordance with the applied field. Therefore, the curriculum has a proportion of hours of practice more than an hour of theory, namely the practice (60%) and theory (40%). At this time the development of information and communication technologies have an impact on the demands and needs of industry for graduates who are ready to work. Responding to these conditions, a student at the Polytechnic equipped with the knowledge, skills and attitudes in a lecture and conduct on the job training in companies/industries that produce graduates who are ready to work. To realize the success of the polytechnic, the concept of collaborative knowledge creation conducted between polytechnics with industry, government and other institutions through on the job training (lecturer and students), the preparation of a competency-based curriculum National Job Qualifications which involves in addition to academics also industry practitioners, professional associations are already working, making products in collaboration with industry (teaching factory), following competency test for the students and lecturer professional to get professional certification from frofessional association. This study is intended to determine how the formation of the concept of collaborative knowledge creation which do polytechnics with parties: the industry, the company, other institutions, government and professional associations in improving the competitiveness of the organization polytechnic? Where the research of vocational education (polytechnic) conducted in two places such as: Jakarta and Bandung.The reason for choosing these two polytechnics have different characteristics in the organization of cooperation and industrial relations. The research method was conducted using qualitative descriptive and Soft Systems Methodology (SSM). As this study resulted in the formation of collaborative knowledge creation method in improving the competitiveness of the organization and guide the implementation of polytechnics (SOP) of the collaborative creation of knowledge (collaborative knowledge creation) between industry and polytechnics.

Keywords: polytechnic, colloborative knowledge creation, competitiveness, competence, teaching factory

INTRODUCTION

In the era of globalization and information technology vocational education has an important and strategic role for education programs, more emphasis on theory and practice in addition to referring to the industrial needs. Organized have learning patterns oriented on the ability of graduates who have the competence and skills to be ready to work in the industry or company. The pattern of education in Indonesia refers to the law No.20 of 2003 on the national education system and law No. 12 of 2012 regarding the higher education system. Vocational education integrate the skills possessed graduates as a result of process-oriented education and collaborate with the world of work and the world of industry so that this condition is able to push the quality of a skilled workforce and competent and able to encourage the creation of economic growth and social welfare. In the implementation of vocational education oriented to the world of work, his condition is now referring to the quality of learning-based entrepreneurship and Technopreneurship to be able to produce graduates who are competent and have an entrepreneurial spirit.

In realizing the quality of human resources, the role of vocational education is to produce graduates who are ready to work and able to create jobs. The fact that the problems that arise are still many unemployed graduates who are educated as scholars from universities. Referring to the data from the Central Statistics Agency (Biro Pusat Statistik), the number of unemployed university graduate in February 2013 reached 360 thousand people or 5.04% of total unemployment, which reached 7.17 million people. Thus the comparison between the needs of industry with the availability of the number of graduates who have not worked yet balanced. Therefore, one of the roles that can be performed by mainly vocational college is to produce graduates who are able to create jobs and be independent, graduates have the competence appropriate to the needs of stakeholders (industrial needs), needs professional (professional needs), the needs of society (social needs) and gave birth to future leaders visionary. To answer these challenges, the entrepreneurial learning process including technopreneurship in college became one of the methods that can produce graduates who have the mentality of entrepreneurs and to create jobs.

2. Theory

2.1 Definition of entrepreneurship and Technopreneurship

Graduate unemployment problem comes from college graduates become an important issue for education providers including polytechnic education. Processes and patterns of learning in polytechnics should always be adaptive in the face of change and competition to get a job in the industry. Referring to the problem of labor that is not absorbed in indusrti give effect to the polytechnic to evaluate patterns of provision of education, curriculum taught, partnerships with industry, corporations, governments and professional associations. Partnerships with external parties benefit polytechnic institutions, faculty and students in gaining knowledge and direct experience of practitioners so that there is a balance between the ownership of knowledge and experience in the field. Proes direct learning from practitioners provide experience for students

and a provision when students do field work practice (on the job training) and the results are brought to campus as practical knowledge.

One effort that can be done to reduce unemployment scholars and educated human resources is to create new businesses or participate in developing small and medium enterprises (SME) in accordance with the knowledge that has been gained in college. The existence of SMEs in Indonesia has proven to be one of the business that can survive in the economic crisis in 1998 and were able to win the competition. For those reasons, entrepreneurship education in polytechnics be a provision in negotiating the educated unemployment is not too large in number. Entrepreneurship explained the creative and innovative abilities created man with the ability to optimize all resources to seek business opportunities so successful. In the concept of entrepreneurship elements of creativity and innovation is important because creativity demonstrated an ability of a person to think of something that is new (new thinking thing) while innovation is a demonstrated ability in the form of activities implementing new things (doing new thing) and have use value.

According Zimmerer and Scarborough (2002) entrepreneur is someone who creates new business to cope with the risk of uncertainty in order to achieve profitability and petumbuhan by identifying opportunities and combining a variety of resources. While Drucker (1985) says that entrepreneurship is the ability to create something new and bebeda. While Nwaobi (2009) defining characteristic of an entrepreneur is not the size of the company but the act of innovation consequently; Innovation is the specific instrument of entrepreneurship.

What is technopreneurship? according wordpress.com explained that technopreneurship is part of entrepreneurship. Technopreneurship involved in sending a high-tech products, innovative or membat use of technology in an innovative way to send its products to consumers. Technopreneurship is a term formed from two words, namely technology and entrepreneurship. Technology is a means or method to process something that happens time and cost efficiency so as to provide a higher quality product. While Lumsdaine (2007) definition technopreneurship is the merging of knowledge in technology with entrepreneurship skills. It requires not only technical knowedge but Also a thorough understanding of creativity, the innovation process, marketing, finance, and strategic thinking. Egbogah (2013) mention that "technopreneurship is a combination of "technology" and "entrepreneurship". It is a "technology innovators and business man rolled into one"; better still "an entrepreneur Whose business involves technology related activities".

In era when globalization and technology change rapidly,and also became important influence to vocational education and university in teaching and learning process. Science and technology compliment land, labor and capital as sources of wealth. Based on the theory of Triple Helix describes interactions involeved Among the major stakeholders in knowledge creation and capitalization, universities, industry, and government, and how to optimize the commercialization of knowledge (Etzkowitz et al; 2008). An entrepreneurial university rests on four pillars: (1) academic leadership Able to formulate and implement a strategic vision, (2) legal control over academic resources, including physical properties such as university buildings and

intellectual property emanating from research, (3) organizational capacity to transfer technology through intellectual property, licensing, and incubation; and (4) an entrepreneurial ethos among administrators, faculty, and students. The Triple Helix is an innovative models that describes the translation of knowledge and technology into economic activity. The Triple Helix model of Suggests that the three spheres of academia, industry, and government should overlap and interact freely as equals in order to best utilize knowledge ad technology (Etzkowitz & Leydesdorff, 2000).

In technopreneurship then that becomes the basis for the development of innovation and entrepreneurship was largely the invention or inventions that are easier in the field of technology. Innovation and invention can take the form of technology, system or method developed and give value to and serve as a source of income from their business.

2.2 Innovation and Collaborative Knowledge Creation

In the concept of entrepreneurial innovation and invention became important in the current era of globalization, the speed of information technology has an impact on the ability of an entrepreneur in business. One of the devices that play a role in information technology innovation and collaboration of knowledge in higher education and the availability of internet connectivity is becoming faster, cheaper and provide more informed choices. Thorp & Goldstein (2010) mention that "the Internet is creating an even more fundamental change in the way knowledge is created, and it points to a central role for entrepreneurship as a catalyst for university-based innovation".

In realizing the entrepreneurial learning process in universities will be affected by knowledge of what is being taught. Referring to Huber (1991) in Nonaka (1994) knowledge is considered as the belief that will add capacity for an activity to be effective and can be seen from the five views, namely: (a) ways of thinking (a state of mind), (b) the object (an object), (c) process (a process), (d) the conditions to have access to information (a condition of having access to information) and (e) the ability (a capability). Knowledge considering the use of effective information, focus on results and be able to improve coordination within the organization (Drucker, 1993).

The capitalization of knowledge is the heart of a new mission for the university, linking universities to users of knowledge more tightly and establishing the university as an economic actor in its own right (Etzkowitz, 2008). In the organization there are two perspectives of knowledge that includes the perspective of innovation and learning perspective (Hargadon and Faneli, 2002: 293) and can be viewed from the perspective of knowledge: research questions, assumptions, quality of knowledge and processes. In the described research questions regarding (a) the perspective of innovation, namely the ability to dig up information on what factors of individuals and organizations that can be investigated, while (b) learning perspective, describe how such knowledge can be acquired, interpreted, distributed and stored in the organization. Gourlay (2005) explains that in the process of knowledge creation, the role of the individual is more important than the role of managers in decision-making. Gourlay (2005) criticized the draft

submitted Nonaka (1994) the issue of the settlement of differences between expert or group commitment.

Innovation merupkan a process by which organizations create and define the issues and activities that develop new knowledge to solve existing problems (Nonaka, 1994). Whereas in the future innovation of educational organizations is one way the university or institute to survive and compete in the market (Yan and Chang, 2010).

According Pavit in Tonner (2005) innovation is divided into two types, namely: (1) radical innovation that has the characteristics of both a greater uncertainty in relation to the size of the discovery of the problem, the existence of a potential market with a level of skill and technology, (3) incremental innovation which explains that the development of the organization carried out by its members directly and act as users who produce goods and services. Implementation of innovation in secondary and higher education shows the difference (Moodie, 2004). Innovation is found in the concept of knowledge and vision so that innovation should be measured in terms of commercial and effectiveness. (Kathop et al, 1997). The need for innovation in the organization to face the challenges of globalization and the rapid development of technology and information, Paavola and Hakkarainen (2005) considers that it is epistomologis learning is the process of creating knowledge, so knowledge acquisition is done by individuals, and social interaction, and collaboration process under the common object to be developed.

Definition Collaborative knowledge creation (CKC) according to Du Chatenier et al (2009) in developing the organizational learning process is an important step that must be done to produce a product in the form of knowledge, services and technologies built through the three main model, such as: (1) model of knowledge creation, (2) model of expansive learning, and (3) building knowledge models. The stages CKC includes four phases are: (1) externalizing and sharing: knowledge occurs at the level of the current group produces distributed knowledge, (2) interpreting and analyzing where knowledge happens at the individual level when produce decentralized knowledge; (3) negotiating and revising that explaining knowledge happens at the group level and (4) combining and creating explained knowledge happens at the individual level when generating knowledge that is concrete and supports innovation and new technologies. At the stage of combining and creating a professional will combine different knowledge base into process knowledge with new ideas.

Alvarez (2012) explains that in the implementation process to be effective CKC should be noted the importance of the concept of knowledge transfer is performed continuously from the concept of individual knowledge into collective knowledge. The concept of knowledge which refers to the concept of CKC primarily in learning activities technopreneurship in college is important as a way of looking at the organization in improving the competitiveness of the organization. Alvarez (2012) explains that there are challenges when implemented collaborative process knowledge within the organization are: (1) the need to be grown on a positive perception about the attitude and spirit of collaboration that support the sharing of knowledge and mutual understanding of the knowledge, (2) the occurrence of perception balance between the role and

contribution of organizations exist in constructing a shared model, (3) a commitment that creates a collaborative attitude that occur attitude total appreciation of the perspectives shared by members of the organization in order to achieve an understanding, and (4) the acquisition of information that is not balanced, the information not relevant will result in failure in decision making.

METHODOLOGY

Research Methodology Used Soft Systems Methodolody (SSM)

    Soft systems thinking seeks to explore the 'mesy'problematic Situations that Arise in human activity. This interpretive approach is strongly influenced by Checkland (1999) have attempted to transform Reviews These ideas into practical form theory methodology system that is called the Soft Systems Methodology (SSM). Checkland's premise is that systems analysts need to apply reviews their craft to problems of complexity that are not well-defined, and that SSM Attempts to understand the complex world of fuzzy wicked and Organizations. This Achieved with the core paradigm of learning (Checkland, 1999: 258). The seven principles and stages of SSM are: (1) problem situation considered, (2) Expressed problem situation, (3) definition of the relevant root systems of purposeful activity, (4) conceptual models of the systems (holons) named in the root definitian , (5) comparison of models and real worl, (6) changes systematically desirable, culturally feasible, and (7) action to improve the problem.

    SSM as a methdology to perform observation of situations that occur daily in vocational education (polytechnic) located in Jakarta and Bandung and found the problem in the preparation stages of the curriculum associated with the concept of collaborative knowledge creation (CKC), the resulting graduated as a besides entrepreneurs as an employee at the company, in polytechnic learning process based on Technopreneurship, joint research and learning process within polytechnic and industry, and creating innovation and invention from the polytechnic to be intelectual right and creating business.

4. Method Of Data Analysis

    Method of approach is used in this research methodolgy used Soft Systems Method (SSM) from (Checkland, 2006). Data collection methods used in this study were interviews, observation, and study of literature. The techniques implemented a A collection of the data by: (1) in-depth interview with the person who incharge polytechnic in building relationship with the industry, and government (the triple helix), (2) observation, (3) study of literature / study documentation, and (4) informal discussion with the colleagues and lecturer whose responsibility to teach entrepreneurship in polytechnic. The method of data analysis used in this research is qualitative analysis of the data conducted in accordance with the type of the data. The data have been grouped to associate with one another and interpreted by using the Soft Systems Methodology (SSM) and CATWOE approach (Clients, Actors, Transformation, Weltanschauung

or World View, Owners and Environment) in analyzing building technopreneurship through collaborative knowledge creation within polytechnic education and industry.

5. Data Collection Techniques

This research Refers to the stages that are standardized on the Soft Systems Methodology (SSM), and the method of collection of data in the field has a formal and informal nature. The collection of information in this study is done through observation, study documentation / literature study, informal discussions and interviews with the person (Assistant of Director/Lecturer in polytechnic who is incharge in building relationship between polytechnic, government and industry.

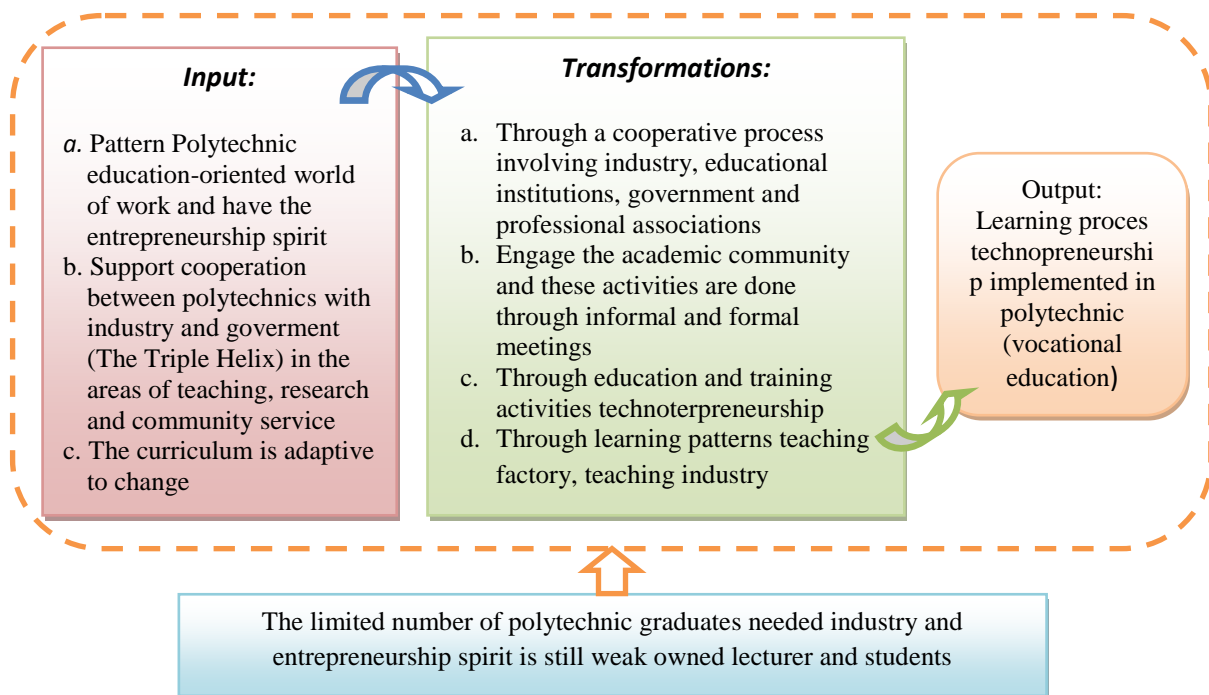## 6. Results and Data Analysis

Interviews and informal discussions with leaders, faculty, administrative staff and students at polytechnic as owner issues (issue owner) as well as direct observation of the condition of the problems researchers in polytechnic. Learning technopreneurship process in polytechnic described in the rich picture.

Figure 1 Rich Picture Building Technopreneurship through CKC
With Polytechnic and Industry
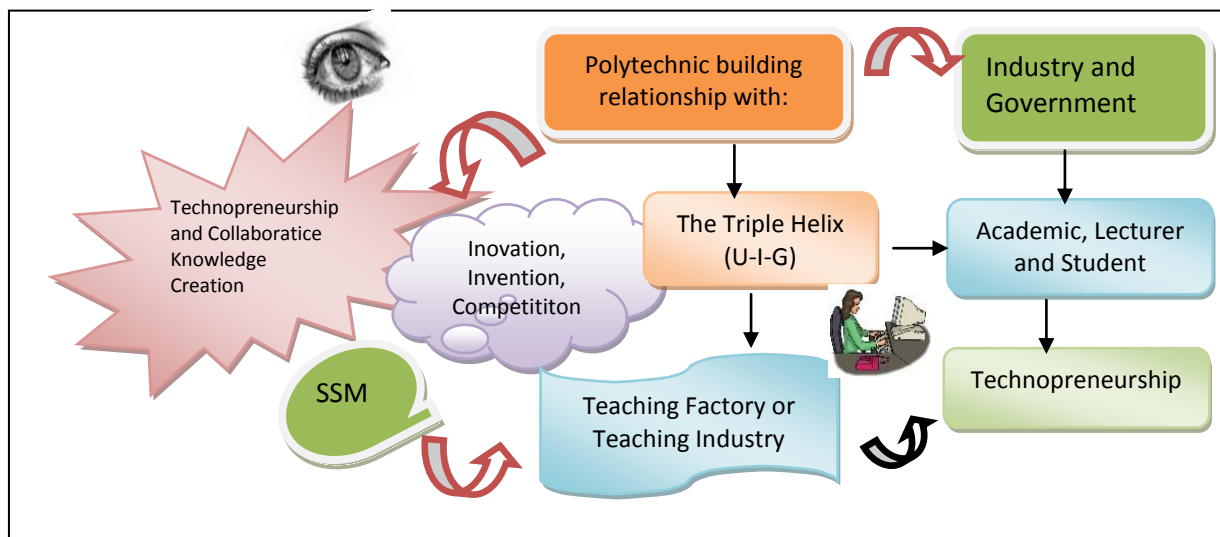
While the process of change that occurs in the process of learning in the work-oriented polytechnics, have competence and in accordance with the needs of the industry and has the soul of an entrepreneur.

Figure 2. Changing Learning Technopreneurship Proces

Input:

a. Pattern Polytechnic education-oriented world of work and have the entrepreneurship spirit
b. Support cooperation between polytechnics with industry and goverment (The Triple Helix) in the areas of teaching, research and community service
c. The curriculum is adaptive to change

Transformations:

a. Through a cooperative process involving industry, educational institutions, government and professional associations
b. Engage the academic community and these activities are done through informal and formal meetings
c. Through education and training activities technoterpreneurship
d. Through learning patterns teaching factory, teaching industry

Output: Learning proces technopreneurship implemented in polytechnic (vocational education)

The limited number of polytechnic graduates needed industry and entrepreneurship spirit is still weak owned lecturer and students

Tabel 1. Root Definition (RD) for Building Technopreneurship through CKC
Polytechnic with industry

No	Name	Root Definition Activity
RD	Process learning Technopreneurship based on industrial and government needs with collaborative knowledge creation	Building technopreneurship (P) through collaborative knowledge creation (CKC)polytechnic and industry (Q) to produce qualified graduated and have jiwa enterpreneur (R)

Table 2. CATWOE and 3E in the Root Definition

Customer	Director of polytechnic, government, industry and company
Actors	Director, Head of Department, government, industry and company
Transformation	Development of learning proces in polytechnic based on teaching factory or teaching industry to produce enterpreneurship
Weltanschauung	Teaching and learning technopreneurship is important to improve the quality of graduates
Owner (s)	Assistant of Director for Academic, Assistant of Director for Industrial Relations, Head of Department, Head of Study Programme in Polytechnic
Environment	Constraints within the limitations of time and budget available, polytechnic organizational culture, changes in the regulation of higher education and the needs of industry and company
E-Efficacy	Implementation of competency-based curriculum in facing the needs of industry and company
E-Efficiency	Using financial resources for teaching factory and teaching industry and the implementation of time is limited
E-Effective	Learning technopreneurship into curriculum development in each study programme

In creating professional quality polytechnic graduates and have an entrepreneurial spirit, it is important to polytechnic make collaboration both internal and external collaboration. Internal collaboration is done by optimizing the human resources (lecturer, student, leader and administration staff) to help smooth the process of learning. While external collaboration is done polytechnics with industry, and governments. Forms of cooperation covers the areas of teaching, research and community-based service. One of the advantages of the polytechnics are oriented teaching system in the world of work and have the entrepreneurship spirit. For example: according to Jusafwar (2012) polytechnic conditions in State Polytechnic of Jakarta facing competition still has a weakness in the process of creation and dissemination of knowledge, such as:

(1) Not his planned curriculum, syllabus and teaching materials in accordance with industry expertise qualification referring to KKNI(National curriculum) as a form of legalization regulations Act 12 of 2012 on Higher Education System;
(2) Equipment owned Polytechnics to workshops and laboratories is still limited in number to facilitate and support;

(3) Not all the lecturers in polytechnics are oriented teaching in accordance with the needs of the industry, given the numbers are still low dibandungkan the number of existing faculty as a whole because not a lot of lecturers conducted visits to industry;

(4) Not to the formation of the agenda and meeting schedule are routinely conducted between polytechnics with business and industry (Dudi), and

(5) For the D3 program, most students still oriented graduated, so after graduating from the polytechnic to continue the program S1 (academic track) at the university.

According to the results of interviews with Zaenal (2013) whose responsibility for industrial and relationship State Polytechnic of Jakarta (PNJ) with industry in establishing cooperation with the industry-based teaching industry has implemented and produce graduates. Teaching model of industry organized by mentitikberatkan on the management and implementation of the learning process carried out jointly between the polytechnics by industry / companies and all costs are borne by the company organizing cooperation partners. Model teaching programs that have been held involving industry companies: PT Holcim (Mechanical engineering study program), PT Badak LNG (Energy Conservation Techniques), LIGO Group of Company (Energy Conservation Techniques - Mechanical Engineering), PT Jasa Marga (Highway - Civil Engineering), PT Trakindo (Heavy-Mechanical Enggineering). In Bandung State Polytechnic (POLBAN) forms of cooperation have been carried out by the industry and the company, such as the PT Tekla Indonesia (the field of information technology, 2013). Forms of cooperation undertaken Bandung State Polytechnic Manufacturing (POLMAN) with companies and industries. Polman first apply the learning method with the concept of problem-based education (PBE) and the students are directly involved in the development and manufacture of not only products but services. Through learning approach with PBE hope that individuals will gain the advantage of experience to gain real skills in the industry, students will be directly involved in the development and manufacture of products, both standard and customized for industrial purposes are integrated in the curriculum. Besides PBE, Polman Bandung since 1991 has implemented a 3-2-1 cooperative approach based education for 3-year study program with the composition: 3 semesters basic education held in the campus POLMAN, 2 semester internships in industry and one semester of college education was continued again at POLMAN also undertake partnership with small and medium enterprises as well as large industrial and corporate (http://www.polman-bandung.ac.id). Forms of cooperation with industry polytechnics in State Polytechnic of Jakarta has been running well, but the process involving student teaching factory in emnciptakan work oriented IPR and Patent (intellectual property rights) is still low. When linked with the concept of technopreneurship, making processes of teaching learning industry should be able to provide creative works and also a profitable business.

Build technopreneurship through collaborative knowledge creation process referring to the theory of CKC (Du Chatenier et al., 2009) if viewed in terms of emergent team states this condition is part of the process: (a) group efficacy is Essentially a concept whereby every member of a reciprocal commitment is always willing to help, in the context of this show Technopreneurship willingness to help be one key to the success of the business, (b) social

cohesion with regard to nature and the emotional qualities of friendship within the group, (c) learning climate that describes the quality of the environment and facilities that support learning, and (d) power distribution that describes the medium of responsible collective action depends on: the status, position and expertise (mastery). Therefore, from the pattern done in polytechnic education, the techno born from the mastery of technology as a key element of product development success, not based on the results of the election lobby and demographic segments of the market but successful because of creativity, inovation, technology-based invention. Results of techno is the birth of a superior product that encourages the development and growth of knowledge-based economy. Technopreneurship polytechnic education will produce graduates who are skilled and entrepreneurial and become a factor in winning the competition. In addition to developing technopreneurship need support not only from the business world but also from the business / business. Forms of government support to education and the business world developed in Polytechnics is an implementation of the concept of The Triple Helix. Relationship patterns Technopreneurship education through the concept of collaborative knowledge creation stages (CKC) is:

Table 3 Relations with the stages of education Technopreneurship CKC

NO	STAGING CKC	TECHNOPRENEURSHIP
1	Externalizing and Sharing: knowledge occurs at the level of the current group of distributed knowledge	to produce research results-oriented faculty and students on intellectual property developed as a result of the knowledge that can be shared with other parties
2	Interpreting and Analyzing where knowledge happens at the individual level while generating decentralized knowledge	Students learn about the business plan and have internship experience in the industry as the development of knowledge and skills to start a business, the discovery of a work and creative ideas
3	Negotiating and revising that explaining knowledge occurs at the level of group	Lecturer group performs a collaboration with the industry and government and commercialize the research results
4	Combining and Creating that explains knowledge happens at the individual level when generating knowledge that is concrete and supports innovation and new technologies	At the stage of combining and creating lecturer and the student will combine different knowledge base into the birth process knowledge with new ideas, creative and innovative so as to win the competition.

CONCLUSIONS AND SUGGESTIONS

Conclusions

In developing the concept of learning at the Polytechnic Technopreneurship as vocational education to note the following:

a. Education Technopreneurship be the topic of entrepreneurship courses that have been implemented at this time;

b. Technopreneurship learning process much emphasize student critical thinking, creative and innovative ideas gave birth to produce a product that is oriented on business and were able to win the competition;

c. Lecturer and student had an internship experience in industry as part of the concept of collaboration of knowledge to produce innovative and current work;

d. Results of research and collaboration in the form of joint research between the Polytechnic with the government or with industry to produce a product, work-oriented intellectual property

e. The role of leaders and academics Polytechnic became an important part in realizing the pattern of teaching learning teaching factory or industry.

f. Application of all four stages of the CKC to the model of development process polytechnic education, culturally acceptable, Because The process is based on the process of implementation aspects of Technopreneurship curriculum based education.

Suggestions

This study has illustrated how the concept CKC logically and systematically applied in the formulation and development of higher polytechnic education a model that is more oriented to the needs of the workforce and industry in Indonesia. In the models of vocational education needs to be improved especially:

a. Technoprenuershi teaching and learning process as a part of the curriculum;

b. Having a teaching material based on probem Technopreneurship baased business education of facts / business going on in the world of business and industry;

c. Research conducted student and lecturer should result in the discovery of innovative and relevant to industry needs;

d. Tecnhopreneurship competence oriented elements: spirit and motivation, leadership, communication, business strategy, service management.

Collaborative Knowledge Creation (CKC) explain the interaction between actors in human activity. In this case, CKC theoretical basis for research into the use of SSM approach, the method is based on the complexity of the systems department of human activity and use in buikding competitiveness and innovation in vocational higer Educations.

REFERENCES

[1]   Alvarez, Harold, (2012). Collaborative Knowledge Creation, Maastricht University, The Netherland.

[2]   Checkland, Peter. (1999). *System Thinking, Systems Practice*. John Wiley & Son. New York. USA.

[3]   Checkland, Peter dan John Poulter. (2006). *Learning for Action*. John Wiley & Son. New York. USA.

[4]   Du Chatenier, Elise, Jos.A.A.M. Verstegen, Harm J.A. Biemans, Martin Mulder dan Onno Omta, (2009). The Challenge of Collaborative Knowledge Creation in Open Innovation Teams, *SAGE*, October 2009

[5]   Drucker, P.F. (1985). The Practice of Innovation: Innovation and Entepreneurship Practice and Principles, Harper & Row, New York, pp. 19-33

[6]   Drucker, P.F. (1985). The Practice of Innovation: Innovation and Entepreneurship Practice and Principles, Harper & Row, New York, pp. 141-188

[7]   Drucker, P.F. (1985). The Practice of Innovation: Innovation and Entepreneurship Practice and Principles, Harper & Row, New York, pp. 207-243

[8]   Egbogah, Emmanuel.O. (2013). Enterprenuership and Technopreneurship as Engine of Rapid Economic Development. An "AUST Distinguished Fellow-in-Residence" Creativity & Innovation Seminar, Abuja, April 29, 2013.

[9]   Etzkowitz, Henry. (2003). Research groups as 'quasi-firms': The invention of the entrepreneurial university. Research Policy, 32 (1), 109-121

[10]   Etzkowitz, Heny. (2008). The Tripe Helix: University-Industry-Government. Innovation in Action, Routledge, New York

[11]   Etzkowitz, Henry & Leydesdorff, L. (2000). The dynamic of innovation: From national systems and 'mode 2' to a triple helix of university –industry-government relations. Research Policy, 29 (2), 109-123

[12]   Goolins, Michael A, (2008). *Driving Innovation : Intellectual Proverty Strategies for a Dynamic World,* Cambridge University Press, UK.

[13]   Gourlay, Stephen, (2005). Conceptual Knowledge Creation: A Critique of Nonaka's Theory, Kingston Business School.

[14]   Hermans, Julie dan Annick Castiaux, (2007). Knowledge Creation Trough University-Industry Collaborative Research Projects, *The Electronic Journal of Knowledge Management*, Vol. 5 Issues No.1, pp: 43, www.ejkm.com

[15]   Jakubik, Maria, (2008). Experiencing Collaborative Knowledge Creation Process. *The Learning Organization*, Vol. 15. No. 1, pp: 5-25

[16]   Jusafwar, (2012). Paper deliver in Lustrum PNJ 2012, title: Polytechnic collaboration with industry to produce professional graduated, Depok

[17]   Kalthop, Otto, Ikujiro Nonaka dan Pedro Nueono, (1997). The Light and Shadowm. How Breaktrough Innovation is Shaping European Business, *Roland Berger Foundation, Capstone*, UK. pp. 25

[18]   Lumsdaine, Edward, 2007. Technopreneurship.
      http://www.me.mtu.edu/advisory_board/spring2007//Attachment_L.pdf

[19]   Mariam, Iis, (2014). Disertation: *Collaborative Knowledge Creation* At State Polytechnic Of Jakarta to organization competitiveness (Action research based *Soft Systems Methodology)*, University of Indonesia, Depok

[20]   McKay dan Marshall, (2001). The Dual Imperatives of Acttion Research. Information Technology and People. Vol. 14. No. 1, pp. 46-59

[21]   Mets, Tonis, (2009). Creating Business Model for Commercialization of University Research. Organizacijo Vadyba: Sisteminilai Tyrimai; 2009, Vol. 51; ABI/INFORM Global, pp. 85-91

[22]   Mitchell, Rebecca dan Brendan Boyle, (2010). Knowledge Creation Measurement Methods. *Journal of Knowledge Management* 14 (1) : 67-82, @ Emerald Group Publishing Limited, ISSN 1367-3270

[23]   Moodie, G, 2004. The Neglected role of a neglected body: Academic boards role in assuring, equivalent, standards, *Australian Universities Review*, Vol. 47, No. 3, p.35-41

[24]   Nonaka, Ikujiro. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science,* Vol. 5 . No.1. February 1994, pp : 14-37

[25]   Nonaka, Ikujiro dan Konno, (1998). The Concept of "Ba", Building Foundation for Knowledge Creation, *California Management Review* (40:3), 1998, pp: 40-54

[26]   Nwaobi, G.C. (2009). Business Enterpreneurship (Technopreneurship): Evolution and Practice,
         http://ssrn.com/abstract=2044854

[27]   Nonaka, Ikujiro dan Takeuchi, (1995). *The Knowledge – Creating Company: How Japanese Companies Create The Dynamics of Innovation*, Oxford University Press, Boston.

[28]   Snyder, Nancy Tennant dan Deborah L.Duarte, (2003). *Strategic Innovation: Embeding Innovation as a Core Competency in Your Organization*, Jossey-Bass, San Fransisco, CA.

[29]   Tuomi, Ikka. (1999). *Corporate Knowledge : Theory and Practice of Intelligent Organizations*. Metaxis. Helsinki

[30]   Paavola, Saam dan Hakkarainen, (2005). The Knowledge Creation Methapor: An Emergent Epistemological Approach to Learning. Science and Education, Vol. 14, pp: 535-537, @ Springer 2005

[31]   Salisbury, (2008). DA Framework for Collaborative Knowledge Creation, *Knowledge Management Research and Practice.* No. 6

[32]   Schultze, Ulrike dan Dorothy E.Leidner: Studying Knowledge Management in Information Systems Research: Discources and Theoritical Assumptions, *MIS Quarterly,* Vol. 26. No. 3 (September 2002), pp. 221

[33]   Sohail dan Salina Daud, (2009). Knowledge Sharing Higehr Education Intitutions Perspectives from Malaysia, *The Journal of Informational Knowledge Mangement Systems*, Vol. 39. No.2, 2009, pp. 126

[34]   Su-Chang Chen, His-Chi Hsiao, Jen-Chia Chang, Chien-Hua Shen dan Chun-Mei-Chou, 2010. School Organizational Innovative Indicators for Technical Universities and Institute, *Contemporary Issues in Education Research*, July 2010, Vol. 3.No. 7

[35] Sudarsih, Endang, (2013). Technopreneurship Education: Increase innovation technical student in Business. National Conference innovation and technopreneurship, IPB Conventional Center, Bogor

[36] Thorp, Holden & Buck Goldstein, (2010). Engines of Innovation: The Enterpreneuria Univerisity in the Twenty-First Century. The University of North Carolina Press, Chapel Hill

[37] Tonner, Philip. (2010). Innovation and Vocational Education. *The Economic and Labour Relations Review* , Vol.21, No.2, pp : 75-98

[38] Walker, Kevin. (2012). The Technopreneurship Process: Academic Enterpreneur University Spin-offs. RIThink, 2012, Vol.2. pp.12-22

[39] Yan dan Chang, 2010. School Organizational Innovative Indicators for Technical Universities and Institute. Contemporary Issues in Education Research; July 2010, Vol. 3 No. 7, ABI/INFORM Global

[40] Zimmerer, T.W. and Norman, M.S, (2002). Essensials of Enterpreneurship and Small Business Management. Second Edition. New Jersey; Prentice Hall, Inc.

[41]   Undang – Undang No.12 Tahun 2012 (Act No. 12: 2012 Higher Education)

[40]   Adiana, Okky, (2013). INILAH.COM. MOU POLBAN with PT Telka Indonesia, http://www.polban.ac.id, accessible March 2015.

[41]   Sejarah Politeknik Manufaktiur Negeri Bandung, (2013) , http://www.polman-bandung,ac,id, accessible March 2015

[42]   Badan Pusat Statistik (BPS), (2013). Bachelor Graduated in Indonesia still unemployed. http://finance.detik.com/read/2013/05/29/161124/2259348/4/360000-sarjana-di-indonesia-masih-menganggur

[43]   Buku Technopreneurship, (2008). Academic Directorat Higher of Education, National and Education Departmen, Jakarta

THE EFFECTS OF KOREAN CORPORATE CATERING AND CONTRIBUTION EXPENSES ON R&D EXPENDITURES ARROUND THE GLOBAL CRISIS

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ABSTRACT

In this paper, we study the effects of somewhat peculiar forms of selling and administrative expenses of listed firms in South Korea like catering expenses and contribution expenses on the expenditures for R&D expenditures by non-financial firms, using firm-level data from KIS-Value dataset and other non-financial data starting from 1999 till 2013. We applied the fixed effects panel regression model to reflect time serial and cross sectional effects to find out following results. Firstly, those catering and contribution expenses affected positively the expenditures for R&D expenditures for the whole sample period, 1999-2013. From test for separate periods for the years before the global crisis in 2000s, 2008-2010 for South Korea and for separately for the years after the financial crisis, 2011 and afterwards, we find out that R&D expenditures increased significantly, per se, during the global crisis in 2000s, and declined significantly after the crisis than before the crisis. This implies that firms in Korea invested quite aggressively during the crisis for the future while financing their R&D expenditures from other sources than by reducing expenses like their catering and contribution on the expenditures but by reducing other expenditures and that reduced relatively more amount of R&D expenditures after the global crisis in 2000s than they had done before the crisis.

Keywords: R&D, Catering Expenses, Contribution expenses, Panel Data, Global Crisis

INTRODUCTION

In the report of '*Catering Expenses Status and Policy Issue(2013)*', the Korea Institute of Public Finance announced that, during the year of 2011, the usage rate of corporate credit card charged at adult entertainment establishments was about 1.41 trillion won, and before that, it was reported 1.59 trillion won in 2007, 1.53 trillion won in 2008, 1.41 trillion won in 2009, and 1.53 trillion won in 2010, so it has clocked up over 1.4~1.5 trillion every year. In more detailed report on catering expenses, as of 2011, the expenses at hostess bars were 923.7 billion won most highly, those at karaoke bars were 233.1 billion won, those at nightclubs were 50.7 billion won, and those at high-class restaurants reached 43.8 billion won. In this sense, catering expenses need to be improved in terms of underground economy legalization. In particular, catering expenses over legal limit set by the Korean Corporate Tax Act reached 495 million won on average per firm for 668 KOSPI firms listed on the Korea Stock Exchange (KRX, hereafter).

According to a recent report, some pharmaceutical and alcoholic beverages manufacturing firms were found problematic in the usage of catering expenses for better, legally or illegally, business opportunities. Setting liquid manufacturing firms aside, it was a really big shock that 6 firms in pharmaceutical industry, which is believed to be the hotbed of research and

development (R&D) were included in top 10 users of catering expenses exceeding the legal limit. According to the report, it is more or less widely known that firms in the pharmaceutical industry and the liquor manufacturing industry spend considerably high proportion of their expenses on catering compared with other types of business, in the fears that without excessive catering and treating actions of firms, they might lose their competitiveness in the industry. It is also widely believed in Korea that the excessive usage of catering expenses might   hurts the company itself and harm the fair competition order in the market.

 According to '*First Quarter of 2013, Analysis of Managing Performance of Korean Pharmaceutical Companies*' report published by the Korea Health Industry Development Institute, the problematic usage of selling and general administrative expenses which had been pointed out repeatedly has changed in a positive way by the companies in the pharmaceutical industry on KRX. Selling and general administrative expenses of listed pharmaceutical companies were 33.6%, which decreases by 2.1% from the previous year, and especially, short-term expendable costs such as catering expenses and advertising expenses declined while investments in research for long-term growth have increased significantly, and it asserted that the phenomenon was a very positive and desirable one. In this regard, to cut the excessive catering expenses and increase R&D expenditures   would help a corporation enhance its competitiveness. Also, in accordance with the statement that "in the case of R&D investments, listed pharmaceutical companies make a dent in R&D expenditures4.4% compared with the same period in the previous year to 324.2 billion won, whereas those of innovative pharmaceutical firms increased 13.7% to 275 billion won," there must be a persistent effort to substitute catering expenses to R&D expenditures for growth through innovations and better financial performances in the long run, by firms in the pharmaceutical industry.

 It is desirable that Korean, not only pharmaceutical but also most other, firms should reduce selling and general administrative expenses, which are usually considered less directly related to production costs, among which catering expenses were treated as unethical expenses in general, and expand R&D expenditures and contributing expenses to the same level of the global leading pharmaceutical companies.

 Generally, in that catering expenses are for external active expenditures, they have a positive effect to the profitability of firms(Kim and Kim; 2011). Especially, however, catering activities deviating from normal reception, as the case of pharmaceutical companies the above, have a negative effect that causes unnecessary social costs(Shim, Ho-Seok and Kang ; 2008). In accordance with Lee et al.(2005) catering expenses are related to business, but it is difficult to judge that they have direct relationship to profits and it is also hard to separate clearly priority and inevitability of the expenses. We need to look into that contribution expenses which have both of positive aspects that serve to public interest and negative aspects in that corporations might abuse them as to adjust corporate taxes and their effects on R&D expenditures that are future-oriented expenses to corporations. On investigation of preceding researches, there are some commonsensical researches that assert the increase of particular expenses causes the decrease of other expenses, in other words, they are incompatible, and there are other researches that argue the movements in two expenses are in the same direction, in other words, they are complementary, increasing or decreasing at the same time. However, there is no research about the impact that was made by short-term expenses such as catering expenses and contributing expenses on the R&D expenditures which are future-oriented expenses. The harder competition circumstance is, the harder corporations make an effort for improvement of financial structure. In the midst of these, there are many changes in regard to catering expenses, contribution expenses, and R&D investments. Thus, in this paper, we intend to look into catering expenses, contribution

expenses, and R&D expenditures which are hot issues in the public and the academia over overheads costs of Korean firms before and after global crisis in the late of 2000s.

In this study, after introduction in chapter 1, we examine prior researches in chapter 2, and in chapter 3, we establish hypotheses and empirical research models, followed by the results from multivariate panel regressions. Finally, we summarize our conclusions and discuss limitations in chapter 5.

LITERATURE REVIEW

2.1 R&D Investments

According to the amendments to Corporate Tax Act on December 31, 2001, some R&D expenditures were no longer able to be reported as deferred assets, a kind of intangible assets, thus one of the gaps between enterprise accounting and tax accounting was removed. Preceding researches about R&D in management are mainly categorized into two major parts: the relationship between R&D expenditures and the value of firms, and researches on accounting management of R&D expenditures.

2.1.1 Standard for Accounting Management of R&D Investments

There are some possibilities that manager's discretion can play a role to some degree in accounting management of R&D expenses. Expensing, or capitalizing? Each employer of corporation treats R&D expenditures as expensing or capitalizing depending on the circumstance of his/her corporation. There are some overseas researches such as Baber et al. (1991), Mande et al.(1994), Perry and Grinaker (1994), Bushee(1998), Healy and Wahlen(1999), and there are also some researches such as Choi and Choi(1998), Kim(2006) in South Korea which report that manager levels profits up through expensing and capitalizing in accounting management of R&D investments. Han(2010) reports that capitalization of R&D expenditures reflects long-term corporate growth opportunity and thus might be used discretionally for short-term profit management.

Diverse terms about expenses for R&D activities are used in the academia and in practice, so Cho and Park(2013) presents "R&D expenses", "R&D investments", "R&D assets", and in the accounting, those terms include R&D expenditures which become expensing and R&D assets which become capitalized. In external papers, the term of "R&D expenditures" is commonly used for the cash outflow for the accounting period. Choi et al.(2007) assert that Corporate Accounting Standards Document No.3(intangible asset) in the Korean GAAP enforced since 2003 classifies as expenditures in research that are reported as expenses at the time of occurrence at the stage of research, the development expenditures that might be reported as assets when they satisfy recognition criteria for intangible property, and the ordinary development expenditures that are expenses except development expenditures the above. Also, prior to the amendment, Corporate Accounting Standards Article 20 ruled the development expenditures as assets and the research expenditures and the ordinary development expenditures as expenses.

2.1.2 R&D Expenditures and Corporate Values

Hirschey(1982) reports that accounting profit, R&D expenditures and advertising expenses have a positive effect on corporate market values and danger in streams of future expectation profit had a negative effect on them. Hirschey and Weygandt (1985) shows how R&D expenditures and advertising expenses influence to excess value of firms, using the concept of cost replacement. Bublitz and Ettredge(1989) used non-cumulative normal return as a

dependent variable, and R&D expenditures and advertising campaign expenses as independent variables. Choi(1994), in the research using Tobin's Q as proxy variable of corporate values, demonstrated that extraordinary R&D expenditures have a positive influence on corporate values but ordinary R&D expenditures cannot influence corporate values in the year of expenditure. Lev and Sougiannis(1996), Cho and Chung(2001) report that R&D expenditures play a role in improving profitability of firms in the future, and thus the market values of firms. Hwang(1998) reports that net working capital has a less influence on firm values than R&D expenditures in the previous year. Heo(2000) shows two different streams. First, advertising expenses, R&D expenses, cash flow, and growth rate in sales show a positive effect on corporate values. On the contrary, in the analyses with firms categorized by companies' size to large companies, medium-sized business, and small businesses, advertising expenses and R&D expenditures show a positive effect independently of the size of firms on firm values. Paek and Jeon(2004) report the R&D expenditures have significantly positive effects on stock price and earnings, implying that improved profitability improved by capitalizing R&D expenditures received a positive evaluation relatively from the market. Lee and Lee(2005) study the determinants in R&D expenditures in Korea by separating periods before and after financial crisis in 1990s. Independent variables included in the study are excess earning power in the future, internal funding, size of the firms, financial risks, managerial risk, growth, and tax support of the government, where the dependant variable was R&D expenditures. As a result of regression analysis using panel data estimation method, financial variables except corporate tax show statistical significance. Kim and Kang(2012) analyze relationship between R&D expenditures and corporate values before and after the financial crisis in the late 1990s, and the relationship does not show statistical significance. Kim and Kang(2013) analyze the effects of discretionary R&D expenditures on profit growth of the future by grouping and report that R&D expenditures of the group in top 30% show significant positive effects on future growth in profitability and negative effects on operating profit during the accounting years.

2.2. Catering Expenses

The mainstream of researches on the catering expenses in Korea has been on relationships between catering expenses and taxation system, catering expenses levels, and the changes in allowances of catering expenses. Son(1997) claims that, since the limitation of catering expenses is a good policy, the limitation level should be lowered over time, regardless of their intention or the purpose of use, and that requirements in spending catering expenses are to be reinforced if the restriction is to be maintained. Oh(2000) proclaims that it is desirable that the allowance of catering expenses be lowered because the higher tax rate is, the lower catering expenses are, and the higher the limitation of catering expenditures, the more increasing catering expenses are. Also, Oh(2002) reports that when firms increase catering expenditures, fringe benefits are decreased, and vice versa. Park and Lee(2003) argued that catering expenses and welfare expenses bear a relation to business ethics because those expenses have high probability to be utilized by employer as arbitrary expenses related to corporate insolvency, malicious misusing, or the mean for concealing profits. They also declared insolvent firms disburse catering expenses and fringe benefits more than normal firms as a result of actual proof analysis. Lee(2008) detected there are significant positive correlation between sales growth and catering expenditures through regression analysis of them, since corporation spends catering expenses as the aspects of compensation about past performance. Kwon (2012) asserted there are positive correlation about the effect of catering expenses, advertising campaign expenses, and contribution expenses on corporate values in the group of KOSDAQ listed companies.

2.3 Contribution Expenses

Friedman(1970s) asserted that the aim of enterprise activity had focused on profit maximization, but recently it changed into maximizing business values and it included social responsibility. Navarro (1988) argued contribution expenditures might be discretionary for profit maximization. According to Chung and Jeong(1999), among variables which had an influence on the level of contribution expenses, the level of contribution expenses in the former period is most influential and the level of advertising expenses, that of catering expenses, net cash flows, valid corporate tax rate, R&D expenditures and so on had a significant influence on contribution expenditures of corporation. Brown et al. (2006), Choi and Lee (2009), and Shin et al. (2011) mentioned donation had a positive effect on corporate values. Also Choi and Lee (2009), as the result of study on the factor which has an effect on contribution expenses, using logit and probit model, argued major shareholder share ratio, advertising campaign expense, and the size of firm had a significant and positive influence on contribution expenditures, whereas foreigner share ratio, the ratio of R&D investments, and business profitability ratio is not significant. Kim and Kim(2011) performed a research aimed non-financial listed firms using fixed effects panel regression model, and found that contribution expenses of bankrupt corporation and non-bankrupt corporation had a positive influence but the effect of contribution expenditures of bankrupt corporation was not significant in statistics. Ryu and Cho (2012) pointed out contribution expenses of company had a positive effect on corporate values. However, contribution expenditures in the corporation that spend contribution expenses excessively over the limitation of deduction had a less influence than those in the company that did so under the limitation, and those exceeding expenses had a negative effect on corporation value.

Judging on the basis of previous studies above, there are no research about influence of catering expenses and contribution expenses which are socially important on R&D expenditures which are future-oriented expenses of corporation.

METHODOLOGY

3.1 Hypothesis Development

In this study, on the basis of commonsense decision that, in the point of view of controlled total expenditures, increase of proportion of controlled catering expenses and contribution expenses in the whole items of selling expenses and general administrative expenses would reduce the portion of R&D expenditures in the total expenditures and on the basis of the study of Kim and Yoon (2013) which asserts R&D expenditures and catering expenses are in the alternative relation, we set the hypothesis up as follows.

Hypothesis 1: Corporate catering expenses have a negative influence on corporate R&D expenditures.

Also, similar to accounting management of catering expenses, contribution expenses of company might effect on R&D expenditures of corporation. So we set a hypothesis as follows.

Hypothesis 2 : Contribution expenses have a negative effect on corporate R&D expenditures.

In order to analyze what kind of effect of catering and contribution expenses on R&D expenditures of corporation in accordance with the change of economical circumstances and business environment before and after Korean global crisis in the late 2000s, we set two hypotheses. These following hypotheses are to analyze the difference between two periods,

the period before global crisis from 2008 to 2010 and the period after global crisis, starting from 2011. The study of Lee et al. (2005) showed that the financial crisis of Korea in late 1990s had a positive influence on corporate catering expenses productivity. Thus we expect that corporations might reduce catering expenses or similar expenses whereas increase corporate R&D expenditures for long-term growth and enhancement of competitiveness in order to improve their financial structure, and set the following hypothesis.

Hypothesis 3: The global crisis has a negative effect on corporate R&D expenditures during the crisis.

Hypothesis 4: The global crisis has a negative effect on corporate R&D expenditures after the crisis.

Most prior studies show high technology and newly established firms spend more on R&D and set the following hypothesis.

Hypothesis 5: KOSDAQ-listed firms spend more R&D expenditures than KOSPI-listed firms.

3.2 Setup of Variables

3.2.1 Dependent Variable
The proportion of R&D expenditures which is a dependant variable is defined by Corporate Accounting Standards(including standards document). According to Corporate Accounting Standards document No.3 established by law on January 27th, 2001, the expenditures occurred in research stage are considered as expenses of occurring period, and the expenditures occurred in development stage are considered as intangible assets, just satisfying certain condition. Others are regarded as expenses in occurring period in accordance with the document. Therefore, Corporate Accounting Standards document replaced existing Corporate Accounting Standards. Relevant-year-occurring R&D expenditures appropriated according to Corporate Accounting Standards document No.3 are as follows (Lee and Lee; 2005).

Total R&D expenditures = Development expenses on the statement of changes in financial position + R&D expenditures on the statement of profit and loss

Development expenses on the statement of changes in financial position = Book amount of development expenses in the end of pertinent year on the statement of changes in financial position − Book amount of development expenses in the end of previous year + Depreciation amount of development expenses

R&D expenditures on the statement of profit and loss = Ordinary R&D expenditures on the statement of profit and loss

In this research, we measure the proportion of R&D Expenditures (RND_R), which mean the

proportion of the expenditures for R&D divided by sales. To remove the size effect of corporation, we divided R&D expenditures by sales.

3.2.2 *Control Variables*

Kim and Song (1999) and Park and Kwon (2012) asserted the age listed on the stock exchange has a significant and negative correlation to R&D investments, it means the corporation which listed a long while ago invests little in R&D. Myers (1977) and Hwang (1998) mentioned the corporation with high dept reduced R&D expenditures because of insolvency caused by default. According to the researches of Coombs and Bierly (2006) and McCutchen and Swamidass (1996), relation between the level of R&D and ROA was significant and negative correlation or they had no relation. Hwang (1998) argued they have positive correlation as a regression coefficient of Q-ratio which is proxy variable of productivity was 0.0020, as a result of multiple comparison analysis by Duncan. Moreover, Lee and Kim (2002) announced that as a result of regression analysis about relative influence of increasing ratio of R&D expenditures on total asset growth rate with KOSDAQ market as the center, they have statistical significance and positive correlation, by regression coefficient of 0.0070. So as to move corporate characteristic effectiveness and the year characteristic effectiveness, we use the fixed effects panel regression analyses to reflect corporate characteristic variables and a year characteristic variable at the same time. .

3.3. Empirical Model

Model (1) and (2) are designed to verify the hypothesis 1-5 with variables as follow.

$$RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2 KOSDAQ_{i,t} + \beta_3 Global_{i,t} \quad (1)$$
$$+ \beta_4 Post\_Global_{i,t} + \beta_5 Age_{i,t} + \beta_6 First\_SH_{i,t} + \beta_7 ROA_{i,t}$$
$$+ \beta_8 LEV_{i,t} + \beta_9 Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$$

$$RND\_R_{i,t} = \beta_0 + \beta_1 Cater\_R_{i,t} + \beta_2 KOSDAQ_{i,t} + \beta_3 Global_{i,t} \quad (2)$$
$$+ \beta_4 Post\_Global_{i,t} + \beta_5 Age_{i,t} + \beta_6 First\_SH_{i,t} + \beta_7 ROA_{i,t}$$
$$+ \beta_8 LEV_{i,t} + \beta_9 Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$$

$$RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2 Cat\_R_{i,t} + \beta_3 KOSDAQ_{i,t} \quad (3)$$
$$+ \beta_4 Global_{i,t} + \beta_5 Post\_Global_{i,t} + \beta_6 Age_{i,t} + \beta_7 First\_SH_{i,t}$$
$$+ \beta_8 ROA_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t,t}$$

$$(4) \, RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2 Cater\_R_{i,t} + \beta_3 KOSDAQ_{i,t} \quad (4)$$
$$+ \beta_4 Age_{i,t} + \beta_5 First\_SH_{i,t} + \beta_6 ROA_{i,t} + \beta_7 LEV_{i,t} + \beta_8 Size_{i,t}$$
$$+ u_i + \lambda_t + \varepsilon_{i,t}$$

but, RND_R$_{i,t}$: the ratio of R&D expenditures to sales
Cater_R$_{i,t}$: the ratio of catering expenses to sales
Contrib_R$_{i,t}$: the ratio of contribution expenses to sales
Global$_{i,t}$: the period dummy variables for the global crisis, 2008~2010: 1, otherwise: 0
Post_IMF$_{i,t}$: the period dummy variables after the global crisis, 2011~2013: 1, otherwise: 0
KOSDAQ$_{i,t}$: the dummy variables for the KOSDAQ listed firms: 1, otherwise: 0
Age$_{i,t}$: listed duration, the period of expiration after listing
First_Sh$_{i,t}$: the largest shareholders ownership
Lev$_{i,t}$: leverage ratio (Deat/Total Asset)
ROA$_{i,t}$: ROA, net income to total assets ratio
Size$_{i,t}$: firm size, the natural log value of total asset
u$_i$: company specific variable
λ$_t$: year specific variable
ε$_{i,t}$: error term

4. DATA AND DESCRITIVE STATISTICS

4.1 Data and Variables
In this study, firms which comply with criteria listed below are selected for the empirical study and the dataset is extracted from widely-used firm level KIS-Value database provided from Korea Investors Service Inc.

① Listed companies and delisted companies during from 1991 to 2011
② Non-financial enterprises
③ The companies which settle sales accounts on 31th December
④ The companies that have possibilities to collect data from KIS-Value during analysis

Table 1 R&D expenditures , Catering expenses and Contribution expenses

(Total number of observation=19,632)

Year	Number of firms	R&D expenditures proportion	Catering expenses proportion	Contribution expenses proportion
1999	976	2.67%	0.63%	0.12%
2000	1,059	2.83%	0.58%	0.12%
2001	1,210	3.26%	0.53%	0.09%
2002	1,274	3.41%	0.53%	0.12%
2003	1,330	3.43%	0.51%	0.10%
2004	1,337	3.20%	0.43%	0.10%
2005	1,347	3.29%	0.41%	0.11%
2006	1,347	3.10%	0.41%	0.12%
2007	1,394	3.21%	0.40%	0.11%
2008	1,400	3.14%	0.37%	0.10%
2009	1,407	2.93%	0.34%	0.09%
2010	1,394	2.64%	0.32%	0.09%
2011	1,398	2.56%	0.27%	0.08%
2012	1,384	2.56%	0.24%	0.08%
2013	1,375	2.38%	0.23%	0.06%

In the <table 1>, R&D expenditures, catering expenses and contribution expenses ratio is represented each. From the table, R&D expenditures had increased over time till 2008 and then decreased gradually. Catering costs and contribution cost have been decreasing since 1999 after the financial crisis in late 1990s. When one looks at the R&D expenses, we can

find they had stayed about 3% before 2008 and in 2009, and then they decreased at the level of about 2%. This is presumed firms had minimized during from 2008 after global crisis. The rate of catering expenses and the rate of contribution expenses also show a similar pattern. In this respect, global crisis causes huge transition in the pattern of corporate expenses.

Table 2 Descriptive Statistics

Variable	Observations	Mean	Median	Standard deviation	Minimum	Maximum
RND_R	19,632	0.0298	0.0037	0.0554	-0.0989	0.3500
Contrib_R	19,632	0.0010	0.0002	0.0028	0.0000	0.0924
Cater_R	19,632	0.0040	0.0021	0.0061	0.0000	0.0855
KOSDAQ	19,632	0.6207	1.0000	0.4852	0.0000	1.0000
Age	19,632	21.330	19.000	12.827	-5.0000	49.000
First_SH	19,632	0.2575	0.2344	0.1762	0.0000	1.0000
ROA	19,632	0.0471	0.0462	0.1228	-0.5938	0.4947
Lev	19,632	0.4374	0.4400	0.2037	0.0000	0.9894
Size	19,632	25.169	25.027	1.5425	18.4005	32.6417

<Table 2> the descriptive statistics quantities of variables. The ratio of R&D expenditures (RAD_R) average is 2.9% and the medium and descriptive statistics quantity show almost 0.37% each. This represents the ratio of R&D expenditures are focused by the certain companies. The ratio of contribution expenses(Contrib_R) shows average is about 0.10%, the median is about 0.02%, the maximum is 9.24%. the ratio of catering expenses(Cat_R) shows average is about 0.40%, the median is 0.21%, the maximum is 8.55%. The age(AGE) shows average is about 21.3years, the median is 19years, the maximum is 49years. The leverage rate(Lev) represents average is 43.74%, the median is about 44.00%, the maximum is about 98.94%. ROA(ROA)'s average and medium are about 4.71%, 04.62% each. the firms size (Size) with respect to total asset(unit: million won) is about about 25.17 and the median is about 25.02.

4.2 Correlation Analysis

<Table 3> represents the results of difference analysis between the KOSPI listed firms and the KOSDAQ listed firms. Each statistic shows average for variables and the difference between the two markets. The mean tests are performed assuming variances of the two groups are different. Obviously the two markets have significantly different traits judging based on financial ratios. The ratio of R&D expenditures(RAD_R) are significantly higher for KOSDAQ firms than for KOSPI firms as in the case of catering expenses(Cater_R), return on assets(ROA). On the contrary, the ratio of contribution expenses (Contrib_R) are significantly higher than for KOSPI firms than for KOSDAQ firms as in the case of ages(Age), largest shareholder's ownership(First_SH), leverage(Lev) and firm size(Size).
<Table 3-1> shows the results of variables' correlation analysis during the previous global crisis period. Likewise, the analysis shows the rate of R&D(RAD_R), a dependent variable, and the ratio of contribution expenses(Contrib_R) in the explanatory variable have significant results below 1%. However, the ratio of catering rate(Cat_R) cannot show meaningful negative results. <Table 3-2> represents the results of variables' correlation analysis during the global crisis period and <Table 3-3> presents the results of variables' correlation analysis during the post global crisis period. It is similar to the full-term results.
The fact that a dependant variable has a meaningful effect on correlation variables is

concerned multicollinearity in the multiple regression analysis. In this study, we will search the seriousness of the effect by verifying VIF.

Table 3 Pearson Correlation Coefficient

Variable	RND_R	Contrib_R	Cater_R	Global	Post_Global	Age	First_SH	ROA	LEV
RND_R	1								
Contrib_R	0.0021	1							
Cater_R	0.2824***	0.0421***	1						
Global	-0.0249***	-0.0074	-0.0628***	1					
Post_Global	-0.0623***	-0.0337***	-0.1609***	0.6325***	1				
Age	-0.3516***	0.0079	-0.2857***	0.0462***	0.1451***	1			
First_SH	-0.1324***	0.0143**	-0.1729***	0.072***	0.1291***	0.0689***	1		
ROA	0.0745***	0.1323***	0.1141***	-0.0422***	-0.079***	-0.0892***	0.078***	1	
LEV	-0.0381***	-0.0746***	-0.0119*	-0.0474***	-0.0954***	0.0371***	-0.0722***	-0.2255***	1
Size	-0.2851***	0.0772***	-0.4355***	0.1037***	0.2275***	0.4427***	0.1756***	0.0182***	0.0905***

Table 3-1 Pearson Correlation Coefficient : At Previous Global Crisis Period

Variable	RND_R	Contrib_R	Cater_R	Age	First_SH	ROA	LEV
RND_R	1						
Contrib_R	-0.0012	1					
Cater_R	0.3049***	0.0396***	1				
Age	-0.3796***	0.0185**	-0.3201***	1			
First_SH	-0.133***	0.0216***	-0.1771***	0.0756***	1		
ROA	0.0768***	0.1228***	0.1508***	-0.0984***	0.0501	1	
Lev	-0.0555***	-0.085***	-0.026***	0.0534***	-0.0841***	-0.2082***	1
Size	-0.3136***	0.0828***	-0.4526***	0.4926***	0.1818***	-0.0224***	0.09***

Table 3-2 Pearson Correlation Coefficient : At Global Crisis Period

Variable	RND_R	Contrib_R	Cater_R	Age	First_SH	ROA	LEV
RND_R	1						
Contrib_R	0.0211	1					
Cater_R	0.1998***	0.0216	1				
Age	-0.2929***	0.0167	-0.1482***	1			
First_SH	-0.1149***	0.0187	-0.0993***	0.0081	1		
ROA	0.0825***	0.15***	0.0015	-0.0251*	0.162***	1	
Lev	-0.0051	-0.0807***	-0.0358**	0.019	-0.0073	-0.2677***	1
Size	-0.2306***	0.1172***	-0.3187***	0.3261***	0.0912***	0.1304***	0.153***

Table 4-3 Pearson Correlation Coefficient : At Post Global Crisis Period

Variable	RND_R	Contrib_R	Cater_R	Age	First_SH	ROA	LEV
RND_R	1						
Contrib_R	0.0027	1					
Cater_R	0.2025***	0.0308***	1				
Age	-0.2840***	0.0019	-0.1526***	1			
First_SH	-0.1122***	0.0133	-0.1101***	0.0091	1		
ROA	0.0563***	0.1458***	-0.0134	-0.044***	0.1574***	1	
Lev	-0.0238**	-0.066***	-0.0333***	0.0489***	-0.0219**	-0.2803***	1
Size	-0.2066***	0.0968***	-0.3292***	0.3006***	0.0965***	0.1495***	0.1617***

4.3 Group Mean Tests

<Table 4> represents the results of difference analysis between the KOSPI listed firms and the KOSDAQ listed firms. Each statistic shows average for variables and the difference between the two markets. The mean tests are performed assuming variances of the two groups are different. Obviously the two markets have significantly different traits judging based on financial ratios. The ratio of R&D expenditures(RND_R) are significantly higher for KOSDAQ firms than for KOSPI firms as in the cases of catering expenses(Cater_R), return on assets(ROA). On the contrary, the ratio of contribution expenses (Contrib_R) are significantly higher than for KOSPI firms than for KOSDAQ firms as in the cases of ages(Age), largest shareholder's ownership(First_SH), leverage(Lev) and firm size(Size).

Table 4 Group Mean Tests between KOSPI and KOSDAQ firms

Variables	KOSPI(A)	KOSDAQ(B)	Difference(A-B)	t Statistic
RND_R	0.0101	0.0418	-0.0317***	-40.48
Contrib_R	0.0013	0.0008	0.0005***	11.27
Cater_R	0.0022	0.0052	-0.0030***	-34.05
Age	29.477	16.351	13.127***	80.15
First_SH	0.2700	0.2498	0.0202***	7.80
ROA	0.0412	0.0506	-0.0094***	-5.20
Lev	0.4647	0.4207	0.0440***	14.76
Size	26.297	24.479	1.8171***	97.60

NOTE 1. The figures in the parentheses are p-values; *** at 1% level, respectively.

4.4 Regression Analysis

<Table 5> shows results of FEM(fixed effects panel model) of model (1). In order to verify hypothesis 1 and 2, model (1) is examined by OLS(ordinary least squares model), REM(random effects panel model) and FEM each. Lagrange multiplier test is executed in order to evaluate the respective suitability of analysis model. As a result, we find it is more justifiable FEM than OLS because it has significant data at the below 1%. In addition, according to Hausman test, We adopt FEM has significant data below 1% because it is judged more suitable than REM. The result of F tests allows us check the suitability of the test model showing statically significant values below 1%. R^2 of previous model prior to global crisis is 0.125. Since the value of VIF(variance inflation factor) which ranges from 1.01 to 3.36 is not exceeded 10 which is used as a general standard, multicollinearity problem in the linear relationship among explanatory variables cannot appear in a serious level.

First of all, we examine control variables as follows. Although government share(Govt_Sh)

appears negative contrast to the result of Baysinger et al. (1991), it is not significant statically. The longer Listing Age is, the more increase R&D expenditures are in comparison with sales of the company because it shows positive results below 1%. The leverage(Lev) ratio has not significant positive results and ROA(ROA) is statically not significant though it appears negative results the same as McCutchen and Swamidass (1996) and Coombs and Bierly (2006). The company whose growth average(Growth_A) shows positive outcome below 1% and has profitability increases the expenses of R&D costs. It matches up with advanced researches such as Myers (1977), Hwang (1998), Lee and Kim (2002). In addition, as the firm size(Ln_Asset) has significant negative results, it coincide in the study by Lee (2013) and constant term is shown significant positive results below 1%.

Table 5 FEM Regression Results

(1) $RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2 KOSDAQ_{i,t} + \beta_3 Global_{i,t} + \beta_4 Post\_Global_{i,t} + \beta_5 Age_{i,t}$ $+ \beta_6 First\_SH_{i,t} + \beta_7 ROA_{i,t} + \beta_8 LEV_{i,t} + \beta_9 Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$ (2) $RND\_R_{i,t} = \beta_0 + \beta_1 Cater\_R_{i,t} + \beta_2 KOSDAQ_{i,t} + \beta_3 Global_{i,t} + \beta_4 Post\_Global_{i,t} + \beta_5 Age_{i,t}$ $+ \beta_6 First\_SH_{i,t} + \beta_7 ROA_{i,t} + \beta_8 LEV_{i,t} + \beta_9 Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$ (3) $RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2 Cater\_R_{i,t} + \beta_3 KOSDAQ_{i,t} + \beta_4 Global_{i,t} + \beta_5 Post\_Global_{i,t}$ $+ \beta_6 Age_{i,t} + \beta_7 First\_SH_{i,t} + \beta_8 ROA_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$						

Variables	(1)		(2)		(3)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Contrib_R	0.2660**	2.49			0.2051*	1.93
Cater_R			0.9666***	14.88	0.9617***	14.79
KOSDAQ	(omitted)		(omitted)		(omitted)	
Global	0.0026***	3.04	0.0026***	3.06	0.0026***	3.02
Post_Global	-0.0050***	-3.90	-0.0056***	-4.38	-0.0055***	-4.34
Age	0.0000	0.11	0.0001	0.47	0.0001	0.48
First_SH	-0.0061***	-2.99	-0.0043**	-2.15	-0.0043***	-2.12
ROA	0.0295***	11.65	0.0232***	9.08	0.0228***	8.91
LEV	0.0082***	3.99	0.0064***	3.11	0.0065***	3.17
Size	-0.0081***	-15.79	-0.0057***	-10.64	-0.0057***	-10.67
Constant term	0.2321***	19.11	0.1673***	13.03	0.1675***	13.05
Observations	19,632		19,632		19,632	
R^2	0.1156		0.1253		0.1244	
F statistic	139.78***		168.33***		150.07***	
LM test	27311.32***		26759.06***		26759.65***	
Hausman test	47.04***		49.45***		49.65***	
VIFs	1.00~3.09		1.00~1.99		1.00~3.36	

NOTE 1. The figures in the parentheses are p-values; * denotes significance at 10% level, ** at 5%.level, and ***
at 1% level, respectively.

In this study, catering expenses(Cater_R) ratio and contribution expenses(Contrib_R) ratio related to the major hypothesis appear positive results below 1%. As a result, when catering expenses and contribution expenses increase, R&D expenditures also rise. It is the result that dismiss hypothesis 1 and 2 and it can show not to replace R&D expenditures with catering expenses and contribution expenses but to complement. In other words, budgets needed for R&D expenditures are executed by reducing other costs rather than decreasing catering expenses and contribution expenses. Furthermore, dummy variables(Post_Global) during and after the period have significant positive and negative effects below 1%, respectively. We can conclude that R&D expenditures increased significantly higher during the period and decreased after the crisis compared with other sample periods in the tests,

Table 6 FEM Regression Results :During and After Crisis Periods

(4) $RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2\ Cater\_R_{i,t} + \beta_3 KOSDAQ_{i,t} + \beta_4 Age_{i,t}$ $+ \beta_5 First\_SH_{i,t} + \beta_6 ROA_{i,t} + \beta_7 LEV_{i,t} + \beta_8 Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$						
Variables	Previous Global Crisis		Global Crisis		Post Global Crisis	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Contrib_R	0.1175	0.85	0.9077***	4.17	0.3592**	2.26
Cater_R	1.0063***	12.3	0.7019***	3.91	0.3797***	3.20
KOSDAQ	(omitted)		(omitted)		(omitted)	
Age	-0.0006 ***	-3.59	-0.0031***	-6.30	-0.0011***	-5.27
First_SH	-0.00003	-0.01	-0.0046	-0.89	-0.0039	-1.02
ROA	0.0212***	6.25	0.0189***	3.83	0.0236***	6.55
LEV	0.0039	1.34	0.0068***	4.01	0.0186***	5.38
Size	-0.0021***	-2.63	0.0068***	3.31	-0.0038***	-3.19
Constant term	0.0882 ***	4.66	-0.0869*	-1.83	0.1411***	4.95
Observations	11,274		4,201		8,358	
R^2	0.2544		0.0824		0.1379	
F statistic	57.50***		17.00***		29.10***	
LM test	9120.07***		2360.41***		9228.66***	
Hausman test	75.62***		61.12***		41.47***	
VIFs	1.01~3.35		1.01~3.35		1.01~3.35	

NOTE 1. The figures in the parentheses are p-values; * denotes significance at 10% level, ** at 5%.level, and *** at 1% level, respectively.

<Table 6> appears analyzed results the model (2) in order to examine hypothesis 3 and 4, setting-up 1991 to 1997 as the former period of the global crisis. By using the same methods above, both LM black and Housman black has significant results below 1% so we adopt FEM. Since F-value is also significant result below 1%, the model is suitable. In addition, Since the values of VIF which range from 1.01 to 6.81 is not exceeded 10 as a general standard, multicollinearity problem in the linear relationship among explanatory variables cannot appear.

Table 7 FEM Regression Results : according to the market

(3) $RND\_R_{i,t} = \beta_0 + \beta_1 Contrib\_R_{i,t} + \beta_2\ Cater\_R_{i,t} + \beta_3 KOSDAQ_{i,t} + \beta_4 Global_{i,t} + \beta_5 Post\_Global_{i,t}$ $+ \beta_6 Age_{i,t} + \beta_7 First\_SH_{i,t} + \beta_8 ROA_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} Size_{i,t} + u_i + \lambda_t + \varepsilon_{i,t}$				
Variables	KOSPI		KOSDAQ	
	Coefficient	t-value	Coefficient	t-value
Contrib_R	0.1255	1.52	0.2793*	1.72
Cater_R	0.2357***	2.97	0.9681***	11.20
KOSDAQ	(omitted)		(omitted)	
Global	-0.0009	-1.30	0.0045***	3.50
Post_Global	0.0011	1.08	-0.0096***	-4.91
Age	0.0000	-0.47	-0.0001	-0.59
First_SH	-0.0027	-1.61	-0.0048	-1.61
ROA	0.0025	0.90	0.0256***	7.42
LEV	0.0026	1.39	0.0070**	2.41
Size	-0.0017***	-3.39	-0.0052***	-6.49
Constant term	0.0551***	4.33	0.1652***	9.03
Observations	7,447		12,185	
R^2	0.0053		0.0936	
F statistic	4.74***		117.28***	
LM test	12341.30***		2360.41***	
Hausman test	57.99***		61.12***	
VIFs	1.00~3.36		1.01~3.35	

NOTE 1. The figures in the parentheses are p-values; * denotes significance at 10% level, ** at 5%.level, and *** at 1% level, respectively.

<Table 7> shows the test results of analyses comparing differences to test hypothesis 5 between the KOSPI listed firms and the KOSDAQ listed firms. As in the group mean tests, the beta coefficients of are significantly higher for KOSDAQ firms than for KOSPI firms both in catering expenses(Cater_R) and contribution expenses (Contrib_R) at the significance level of 1% or below. We skip our explanations for control variables because there are no differences with the facts described above. Unfortunately, we could not use the dummy KOSDAQ which drops with the fixed effects models though we could have confirmed the positive and significant effect of KOSDAQ firms in random effects models and ordinary least square models. We also could verify our previous conclusions stand strong for separate sample periods except for the KOSPI firms for contribution expenses.

CONCLUSION

In this study, we analyze empirically the effects of catering expenses and contribution expenses on the   for R&D expenditures targeting non-financial listed and delisted companies from 1999 to 2013, mainly using data from KIS-Value provided by the Korea Investors Service Inc. In addition, we analyze how the influences of catering expenses and contribution expenses of corporation on R&D expenditures have changed before and after global crisis by fixed effects panel regression model, separating the period into the time before financial crisis, 2008~2010, and the time after crisis, 2011~2013, because the global crisis in the late 2000s is significant to analyze Korean past financial market. The summary of analysis result is as follows.

First, corporate catering expenses and contribution expenses have a positive effect on R&D expenditures of corporations. It means, the more catering and contribution expenditures are increased, the higher corporate R&D expenditures are performed. As for these result, R&D expenditures of Korean corporation has complementary relationship with catering expenses and contribution expenses, rather than alternative effect which reduce them. Thus, to reduce excessive or unethical catering expenses as the case of pharmaceutical companies the above and increase R&D expenditures to the desirable direction, there must be inducement to control catering expenses diametrically and spend R&D and contribution expenses.

Second, R&D expenditures increased significantly higher during the period and decreased after the crisis compared with other sample periods in the tests. It seems that the Korean firms reacted aggressively during the global crisis investing for the bright future.

Third, R&D expenditures were higher for KOSDAQ firms than for KOSPI firms.

These research results suggest catering and contribution expenses don't substitute for corporate R&D expenditures, rather they are complementary. After all, it implies the budget for R&D expenditures is executed by reducing other expenses, rather than decreasing catering or contribution expenditures. In addition, considering cash retention levels, profitability, and decline of dept ratio, we are concerned that it could be caused significant problems to build creative economy, job creation and economy structure for continuous growth that reducing R&D expenditures means corporation cannot improve expense structure to desirable direction by controlling total sales and general administrative expenses.

This study is the result of analysis about whole firms with long term, without considering specific industry or corporate life cycle, so it cannot comprehend positive phenomenon in particular industries and corporations that spend R&D expenditures efficiently. Also, we can understand whether specific R&D expenditures are desirable or not, if the research about the result of R&D expenditures is performed at the same time. We expect to perform complementing study about these future research topics

REFERENCES

Baber, W., P. Fairfield, and J. Haggared. (1991), "The Effect of Concern About Reported Income on Discretionary Spending Decisions: the case of Research and Development," *The Accounting Review,* Vol.66, No.4, pp. 819-829.

Baysinger, B., D. Kosnik, and T. Turk (1991), "Effects of Board and Ownership Structure on Corporate Strategy," *Academy of Management Journa,* Vol.34, pp. 205-214.

Bhagat, S., and I. Welch (1995), "Corporate Research & Development Investments: International Comparisons," *Journal of Accounting and Economics,* Vol.19, No.2-3, pp. 443-470.

Brow, W., E. Helland, and J. smith (2006), "Corporate Philanthropic Practices," *Journal of Corporate Finance.* Vol.12, No.5, pp. 855-877.

Bulitz, B., and M. Ettredge (1989), "The Information in Discretionary Outlays: Advertising, Research and Development," *The Accounting Review,* Vol.64, No.1, pp. 108-124.

Buushee, J. (1998), "The Influence of Institutional Investor on Myopic R&D Investment Behavior," *The Accounting Review,* Vol.73, No.1, pp. 305-333.

Cho, S., and J. Chung (2001), "The Effect of R&D Expenditures on Subsequent Earnings," *Korean Management Review,* Vol.30, No.1, pp. 289-313.

Cho, S., and S. Park (2013), "Research and Development Expenditures in Accounting: Review and Future Direction," *Korean Accounting Review*, Vol.38, No.1, pp. 427-469.

Choi, W., B. Jun, and G. Jahng (2007), "Empirical Research on the Association between R&D Expenditures and Dividend Payments of KSE and KOSDAQ Firms," *Korean Journal of Taxation Research,* Vol.24, No.4, pp. 181-215.

Choi, W., and H. Lee (2009), "Determinants of Corporate Philanthropy: Application of Several Econometric Methodologies," *Sogang Journal of Business,* Vol.20, No.1, pp.139-152.

Choi, W., H. Lee, and C. Hong (2009), "Corporate Social Responsibility and Firm Value: Focused on Corporate Contribution," *Korean Management Review,* Vol.38, No.2, pp.407-432.

Chung, K., Y. Jong, and Y. Jeong (1999), "A Study on Determining Factors of Corporate Contributions Level," *Tax Accounting Research,* Vol.6, No.0, pp.323-346.

Coombs, E., and E. Bierly (2006), "Measuring Technological Capability and Performance," *R&D Management,* Vol.36, No.4, pp. 421-438.

Friedman, M. (1970), "The Social Responsibility of Business is to Increase Its Profits," The New York Times Magazine.

Grabowiski, H. G., and D. G. Mueller (1978), "Industrial Research and Development, Intangible Capital Stocks, and Firm Profit Rates," *The Bell Journal of Economics,* Vol.9,

No.2, pp.328-343.

Han, B. (2010), "Factors Affecting R&D Intensity and Capitalization," *Korean Accounting Journa,* Vol.19, No.5, pp.85- 219.

Hirschey, M. (1982), "Intangible Capital Aspects of Advertising and R&D Expenditure," *Journal of Industrial Economics,* Vol.30, No.4, pp.375-390.

Hirshey, M., and J. weygandt (1985), "Amortization Policy for Advertising and Research and Development Expenditures," *Journal of Accounting Research,* Vol.23, No.1, pp. 326-335.

Huh, H., J. Lee, and Y. Kim (2007), "The Effects of the R&D and Advertising Expenditures on the Corporate Value," *The Korean Journal of Financial Engineering,* Vol.6, No.1, pp.1-16.

Hwang, J. (1998), "Factors Influencing Research and Development Costs," *Accounting Information Review,* Vol.10, No.0, pp. 129-142.

Kim, M. (2006), "Earnings Management by Capitalization of Research and Development Expenditures," *Accounting Information Revie.* Vol.24, No.3, pp.77-96.

Kim, M., and Yoon, Kim (2013), "The Effect of R&D and Entertainment Costs on Credit Ratings in Constructive Firms," *Korea International Accounting Review.* Vol.49, No.6, pp.125-144.

Kim, S., and M. Kim (2011), "The Effects of Firms' Contribution Expenses and Catering Expenses on Their Profitability in Korea: Theory and Evidence," *Korean Management Review,* Vol.40, No.3, pp.659-685.

Kim, S., M. Kim, and S. Jeon (2011), "The Effects of Catering Expenses on Debt Financing of Firms: Especially of Defaulted Firms around the Korean Financial Crisis," *Journal of Business Administration*, Vol.25, No.4, pp.43-66.

Kim, H., and H. Kang (2012), "A Study on the R&D Expenditure and Corporate Value Relationship - IMF Global crisis and Global Crisis: Comparison," *Accounting Information Review,* Vol.30, No.3, pp.231-258.

Kim, H., and H. Kang (2013), "Time-series Analysis on the Effects of R&D by Industry," *Accounting Information Review,* Vol.31, No.1, pp.393-426.

Kochhar, R. (1996), "Explaining Firm Capital Structure: The Role of Agency Theory vs Transaction Cost Economics," *Strategic Management Journal,* Vol.17, No.9, pp.713-728

Kwon, G. (2012), "The Comparative Value Relationship of Entertainment, Advertising, and Donation Expenditures," *Korea International Accounting Review*, Vol.45, No.0, pp.321-346.

Lee, B. (2013), "The Effects of R&D Expenditure Capitalization on Value Relationship and Trade-off Relationship between Tax and Nontax Costs," *Journal of Business Research*, Vol.28, No.3, pp.335-361.

Lee, D., and M. Kim (2002), "A study on the Influence of R&D Expenditure on Film's

Growth Rate-Focusing on KOSDAQ market," *Journal of Taxation and Accounting,* Vol.3, No.1, pp.5-31.

Lee, T. (2008), "The Effects of Revenue Increase on Meals & Entertainment Expenditures," *Tax Accounting Research,* Vol.23, No.0, pp.93-108.

Lee, T., J. Hong, And S. Park (2005), "A Study on the Productivity of Business Entertainment Expense," *Accounting Information Review,* Vol.23, No.2, pp.25-50.

Lee, H., and J. Lee (2005), "An Empirical Study on the Influence of IMF Crisis on Financial Determinants of Research and Development Expenditure," *Korean Corporation Management Revie,* Vol.21, No.0, pp.137-152.

Lev, B., and T. Sougiannis (1996) "The Capitalization, Amortization, and Value-relationship of R&D," *Journal of Accounting and Economics,* Vol.21, No.1, pp.107-138.

Mande, V., R. File, and W. Kwak (2000), "Income Smoothing and Discretionary R&D Expenditures of Japanese Firms," *Contemporary Accounting Research,* Vol.17, No.2, pp.263-302.

McCuchen, W., and P. Swamidass (1996), "Effects of R&D Expenditures and Funding Strategies on the Market Value of Biotech Firms," *Journal of Engineering and Technology Management,* Vol.12, No.0, pp.287-299.

Myers, S. (1977), "Determinants of Corporate Borrowing," *Journal of Financial Economic,* Vol.5, No.2, pp.147-175.

Navarro, P. (1988), "Why Do Corporations Give to Charity?," *Journal of Busines,*.Vol. 6, No.1, pp.65-93.

Oh, K. (2000), "An Empirical Study on the Influence of Tax Law Change Concerning Entertainment
Expense in Accounting," *Korean Journal of Taxation Research,* Vol.15, No.0, pp.67-90.

Oh, K. (2002), "An Empirical Study on the Variation of Welfare Expense According to the Increase or Decrease of the Limit Amount of Inclusion into Losses of Entertainment Expense," *Korean Journal of Taxation Research*, Vol.19, No.1, pp. 157-184.

Park, J., and D. Kwon (2012), "The Impact of Foreign Ownership on the Investment Efficiency," *Korean Accounting Review*, Vol.37, No.3, pp. 277-307.

Paek, W., and S. Jeon (2004), "Accounting Methods for Intangible Expenditures, Persistence of Abnormal Earnings and Equity Valuation," *Korean Accounting Review*, Vol.29, No.3, pp. 199-226.

Perry, S., and R. Grinaker (1994), "Earnings Expectations and Discretionary Research and Development Expenditures," *Accounting Horizons*, Vol.8, No.4, pp. 43-51.

Porter, M. (1992), "Capital Disadvantage: America's Falling Capital Investment Systems," *Harvard Business Review,* Vol.70, No.5, pp. 65-83.

Shim, H., and C. Sung (2008), "The Impact of Entertainment or Donation Expenditure on Tax Audit," *Korean Journal of Business Administration,* Vol.21, No.3, pp. 961-984.

Shin, M., S. Kim, and B. Kim (2011) "The Effects of Corporate Social Responsibility Expenditure on Firm Value," *Korean Journal of Financial Engineering,* Vol.10, No.1, pp. 99-125.

Son, W. (1997), "Tax Policy Proposals for Entertainment Expenses," Korea Institute of Public Finance.

Sung, T., K. Park, and D. Kim (2011) "A Comparative Perspective of Global Crisis and Bailout: the U.S. in 2008 Versus Korea in 1997," *Korea Institute of Finance*, Vol.17, No.S, pp.1-45.

CULTURAL TOURISM : CAN BUDDHISM IMPROVE DESTINATION IMAGE?

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ABSTRACT

This paper is part of a research project being conducted to fulfil the requirements for the Doctor of Professional Studies at CQUniversity, Australia. It aims to explore whether Buddhism can improve the destination image.

Tourism is one of the industries that can generate significant regional and national benefits to many countries. It is evident that 40% of global tourism revenue comes from cultural tourism and cultural products (UNTWO 2014). Destination image – either positive or negative - becomes an influential factor for tourists in selecting a place to visit and they often select the one with a strong positive image. Regional and national tourism organisations of each country understand this tourist behaviour and tend to promote only a positive image of their tourist destinations rather than a negative image that can be a barrier to attract tourists.

It is believed that religion, an aspect of culture, can positively influence the perceptions and attitudes of people and possibly, the tourists. Thailand, Laos, India, and other countries are aware of the economic and social benefits of religious tourism and have thus integrated Buddhism in their strategic tourism plans to build a positive image of their tourist destinations, or called branding destinations.

Keywords: Cultural tourism, Destination image, Buddhism

INTRODUCTION

In many developing countries, tourism has become a key driver of social and economic growth, with the potential to alleviate poverty by attracting foreign investment, invigorating the economy of regional areas and providing viable employment opportunities (The World Tourism Organization n.d.). However, tourism can negatively impact tourist destinations due to its over-development and over-commercialisation. The over-development of tourist destinations can lead to the loss of cultural identity (United Nations Environment Program n.d.) and the depletion of natural resources (Kreag 2001), whereas the over-commercialised tourist destinations create a significant decline in the their popularity, appeal and revenues (Butler 1980).

In the global tourism market, destination image becomes a competitive advantage to the nations because of its role in influencing tourists' travel plans. Cultural tourism is a form of tourism that focuses on the identity and traditions of local cultures including heritage sites, arts, folklore and religions (World Tourism Organization 1985). It is substantially involved in socio-economic development in many South-East Asian countries, particularly in Thailand

(Bonotan & Lee 2010). The high culture or the set of cultural products of the destination is a key element of the destination image that can attract tourists. Although Luang Prabang, the world heritage site of Laos PDR, is not listed in the The Mastercard 2014 Global destinations index as one of the top twenty destinations in the world (Hedrick-Wong & Choong 2014), its cultural heritage significantly contributes to the destination image which generates tourism revenues (UNESCO Bangkok 2007). In brief, if the cultural tourism is well managed, it will generate 'positive synergy' between tourism and culture that can enhance the image of tourist destinations (OECD 2009).

This exploratory study is thereby based on the assumption that Buddhism, one form of cultural tourism, has the potential to improve the image of tourist destinations.

LITERATURE REVIEW

2.1 Buddhism and its influence

As being Buddhists, the authors often visit Buddhist temples and find that people have various reasons for their temple visits. Some people visit the temple because they believe if they are involved in the Buddhism-related activities such as cooking and/or offering foods to monks, praying the Buddhist five precepts with others, and attending meditation sessions, they can reach Nirvana – a state that people can be free from all sufferings which can be achieved by removing all personal wishes (Cambridge Dictionaries Online 2015). However, another group of people visit the temple because they wish to seek an advice from the monks when they have family or even business problems.

Researchers find that religious attendance and involvement in any religion give many benefits such as increasing extra years of life expectancy, having less drug use and more school attendance in kids, or committing fewer crimes in adults (Forbes 2013). Hipsher (2011) indicates that Buddhism has a positive influence on the improvement of businesses in Southeast Asian countries such as Thailand, Laos PDR and Cambodia because it helps managers develop good relationships with their subordinates – the subordinates will become in-group members and be more motivated and satisfied with their jobs which affect their productivity (Lussier & Achua 2012). Various studies (Davidson et al. 2003; Marc et al. 2008) also mention that mindfulness training or meditation following Buddhist concepts and traditions has positive effects on mental and physical health thus, the 'meditation' aspect of Buddhism has been widely investigated by western psychologists and special interest groups. Similarly, the study conducted by the Ministry of Culture, Sports and Tourism Republic of Korea finds that 'escape from daily routine', and 'leisure time for relieving tension and fatigue' are ones of the reasons that people participate in a temple stay program (OECD 2009). If people recognise the benefits of Buddhism, their attitudes and perceptions can possibly be influenced, and their mentality and well-being will then be improved.

2.2 Buddhism and cultural tourism

The term 'culture' encompasses not only the artistic and intellectual activities but also the traditions, values, and folkways of people regardless of their social classification (Smith

2003). The preservation of cultural heritage can support socio-economic development, help preserve the environment, and make communities more resilient (UNESCO 2010). It is estimated that 40% of global tourism trips and an even greater proportion of revenue come from cultural tourism and cultural products (OECD 2009). Richards (2003) highlights that cultural tourism is essential for local economic growth as it boosts the employment rate, increases the awareness of cultural identity and traditions, raises revenue for the preservation of cultural heritage sites, and attracts tourists.

Religion is a significant aspect of culture, and thus cultural tourism. Pilgrims and many religious tourists, who do not describe themselves as pilgrims, like travelling to sacred sites to 'search for truth, enlightenment, or an authentic experience with the divine or holy' (Timothy & Olson 2006, p. 3). Religious tourism is defined as 'the form of tourism with strong or single-minded religious motivation of pilgrimage, and ... non-pilgrimage tourist activities, such as travelling to the religious sites for sightseeing, cultivation and recreation' (Mu, Li, Jian-Hong, Ji, Yan-Geng, & Xiting, 2007, p.99). Dillon (1997) explored the religious motivations of pilgrims in Ancient Greece which supports that religious tourism can be considered as the oldest form of tourism (Raj & Morpeth 2007; Timothy & Olson 2006). Richards and Fernandes (2007) contend that religious tourism is increasing worldwide despite the decline in the levels of religious commitment in many countries – declining in the religious faith is associated with the search for meaning and spirituality. They note that visiting religious sites are often combined with other kinds of tourism-related activities hence, tourists' motives for visiting religious sites range from 'curiosity and desire for exotic spectacles' to 'deep religious faith'.

Although Buddhism has not historically been part of the culture of western countries, Buddhism has become widely known in the West and received significant attention. According to Baumann (2001), Buddhism began attracting a large number of people in the West after the Second World War and has expanded rapidly in recent decades. There are approximately five million Buddhists in the USA and about 1.4 million of them are Buddhist converts (Tanaka 2011). These converts typically embrace a modernist version of Buddhism with a strong interest in meditation (Baumann 2001; Tanaka 2011). Tanaka (2011) implies that approximately thirty millions of Americans are apparently influenced by Buddhism, for example they are interested in investigating Buddhism and incorporating its aspects into their spiritual beliefs and practices without religious conversion (Wallace 2002).

As such, Buddhist concepts and practices become popular among western tourists which have encouraged a growing number of western tourists to travel to religious sites to gain a more authentic experience of Theravada Buddhism's traditions. This group of tourists include both Buddhist converts seeking deeper understanding of Buddhist thoughts and practices, and non-Buddhists wishing to enrich their own spiritual journey with principles and practices drawn from Buddhism. The flexibility and welcoming attitudes of Buddhism to non-believers who wish to observe or participate only in the Buddhist rites, ceremonies and festivals are ones of the reasons of the popularity of Buddhist tourism (Plamintr 1994). The rich artistic and historical heritage of Buddhism in South-East Asia and the degree to which Buddhist beliefs and practices permeate daily life in South-East Asian countries such as Thailand can also

attract tourists in search of spiritual tranquillity and authenticity. The 'authenticity' that tourists seek can range from an encounter with sacred places as understood by their own religious tradition (i.e. pilgrimages), to a more 'new age' appreciation of spirituality embodied in the site and its community or an appreciation of its arts, history and culture in a purely secular sense (Shackley 2001). Nevertheless, religious sites in the Buddhist countries in South-East Asia have qualities that can appeal to tourists for example, the Temple of the Emerald Buddha in Bangkok, Thailand where embodies religious and national mythologies (Rod-Ari 2009).

2.3 Branding tourist destinations: a cultural tourism strategy

Ritchie and Ritchie (1988) define a destination brand as a name, logo, or symbol that serves three key functions: distinguishing the destination from competitors; promising a memorable and unique tourism experience; and reinforcing pleasurable memories of the destination. Ekinci (2003) implies that all tourist destinations have a name such as New Work or Paris, but not all of them have a brand name. A favourable destination image, which includes a strong emotional attachment of tourists, should then be considered when building a destination brand. In addition, each destination can differentiate itself from other destinations because of its special meaning, tourists' emotional attachment (Baker 2007), and its uniqueness and benefits that can create positive brand image. Anholt (2003) emphasises that there is less chance of being remembered for a long-time thus, the destination's existing resources and character must be assessed realistically so that a brand essence that reflects local culture and lifestyles will be accurately identified. The negative image of the destination should also be considered (Nuttavuthisi 2007) to develop an effective branding strategy. For instance, 'Thainess' is developed to explain the four components of tourists' perceptions on Thai culture namely fun, fulfilling, friendly, and flexible. It has the potential to build positive brand image of tourist destinations in Thailand (Nuttavuthisi 2007) as it differentiates Thai tourist destinations from others based on the uniqueness of Thai culture. Prosaramatee (2010) also finds that most tourists are impressed with the service, politeness and friendliness of Thai people.

However, the development of tourism infrastructure and tourism-related skills of local workers should be concerned to boost the attractiveness of cultural heritage sites. Gregs (1996 cited in OECD 2009, p.1) indicates that 'theme-based tourist attractions are enjoying increasing popularity, particularly as a means of diversifying the tourist product and adding attractiveness to local territories'. According to OECD (2009), a temple stay program in Korea is designed to provide visitors authentic religious and cultural experiences such as chanting, meditation, traditional Korean tea ceremony, and Buddhist way of life. A survey was conducted to investigate the experience and perception of visitors on the temple stay. The results of the survey showed that the participating visitors had very high level of satisfaction on this program - 79% of them considered that the program had 'high' or 'very high' potential for tourism development. Interestingly, only 29% of the participants had an interest in Buddhism or religion which demonstrated the appeal of religious destinations to non-religious tourists. Besides, the visitors were left with the highly positive image of Korea and Korean culture. However, the study found that a major hindrance to the success of the

temple stay program is its effective marketing strategy – unfocused promotional activities that did not specify the target market - developed by inexperienced managers. Therefore, destination managers should not only integrate Buddhism into their strategy tourism plans but also consider marketing communication plans, target market identification or even promotional strategies when developing an effective cultural tourism strategy and/or branding the image of tourist destinations.

DISCUSSION AND CONCLUSION

The results of this exploratory study suggest that the development and promotion of Buddhist tourism can generate sustainable socio-cultural benefits that improve the image of the tourist destinations.

3.1 Buddhist tourism as a sustainable strategy: low-cost investments and long term benefits

This study finds that branding destinations through Buddhist tourism is likely to require low-cost investments and to have minimal impact on the destinations' natural environment because of the Buddhist philosophy – the 'Middle Way' that pursues happiness and peaceful (Sathirathai 2014). This philosophy makes tourism managers or relevant stakeholders prioritise moral and spiritual values over commercial objectives which can prevent the over-commercialisation issue within tourist destinations. Buddhism is also an integral and iconic aspect of Buddhist countries such as Thailand and it is a pre-existing cultural heritage. Hence, investing in Buddhist tourism does not require an expensive construction or a mega-construction project that may damage the natural environment of tourist destinations. Therefore, Buddhist tourism is likely to generate sustainable profits for tourist destinations where develop a sustainable tourism plan and strategy.

3.2 Buddhist tourism: the potential to enhance destination image

The study finds that Buddhist tourism has the potential to increase the attractiveness of destination image and ultimately enhance the image of tourist destinations as follows:

- Buddhist tourism is a form of cultural tourism in which tourists can participate freely because of the friendly and welcoming attitudes of Buddhists towards non-Buddhists. When the latter group learn the former group's way of life as well as Buddhist traditions and practices, they are likely to be attracted and that is the initial stage of branding process which the non-Buddhists or tourists' emotions are attached to the destination and its activities.
- The principles of Buddhism remind local people of their Buddhist beliefs, improve their moral development, and encourage them to serve and interact with tourists in a way that creates a positive image for tourist destinations. If local tourism officers, workers and relevant stakeholders are well-trained and educated, they will be able to understand the needs of tourists, especially the cultural tourists who are the target consumers of Buddhist tourism. On the contrary, if the needs of tourists are assessed and responded, their positive feelings and attitudes towards the visited destination will be developed because their aim is fulfilled. Consequently, the image of the visited

destination will be created positively. Woodside (1996) indicates that tourists intend to return to their favourite destinations because they are able to recall positive feelings about such visits. Hence, understanding the needs of tourists is a key success factor for tourism strategists when branding and/or re-branding tourist destinations.

In brief, Buddhist tourism is a new type of cultural tourism with the potential to produce sustainable economic benefits while minimising negative socio-cultural and environmental impacts. As such, it should be promoted and supported at the regional and national levels in Buddhist countries in co-operation with host communities.

REFERENCES

[1]   Anholt, S. (2003), "14 Branding places and nations", URL: http://appsler.com/186197664X.pdf#page=230

[2]   Baker, B. (2007). "Destination branding for small cities: The essentials for successful place branding. Portland", Creative Leap Books, Oregon, Pp. 13-19.

[3]   Baumann, M. (2001), "Global Buddhism: developmental periods, regional histories, and a new analytical perspective", Journal of Global Buddhism, Vol. 2, Pp. 1-43.

[4]   Bonotan & Lee (2010), "Perspectives on Heritage Tourism", SEAMEO-SPAFA, Bangkok, Pp. 11-17.

[5]   Butler, R. W. (1980), "The concept of a tourist area cycle of evolution: implications for management of resources", The Canadian Geographer/Le Géographe canadien, Vol. 24, No. 1, Pp. 5-12.

[6]   Cambridge Dictionaries Online .(2015), "Nirvana", URL: http://dictionary.cambridge.org/dictionary/british/nirvana

[7]   Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F & Sheridan, J. F. (2003), "Alterations in brain and immune function produced by mindfulness meditation" Psychosomatic Medicine, Vol. 65, No. 4, Pp. 564-570.

[8]   Dillon, M. (1997), "Pilgrims and Pilgrimage in Ancient Greece", Routledge, London.

[9]   Ekinci Y (2003), "From destination image to destination branding: An emerging area of research', E-Review of Tourism Research (eRTR), Vol. 1, No. 2, Pp. 686-301.

[10]   Forbes (2013), "Religion is good for all of us, even those who don't follow one", URL: http://www.forbes.com/sites/jeffreydorfman/2013/12/22/religion-is-good-for-all-of-us-even-those-who-dont-follow-one/

[11]   Hedrick-Wong, Y. & Choong. D. (2014), "MasterCard: 2014 Global destination cities index", URL: http://newsroom.mastercard.com/wp-content/uploads/2014/07/Mastercard_GDCI_2014_Letter_Final_70814.pdf

[12] Hipsher, S.A. (2011), "The Impact of Theravada Buddhist values on work practices in Southeast Asia", SIU Journal of Management, Vol. 1, No. 1, Pp. 76-100.

[13] Kreag, G. (2001), "The Impacts of Tourism", URL: http://www.seagrant.umn.edu/tourism/pdfs/ImpactsTourism.pdf

[14] Lussier, R.N. & Achua .(2012), "Leadership: theory, application, & skill development (5eds)", Thompson Higher Education, Ohio.

[15] Marc, B.S., Christopher, J., & Christopher, S. (2008), "Mind–body medicine and the art of self-care: teaching mindfulness to counseling students through yoga, meditation, and qigong', Journal of Counseling & Development, Vol. 86, No. 1, Pp. 47-56.

[16] Mu, Z, Li, H, Jian-Hong, W, Ji, L, Yan-Geng, J & Xiting, L (2007), "Religious tourism and cultural pilgrimage: a Chinese perspective", in Raj, R & Morpeth, ND (eds), Religious tourism and pilgrimage management: an international perspective, CABI International, Massachusetts.

[17] Nuttavuthisit, K. (2007), "Branding Thailand: Correcting the negative image of sex tourism", Place Branding and Public Diplomacy, Vol. 3, No. 1, Pp. 21-30.

[18] Olson, DH (2006), "Management issues for religious heritage attractions', in Timothy, DJ & Olson DH (eds) 2006, Tourism, region & spiritual journeys, Routledge, Oxon.

[19] Organisation for Economic Co-operation and Development (2009), "The impact of culture on tourism", URL: http://www.ebookdb.org/iread.php?id=3C3A10G1156131GC17G51669

[20] Plamintr, S. (1994), "Getting to know Buddhism", Buddhadhamma Foundation, URL: http://www.budsas.org/ebud/ebdha108.htm

[21] Promsaramatee, P (2010), "The potential development of cultural tourist attractions for international tourists in Bangkok and its surrounding provinces", European Journal of Social Sciences, Vol.17, No. 4, Pp.498-502.

[22] Raj, R & Morpeth, ND (2007), "Introduction: establishing linkages between religious travel and tourism", in Raj, R & Morpeth, ND (eds), Religious tourism and pilgrimage management: an international perspective, CABI International, Massachusetts, Pp.1-14.

[23] Richards G & Fernandes C (2007), "Religious Tourism in Northern Portugal", in Richards G, Cultural tourism: global and local perspectives, The Haworth Hospitality Press, Binghamton, Pp.215-237.

[24] Richards, G. (2003), "What is Cultural Tourism?" In van Maaren, A. (ed.) Nationaal Contact Monumenten, URL: http://www.rotadoromanico.com/SiteCollectionDocuments/Not%C3%ADcias/Ativida

des%20Cultura/Congressos/I%20Congresso/Resumo%20Comunicacoes/Greg%20Ric hards.pdf

[25] Ritchie, J. R. B., & Ritchie, J. R. R. (1998), "The branding of tourism destinations", In Annual Congress of International Association of Scientific Experts in Tourism, Pp. 1-31.

[26] Rod-Ari M (2010), "Thailand: the Symbolic Center of the Theravada Buddhist world", University of California at Los Angeles, USA

[27] Sathirathai, S. (2014), "Middle path and moderation in Buddhism and eco-civilisation" In Eco Forum Global Annual Conference Guiyang 2014 Tongren, Guizhou, China, URL: http://aprcasia.com/wp-content/themes/aprc/images/uploads/5.pdf

[28] Shackley, M (2001), "Managing sacred sites", Continuum, London, Pp. 20-33.

[29] Smith MK (2003), "Issues in cultural tourism studies", Routledge, Oxon, Pp. 10-13.

[30] Tanaka, KK (2011), "Dramatic growth of American Buddhism: An overview", Dharma World.

[31] The World Tourism Organisation (n.d.), ''Tourism and Poverty Alleviation', URL: http://step.unwto.org/content/tourism-and-poverty-alleviation-1

[32] Timothy, DJ & Olson, DH (2006), "Tourism, region & spiritual journeys", Routledge, Oxon, Pp. 3-10

[33] Tourism Authority of Thailand (n.d.), "About Thailand: Religion", URL: http://www.tourismthailand.org/Thailand/religion

[34] UNESCO (n.d.), "The power on culture on development", URL: http://unesdoc.unesco.org/images/0018/001893/189382e.pdf

[35] UNESCO Bangkok (2004), "The Effects of tourism on culture and the environment in Asia and the Pacific: tourism and heritage site management in Luang Prabang, Lao PDR", URL: http://www2.unescobkk.org/elib/publications/IMPACT_LuangPrabang/impact.pdf

[36] United Nations Educational, Scientific and Cultural Organization (UNESCO) 2010, "The power of cultural development", URL: http://unesdoc.unesco.org/images/0018/001893/189382e.pdf

[37] United Nations Environment Program (UNEP) (n.d.), "Negative Socio-Cultural Impacts From Tourism: change or loss of indigenous identity and values", URL: http://www.unep.org/resourceefficiency/Business/SectoralActivities/Tourism/Factsan dFiguresaboutTourism/ImpactsofTourism/Socio-CulturalImpacts/NegativeSocio-CulturalImpactsFromTourism/tabid/78781/Default.aspx

[38]   Wallace, BA (2002), "The Spectrum of Buddhist Practice in the West", in Westward Dharma: Buddhism Beyond Asia, Charles Prebish & Martin Baumann (eds.), University of California Press, Berkeley, Pp. 34-50.

[39]   Winfield-Pfefferkorn, J (2005), "The branding of city", URL: http://www.brandchannel.com/images/papers/245_branding_of_cities.pdf

[40]   Woodside, AG (1996), "Measuring the effectiveness of image and linkage advertising: the nitty-gritty of maxi-marketing", Greenwood Publishing Group Inc, Westport.

[41]   World Tourism Organisation 1985, " The state's role in protecting and promoting culture as a factor of tourism development", World Tourism Organization, Madrid.

MAKİNG TOURİSTİC AREAS AESTHETİC ACCORDİNG TO OPİNİONS OF GİFTED STUDENTS

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ABSTRACT

Architectural structures, historic areas, museums, parks, streets and alleys, cultural and social sites in the cities are an important aesthetic element. The most basic element of tourism is to make a situation or space aesthetic. For this purpose, spaces are often restored and tried to make them attractive to the tourism. It is well known that the gifted students (ÜYÖ) pioneered for the development and progress in the society also develop their aesthetic aspects, as well as having their special abilities to produce new and genuine products and opinions.

In this study, it was aimed to examine which opinions the gifted students (ÜYÖ) hold to enrich the city we live in an aesthetically manner. To that end, it was taken students' opinions about architectural structures, historic areas, museums, parks, streets and alleys, cultural and social sites.

The study was performed with a qualitative approach. In accordance with this purpose, it was received the opinion of 29 gifted students. The gifted students' age has ranged from 13 to 15. 13 of them are female and 16 male. Research data were obtained by means of the face to face group interviewing. Firstly of all, it was brainstormed for each heading. In the second session, outstanding opinions were discussed. Data were analyzed by descriptive analysis and content analysis method. Results were explained by % and frequencies.

As a result of this study, it was determined relevant students' opinions about making architectural structures, historic areas, museums, parks, streets and alleys, cultural and social sites attractive in terms of tourism. Original opinions were revealed by comparing students' opinions with existing applications.

Keywords: Gifted students and tourism, aesthetic, destinations.

INTRODUCTION

Tourism which makes travels through reasons such as recreation, entertainment, curiosity, culture and gaining experience is an important sector for countries (Güngör and Cuhadar, 2005: 85). Gradually increasing the travels that aim to get to know people from different cultures and to get on-site information about the cultures of different societies has boosted the cultural richness at the destinations and invigorated the economy.

They are made more aesthetic for tourism by reconstructing architectural structures, historic areas, museums, parks, streets, alleys, cultural and social areas, found in the cities as an aesthetic element to that city. These reconstructions form the aesthetic of the city in a process that is shaped by social, cultural or economic characteristics of communities (Aksoy, 2004: 8). Cities procude creative solutions for city aesthetics in order to attract more visitors, or tourists (Quoted by Görkemli and Solmaz, 2012: 99).

Arrangement considering concern for the beauty of places and beautification of the environment in which people live requires aesthetic sensibility. Gifted students are the leading individuals who develop aesthetic sensibility within the society. They are interested in them by fast apprehending aesthetic features since sense of beauty develops in these students (Ataman, t.y., : 183). Other key features of gifted students (UYÖ), who pioneer social development and progress, include being ahead of their peers in physical, mental, and learning terms (Akkanat, 2004: 180), bringing original ideas or innovations to and having their high motivation, determination or ability to solve problems (Quoted by: Boland, 1986: 19).

This study aims to examine which views gifted students (ÜYÖ) hold aesthetically to render Konya attractive to tourism. Research results are determined students' opinions about making architectural structures, historic areas, museums, parks, streets, and alleys, cultural and social areas aesthetically attractive. Original ideas produce by comparing student views with existing applications.

1. Konya and Tourism

People aim to recognize people from different cultures, to see tangible and intangible cultural values in different communities and to get on-site information on these values through tourism (Avan, 2010:59). It has increased the importance of historical places, museums, historical ruins or remains, customs and traditions thanks to great interest shown in cultural heritage (Tapur, 2009:474). It turns into a mechanism for protecting natural environment, local culture and artistic assets when the tourism which has a deep influence upon society, economy, natural and cultural environment of a region properly develops and manages (Avan, 2010:65).

It has begun to make tourism competition obligatory among cities in the world so that cities are favoured by people and made them into a point or centre of attraction (Toksarı et al., 2014: 329). Thus, a great effort is made to preserve and develop cultural property transmitted from generation to generation by inheritance to enhance the attractiveness of cities (Avan, 2010:66).

Each city possesses its unique characteristic with historical accumulation and with social, cultural and commercial background that contains within itself (Görkemli et al., 2013: 151). Konya whose origins date back to the first settlement period of history of humanity is an important city that was the capital to Seljuk Empire (Görkemli and Solmaz, 2012: 105).

Konya, which also have a significant potential in tourism, is located in an important transition route. Moreover, it has always had an important city when examined from a historical perspective (Toksarı et al., 2014: 330). Konya city that offers its historical richness to domestic and foreign tourists (Tapur, 2009: 479) has the characteristics of a place open to

cultural tourism-oriented spatial and functional developments through spatial and functional patterns that are formed to the accompaniment of cultural heritage values (Özcan, 2009: 4).

2. City and Aesthetics

Aesthetics that means perception and sense is defined human as comprehension and perceiving of something beautiful by way of perception and sense (Erdoğan, 2006: 73). When it is considered within the scope of the environment, environmental aesthetics means to beautify the environment or to be interested in beautiful environment (Ceylan, 2008: 25).

Open-green areas, courtyards, gardens, roads and squares are an integral part of urban aesthetics. Lines, colours and textural properties that make up the surfaces of elements in urban environments, and buildings' facade proportions, quality of openings and facade decorations are also important factors in determining the quality of the urban environment. In addition to this, elements such as floor coverings, urban equipments, lighting equipments, stops and billboards, and and plant material and its usage patterns are factors that make a direct contribution to urban aesthetic. With a combination of all these values, city shape and city silhouette relating to the whole of city are created, and urban aesthetics and attractiveness emerge (Erdoğan, 2006:71).

Historical buildings constitute the basic characteristics of cities. These buildings are considered to be determinative city silhouette. In addition with architectural structures, open-green areas and their interrelations are also determining the character of a city (Kurdoğlu and Pirselimoğlu, 2011: 211).

The world's most tourist destinations are regarded to be cities, which have historical and cultural values and are an aesthetically rich appearance (Göğebakan, 2012: 83). Cities should give aesthetic pleasure rather than discomfort to people, who sightsee and search. Aging of objects, their peeling paint and incompleteness in visually unfavourable physical environments create psychological unrest and may also cause indirect psychological effects on individuals (İz Bölükoğlu, 2003: 104-105).

Artistic activities have constantly occurred throughout formation and development of the cities, and city and art has always been in a relationship. One of the best ways to reconstruct squares and streets of a city, namely its surroundings, eliminate the aesthetic deprivation of the buildings and ensure unity compatible with the environment is likely that artistic works are situated at open areas (Güç, 2005: 7). Monuments and plastic elements used often in especially public squares or in a place required to attract considerable attention are making their designment more effective and perceptible through color, form, shape and measurement qualifications that enhance the visual value of urban spaces (Güremen, 2011: 268).

Green areas are also another element of the urban aesthetics. Green areas become indispensable spaces where cities will be respired and freshened up (Kuter, 2007: 39). Green areas are named open areas and mass and fragmental green areas outside of architectural structures (block stacks, buildings and hard surfaces) within the urban texture as a complement of integrative and separative functional aesthetic systems (Yerli and Kesim, 2009: 1). In addition, ornamental trees provide effective and pleasant green areas by creating identity and continuity in parallel with functional and aesthetic contributions to spaces (Kurdoğlu and Pirselimoğlu, 2011: 219).

METHODOLOGY

The study was carried out with a qualitative approach and screening model. This study was aimed to examine what kind of views students identified as gifted hold to aesthetically enrich the city in which they inhabit. For this purpose, it was received students' opinions about aesthetic regulations in architectural structures, historic areas, museums, parks, streets, and alleys, cultural and social areas.

4.1 Study Group

The study group consisted of gifted students in Konya Science and Art Center, which provides training for gifted students. In accordance with this purpose, it was taken 29 gifted students's opinions. Gifted students were composed of 13 schoolgirls and 16 schoolboys, all of whom are in the age range of 13 to 15. Easily accessible convenience sampling method of purposive sample methods was used to create the study group.

4.2 Collection and Analysis of Data

"Student Interview Form" was employed for data collection. During the form preparation, firstly, it was made a literature review on the subject, and then, it was determined the title and items to be incorporated into the form.

In this form which consists of four open-ended questions, it was aimed to find answer to questions such as "what sort of architectural structures, museums, historic areas, parks, cultural and social areas do students know touristically?", "what are touristic areas in Konya aspects seeming beautiful and unsightly?", "what types of opinions do they hold about environmental planning of historical buildings?", and "what types of arrangements will they make so that touristic destinations make attractive and bring in the tourists?"

Research data were obtained by face-to-face group interviewing. Data were analyzed by way of descriptive analysis and content analysis method. Research findings were explained by % and frequencies.

RESULTS

Famous or interesting places, spaces or sights that have been attracting gifted students's attention in Konya were Karatay Madrasa, İnce Minareli Madrasa, Mevlana Museum, Alaladdin Mosque, Sırçalı Madrasa Koyunoğlu Museum, archeological museum, ethnographic museum, Kültür Park, Alâeddin Park and The Valley of the Butterflies, respectively.

Answers given by gifted students to aspects seeming beautiful of tourist areas in Konya are presented in Table 1.

Table–1: Frequency and Percentage Distributions of Answers Given by Gifted Students to the Question "What are aspects seeming beautiful of the touristic areas in your opinion?"

	f	%
A spacious and clean environment	8	27.58
Constitution of squares (open areas)	6	20.68
Restoration	6	20.68
Reforestation	5	17.24

A well-maintained environment	5	17.24
Area lighting	1	3.44
Total	29	100

Table 1 shows that the answer "a spacious and clean environment" was given by 8 students (27.58%), "constitution of squares (open areas)" by 6 students (20.68%), "restoration" by 6 students (20.68%), "reforestation" by 5 students (17.24%), "a well-maintained environment" by 5 students (17.24%), and "area lighting" by 1 student (3.44%). Some of students' explanations for these questions are presented below through direct quotation.

Students indicate that touristic areas look beautiful themselves through expressions such as "I really like that tourist attractions is clean", "I saw that touristic areas are both clean and spacious", "especially I like to widen the area in front of Mevlana" and "Parks are clean but education is a must for polluters". They state that newly-created squares look beautiful themselves through expressions such as "Newly-created squares enable touristic areas to be spacious. They are also nice to be clean", "I like squares. I am walking there. There is no traffic. If only such places further increase". They use such expressions "I really like to restore them in order to protect historical and touristic areas", "It is nice to protect by restoring historic buildings. If only every historical building could renovate". They indicate that plantations look good with such expressions "I like to afforest touristic places". "It has more attractive to plant with trees in historic areas than before". They report to admire the afforestation of touristic areas with such expressions "I really like caring the trees and pruning them so as not to prevent people from passing there", "It is better not to plant trees if any care is not made". "I like to clean and maintain well the pavements and benches/seats".

Answers given by gifted students to aspects seeming unsightly of tourist areas in Konya are presented in Table 2.

Table–2: Frequency and Percentage Distributions of Answers Given by Gifted Students to the Question "What are aspects seeming unsightly of the touristic areas in your opinion?"

	f	%
Being put historic buildings in the shade by new buildings	7	24.13
Visual pollution	8	27.58
The lack of resting areas for visitors	5	17.24
Intense vehicle traffic	4	13.79
The lack of shade	3	10.34
Being neglected environmental cleaning	1	3.44
The lack of spacious and clean environment	1	3.44
Total	29	100

Table 2 demonstrates that the answer "being put historic buildings in the shade by new buildings" was given by 7 students (24.13%), "visual pollution" by 8 students (27.58%), "the lack of resting areas for visitors" by 5 students (17.24%), "intense vehicle traffic" by 4 students (13.79%), "the lack of shade" by 3 students (10.34%), "being neglected environmental cleaning" by 1 student (3.44%) and "the lack of spacious and clean environment" by 1 student (3.44%). Some of answers given by students to these questions are presented below.

Students pass an opinion that they do not seem beautiful to overbuild very close to historic buildings by such expressions "I really annoy me when new buildings construct very close to historic buildings. Because these new buildings put historic buildings or ancient monuments in the shade in my opinion", "Such a surrounding reduces the magnificence of historic buildings" and "the fact that new buildings construct very close to historic buildings suggests the congestion. I am sometimes putting myself in historic buildings". They pass their remark on visually unpleasant spaces with such expressions "Advertising sign boards on streets and intersections repulse me. I guess tourists also do not want to see these signboards" and "The use of bright and vibrant lights distract visitors' attention". They want to draw attention to the lack of resting places by such expressions "Absence of places to be rested for tourists coming to visit is a lack", "Benchs should be put on certain places to sit tired people when going to visit the sights". And what's more, students have tried to attract the attention to intense vehicle traffic with such expressions "It is unpleasant to go the traffic into place very close to historical buildings" and to the lack of shade with such expressions "In the summertime, sun is very uncomfortable in touristic places".

Answers given by gifted students to environmental planning of historical buildings in Konya are presented in Table 3.

Table–3: Frequency and Percentage Distributions of Answers Given by Gifted Students to the Question "What would you want to say about the environmental planning of historical buildings in Konya?"

	f	%
Environmental planning is not compatible with the historic buildings.	8	27.58
There has been no adequate arrangements for places to rest the visitors.	6	20.68
The surrounding area of historic buildings has not been greened sufficiently.	5	17.24
Visual art elements do not include in environmental planning.	4	13.79
The surrounding area of historic buildings is surrounded by parked cars.	2	6.89
Our historical monuments are engulfed in excessive forestation.	2	6.89
Lighting of historical buildings is not enough.	1	3.44
Environmental cleanup is insufficient.	1	3.44
Historic buildings are well-preserved.	1	3.44
Total	29	100

Table 3 indicates that the answer "environmental planning is not compatible with the historic buildings" was given by 8 students (27.58%), "there has been no adequate arrangements for places to rest the visitors" by 6 students (20.68%), "the surrounding area of historic buildings has not been greened sufficiently" by 5 students (17.24%), "visual art elements do not include in environmental planning" by 4 students (13.79%), "the surrounding area of historic buildings is surrounded by parked cars" by 2 students (6.89%), "our historical monuments are engulfed in excessive forestation" by 2 students (6.89%), "lighting of historical buildings is not enough" by 1 student (3.44%), "environmental cleanup is insufficient" by 1 student (3.44%) and "historic buildings are well-preserved" by 1 student (3.44%). Some of answers given by students to these questions are presented below.

Students highlight that environmental planning is not compatible with the historic buildings with such expressions "The colors used in environmental planning should be compatible with those of the historic buildings", "Landscaping should comply with our

historic buildings", "The tourists who come to visit Konya should feel the culture of Konya by looking at the landscaping" and "Work of art should be placed on certain points, such as monument and embossed images, which will inform tourists who come to visit historical buildings". They catch the attention to the absence of adequate arrangements for visitors in touristic areas by such expressions "There is no rest areas of coming visitors around the places that attract intense visitor" and "Seatings should be built the spaces in order to attract more visitors". They address the absence of enough green fields around the historic buildings with such expressions "The surrounding area of historic buildings has not been greened sufficiently", "These places could be more attractive for tourists if greened", "There are less green areas around the architectural structures" and "Our stress is reduced through green-fields, however, and we are very happier than before". They indicate such their expressions "It can benefit from visual arts representation about historic buildings. This attracts the attention of tourists, too" and "Monument, sculpture or embossed pictures both glamourize the environment and give information about the history. If only these might be performed". They mention that cars parked around the historic buildings disturb visitors or others with such expressions "Pedestrians are under the attack of cars parked on the pavement" and "It seems as if turned into the car park around the historic buildings".

In the event of providing opportunity for students, answers given by them as to what types of arrangements will they make in touristic destinations in the city they live are presented in Table 4.

Table–4: Frequency and Percentage Distributions of Answers Given by Gifted Students to the Question "what types of arrangements will they make so that touristic destinations make attractive and bring in the tourists?"

	f	%
I make environment arrangements compatible with the historic buildings.	6	20.68
I eliminate the visual pollution.	5	17.24
I increase green fields.	5	17.24
I build up recreational areas in the places where visitors attract.	4	13.79
I decorate the spaces with the visual arts elements.	4	13.79
I remove the traffic from the touristic locations.	3	10.34
I illuminate the spaces suitably.	1	3.44
I protect touristic destinations properly.	1	3.44
Total	29	100

Table 1 presents that the answer "I make environment arrangements compatible with the historic buildings" was given by 6 students (20.68%), "I eliminate the visual pollution" by 5 students (17.24%), "I increase green fields" by 5 students (17.24%), "I build up recreational areas in the places where visitors attract" by 4 students (13.79%), "I decorate the spaces with the visual arts elements" by 4 students (13.79%), "I remove the traffic from the touristic locations" by 3 students (10.34%), "I illuminate the spaces suitably" by 1 student (3.44%) and "I protect touristic destinations properly" by 1 student (3.44%). Some quotations from answers given by students to these questions are presented below.

Students point out that they will create a environment compatible with the historic buildings while making environment arrangements through such expressions "I include some attributes related to the history of Seljuk and Ottoman culture, for example sculpture, in

environmental planning", "I choose pavements, fountains and seats used in environmental planning in accordance with architectural structure" and "I construct works of art such as houses, madrassa, museums, sculptures and embossments around the historic buildings with motifs and colors". They say to be removed the visual pollution with such expressions "I bring a certain arrangement for base stations, dish antenna and advertising sign boards", and "worn-rugged paving stone, advertising sign boards and improper illumination of pavements break the aesthetic. I fixed these aesthetically environmental problems". They address to increase green areas with such expressions "To green around the historic buildings makes the places more aesthetic and functional. I ornament these places with green fields and tulips for this purpose" and "I make those parts more attractive by greening walks/roads and touristic places". They indicate to create recreational areas by such expressions "I design the places to be rested them for a while after tourists go and see while making the environmental arrangements for the historic buildings", "walking visitors are tired and want to sit and have something to drink. I would provide it in touristic destinations" and "I fill this deficiency so that walking tourist enjoy getting around after resting". Students say that they will decorate touristic places with visual art elements with such expressions "I want to see the works of art around me. For example, I can make a model of Konya Castle", "I utilize angel figures and dragon figures used in Konya Castle in touristic places" and "I increase artworks, which give different messages to them while tourists go to visit our city: For example, monuments, sculptures, wall paintings and pictures in floor coverings". Students state that they will remove vehicle traffic from touristic destinations with such expressions "I transfer heavy traffic to other directions to protect the natural and cultural properties" and "I do not allow other vehicles except for public transport vehicles to go into historical places since confusion distracts tourists' attention and eliminates the impact of historical climate".

3. Discussion, Conclusion and Recommendations

It has been concluded that students want touristic areas to be a spacious and clean environment, to create squares (open-spaces), to be restored the works and to make the plantation but they dislike a well-maintained environment. The same students are considered being put historic buildings in the shade by new buildings in touristic areas, visual pollution in the environment, and lack of adequate resting areas for visitors in touristic areas, heavy vehicle traffic and the lack of shade as unpleasant aspects.

It is recommended that while making arrangements for touristic places, new buildings should not be built very close to the historic buildings and these new ones should erect at a distance not to affect historic buildings' magnificence and attractiveness. It is underlined, however, that ancient and historic areas, which exhibit historical periods and architectural characteristics in this manner, can also be protected without disrupting (Susmaz ve Ekinci, 2009: 29). It is also suggested that new plannings should do to eliminate the elements, which lead to visual pollution. It is proposed that areas visited intensively by visitors are freed from vehicle traffic and rested-shade places for visitors are created there.

It has been reached the conclusion that environment arrangements made are not compatible with the historic buildings, adequate arrangements for the rest of the visitors are not found, sufficient greening is not made around the the historic buildings and visual art elements do not include in environmental planning.

It is proposed that when making the environmental planning for the historic buildings, these plannings should be in line with the historic buildings and it should be greened sufficiently

around the historic buildings. Kurdoğlu and Pirselimoğlu (2011: 220) stress that the promotion of cities with green pattern will be able to make the environment more aesthetic and functional. It is suggested that visual art elements include in environmental planning of historic buildings. The plastic artworks used in open-spaces are objects with great aesthetic value, as well as representation features such as locator and marker. Furthermore, open-space plastic artworks that add new meanings to the urban culture are used for different purposes according to culture and requirements of spanned periods (Taşkıran, 2010: 18).

Solutions offered by students to touristic places are listed as compatible of environmental plannings with the historic buildings, eradication of visual pollution, increase in green areas, and the creation of rest areas where the visitors attract, adornment of visual art elements with touristic places and removal the traffic from touristic places. They have demostrated their creativity and aesthetic capacities with these solution recommendations that gifted students propose to the arrangement of touristic places.

REFERENCES

[1] Akkanat Hulusi (2004), "Üstün veya Özel Yetenekliler", (Editörler: Mustafa Ruhi şirin, Adnan Kulaksızoğlu, Ahmet Emre Bilgili), *Üstün Yetenekli Çocuklar Seçilmiş Makaleler Kitabı*, Çocuk Vakfı, İstanbul, 169–193.

[2] Aksoy Yıldız (2004). "Üsküdar İlçesi Açık Yeşil Alan Durumunun İrdelenmesi", *Ekoloji*, 52, 38-44.

[3] Ataman Ayşegül (t.y.), "Üstün Zekâlılar ve Üstün Yetenekliler", *Anadolu Üniversitesi Yayını*, Eskişehir.

[4] Avan Ali (2010), "Konya'yı Kültürel Amaçlarla Ziyaret Eden Yabancı Turistlerin Satın Alma Karar Sürecinin Değerlendirilmesi", *Kocatepe Üniversitesi, Sosyal Bilimler Enstitüsü Yüksek Lisans*, Afyonkarahisar.

[5] Boland Dale (1986), "Artistically Talented Students: A Call For Research" *Working Papers in Art Education,* 5, 1, 16–25.

[6] Ceylan Gülsen (2008), "Ortaöğretim 10. Sınıf Düzeyinde Görsel Sanatlar Eğitimi Alan ve Almayan Öğrencilerin Yasadıkları Çevrenin Estetiğine Bakış Açılarının Karşılaştırılması", *Gazi Üniversitesi Eğitim Bilimleri Enstitüsü Yüksek Lisans Tezi*, Ankara.

[7] Erdoğan Elmas (2006), "Çevre ve Kent Estetiği", *Bartın Orman Fakültesi Dergisi*, 8, 9, 68-77.

[8] Göğebakan Yüksel (2012), "Estetik ve Kentsel Yapılanma Üzerindeki Etkisi", *İnönü Üniversitesi Sanat ve Tasarım Dergisi*, 2, 4, 73-84.

[9] Görkemli Nur, Solmaz Başak (2012), "Bilim Merkezlerinin Kent Markalaşmasındaki Rolü ve Konya Örneği", *İletişim Kuram ve Araştırma Dergisi*, 34, 98-109.

[10] Görkemli Nur, Tekin Gökhan, Baypınar Yunus (2013), "Kültürel Etkinlikler ve Kent İmajı-Mevlana Törenlerinin Konya Kent İmajına Etkilerine İlişkin Hedef Kitlelerin Görüşleri", *Gümüşhane Üniversitesi İletişim Fakültesi Dergisi*, 2, 1, 150-171.

[11] Güç Mehmet (2005), "Açık Alan Heykellerinin Kent Estetiğine Katkısı", *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Yüksek Lisans Tezi*, Adana.

[12] Güngör İbrahim, Çuhadar Murat (2005), "Antalya İline Yönelik Alman Turist Talebinin Yapay Sinir Ağları Yöntemiyle Tahmini", *Ticaret ve Turizm Egitim Fakültesi Dergis*, 1, 84-97.

[13] Güremen Lale (2011), "Kent Kimliği ve Estetiği Yönüyle Kentsel Donatı Elemanlarının Amasya Kenti Özelinde Araştırılması", *Journal of New World Sciences Academy*, 6, 2, 254-291.

[14] Kurdoğlu Banu, Pirselimoğlu Zeynep (2011), "Yol Ağaçlarının Anlamsal Değerlendirilmesine Yönelik Bir Çalışma", *Çoruh Üniversitesi Orman Fakültesi Dergisi*, 12, 2, 211-221.

[15] Kuter Nazan (2007), "Kentsel Estetik ve Çankırı Örneği", *Kastamonu Üniversitesi Orman Fakültesi Dergisi*, 7, 1, 38-53.

[16] İz Bölükoğlu Hülya (2003), "Görsel Kirlilik ve Sanat Eğitimi", *KKEFD*, 8, 101-112.

[17] Özcan Koray (2008), "Sürdürülebilir Kentsel Koruma için Açık-Yeşil Alan Etkin Bir Planlama Modeli: Konya Kentsel Koruma Alanı, Türkiye Örneği", *Ekoloji*, 17, 68, 43-53.

[18] Özcan Koray (2009), "Sürdürülebilir Kentsel Korumanın Olabilirliği Üzerine Bir Yaklaşım Önerisi: Konya Tarihi Kent Merkezi Örneği", *Metu Jfa*, 2, 26, 1-18.

[19] Susmaz Hilal, Ekinci Cevdet (2009), "Sağlıklı Kentleşme Süreci Esasları", *Socıal Scıences*, 4, 1, 21-43.

[20] Tapur Tahsin (2009), " Konya İlinde Kültür ve İnanç Turizmi", *Uluslararası Sosyal Araştırmalar Dergisi* 2, 9, 473-492.

[21] Taşkıran Ayşe (2010), "Kentsel Mekanda Plastik Sanat Eserlerinin Kent Estetiği ve Kent Kültürüne Katkısı (Antalya Örneği)", *Çukurova Üniversitesi Fen Bilimleri Enstitüsü Yüksek Lisans Tezi*, Adana.

[22] Toksarı, Murat, İsen İlyas, Dağcı Adem (2014), "Bir Şehrin Markalaşması ve Pazarlanması Süreci: Konya İlinde Bir Uygulama", *Niğde Üniversitesi İİBF Dergisi*, 7, 1, 328-343.

[23] Yerli Özgür, Kesim Güniz (2009), "Kentsel Koridorların Estetik ve İşlevsel Yönden İrdelenmesi: Düzce Örneği", *Ankara Üniversitesi Çevrebilimleri Dergisi*, 1, 1, 1309-1107.

ASSESSING EFL LEARNERS' AFFECTIVE EDUCATION VIA MOBIL VISUAL DEVICES: A FOCUSED GROUP CASE STUDY

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ABSTRACT

The study was conducted at a Taiwanese technical College. The main purpose of this study was to assess the process of students' affective learning by using English learning mobile visual device for EFL (English as Foreign Language) learners in Taiwan. Mobile visual device was adopted to facilitate learning for decades. But, little known in related to EFL learning classroom. It was found mobile visual device as useful media for learners to explore wider learning not only in the classroom but the real context in daily life (Sharples, M., Taylor,J., Vavoula, G., 2005). The above concepts were found very close to what affective education stated (Hsu, 2009). In terms of affective domain of learning in the area of English education, Nunan (1988) defined that materials are vital elements within a course which provide concrete models of classroom practice, and good materials also enable teachers to develop their own materials; in other words, teachers can select or design more appropriate or desirable materials and learners can interact with the materials more effectively. Thus, for affective learning to take place it is crucial that the contents and skills that students acquire are directly or indirectly relevant to their life experiences (Hsu, 2011). This project that is being discussed aimed to investigate the impact of a meaningful learning environment through mobile visual device such as text message, blog, internet forum, etc. By building up an interactive learning network via mobile device, the students' motivation and their writing proficiency were investigated.

Keywords: affective learning, EFL learner, English proficiency, learning motivation, mobile visual device

INTRODUCTION

Affective learning was based on the European perspectives of affective education, which defines the learning areas referring to students' beliefs, attitudes, and faith of life (Lang,

1998). This study argued that the mobile visual learning network facilitate students within a better language learning environment so that students are motivated to use English.

The study was undertaken in 2015 with 10 Taiwanese students aged 16-18, whose major study is English Language. The participant students' English proficiency was at very basic level and they are afraid of speaking English due to lack of confidence. The approach of focused group case study was used as the main methodology (Yin, 1994). Mobile Device Network provides students to access internet easier and to get connection with people from different parts of world. Hence, students get more opportunities to use English with people in real work. English therefore is no more on the textbook but it becomes useful media to communicate with people who cannot speak Chinese. Online classroom observation, students' feedbacks were employed to investigate their learning outcomes and to validate the findings (Robson, 2000).

1.1. Definition of Affective Education

The term 'affective education' refers to that aspect of education which is concerned with the feelings, beliefs, attitudes, and emotional well-being of students. It includes their interpersonal relationships and social skills (Marland, 1980, Pring, 1984, Lang *et al*., 1998). Affective education is also concerned with pupils' moral, spiritual and values development. In England and Wales, it has laid considerable significance to developments in the educational process. However, they focus on issues about teachers' attitudes to such development and the ways in which such values of the school and its staff relate to the values of parents and the wider community (OFSTED, 1994; Best, 1998).

This concept of affective education concurs with what is generally accepted by educationalists that support holistic education, and consider it to be the primary aim of affective education. Holistic education includes the social aspects of the school, the nature and that quality of interactions within the groups in which students work and relate freely with each other. The need for a conductive environment is absolutely necessary for affective education; it offers students care and concern in relation to their welfare.

In Taiwan received the initial introduction to structured forms of affective education in the programmes of life education which the Ministry of Education pioneered in 1997. There have been further developments in the umbrella concepts of affective education is related to Life Education during the period 2000-2006. The Ministry of Education (2001a) specified four dimensions as stated in the national framework on life education:
(1) The meaning of life: this dimension makes an attempt to focus on key issues of human life that characterise holistic education namely the moral, cognitive, physiological, social, aesthetics, and the religious-spiritual. This means that the aims of education are not mechanical and emotionless, as in the cultural mentalities that limit the aims of education in

preparation for a career or a professional achievement. This underlies the concept of education as a process that enables learners to perceive human life in its richness and meaningfulness.

(2) Closely related to the first dimension of structured life education is the central role that values play in shaping human life and defining its meaning. The Ministry however, internalised a hierarchy of values as central to education. To achieve it, it is very important to follow the attached programme:

● cultivating skills for mature critical thinking and moral judgment

● integrating ethical education through an in-depth understanding of moral philosophy so as to cultivate pupils' competence with regard to moral judgment

● exploring inbuilt cultural values in order to enable pupils to look at similar moral values from different perspectives

● familiarising with the methods of moral thinking and moral conduct of the different aspects of ethics in the areas of sexuality, professional ethics, family life, and social and political life

(3) The third dimension of life education was the integration of different aspects of learning; this had the following aims namely:

● to help pupils integrate in their personal lives and the values that they acquired from school;

● to raise pupils' emotional intelligence, their abilities to listen, communicate and empathise.

(4) Developing multiple intelligences and individual potential was the fourth dimension of life education as proposed by the Ministry of education. This presupposed that:

● Everyone owns unique intelligence and potential. Therefore, schools should provide pupils with the environment of learning with multiple intelligences and know themselves well, and carefully develop their individual intelligence.

Looking at the explanations of the terms that relate with affective education in England and Life Education in Taiwan, I have concluded that although they operate in unique national contexts, the programmes to which they refer to prioritise the provision of an appropriate school environment. These, however, enable individual pupils to learn effectively and develop holistically regardless of different socio-cultural environments. This study specialized in the area of students' affective English learning by using mobile visual device.

1.2. The Objectives and Research Questions of this Study

This study is on the basis of the fieldwork research to shed more light on the ideas of affective education toward English learning in Taiwan. The main objectives of this study are aimed at identifying the outcomes of assessing methods through mobile visual network in

English classroom. Likewise, the study also explored students' attitude as shown by the focused group of this case study.

As it is not possible to complete this study without an exhaustive examination of students' feedbacks and online texts, the study focused on the students' motivation and why the approaches of mobile visual learning have developed in the curricular practices of English learning. I examined the following areas of affective education: curricular contents, classroom implementation, and students' perceptions of their English learning.

The main objectives of this study is to investigate the impact of a meaningful English learning environment through Internet access by using qualitative methods and to examine students' learning in depth. Hence, in this study, the research questions aimed to explore as listed:

- Will students find it motivating if an online affective education is introduced?
- In what ways, can online affective English learning be assessed?
- Will students' English proficiency be improved after the online affective learning by using mobile visual device is integrated into English classroom?

2.1. Research Methods

A focused group case study were undertaken to examine students' perception in depth. There were three stages to carry out this study. First, a preliminary mobile visual method was introduced in the class. Students were facilitated to register the network of 'English Club' in February 2015 at a nursing college in Taiwan. 10 students participated in a workshop. Case study was used as the main methodology (Yin, 1994). Online classroom observation and students' online workbook were employed to assess their learning outcomes and to validate the findings (Robson, 2000).

The study was undertaken in 2015 with 10 students aged 16-18, whose major was in the area of English language learning. The participants' English proficiency was at the intermediated level (3000~4000 words). Qualitative data was also adopted via students' online discussion forum and feedbacks record according to the following steps:

- Procedures of online English club teaching and learning
- The students were facilitated to join the website forum by registration.
- The teacher elicited students to use their mobile visual devices by introducing themselves and reply the questions shown on the forum.
- Various topics such as sports, interests, holidays, food or personal hobbies, etc., were given as a starting point to build up online communication for the first time.
- Teacher monitored students' online writing and discussion.
- Discussions were led in the classroom in dealing with difficulties that occurred.
- Students had to submit their online discussion records as their assignment.

3.1. Assessing Students' Discussion Forum

Table 1 presents the participant's (case 1) conversation with students from England. It seems not too difficult for the participant to converse with people from different cultural backgrounds. Although there are few errors on her texts, the participant is very confident to build up the topics such as 'introducing herself', 'main major', and 'the most difficult part of her study'. It is interesting that the participant brought out the questions which draw attention from online discussion forum.

Table 1
Building up Relationship with other people online (Case 1)

2014 年 12 月 1 日 15:51
Hello,my name is Nini . I'm Juliana's student . Nice to meet you. How can I call you?
2014 年 12 月 1 日 23:40
Hi Nini, you can call me Nina. How are you? What do you study? Tell me about yourself.
2014 年 12 月 2 日 8:49
Hi,Nina. I'm fine and you? I'm study English. I'm very happy that you reply me . I'm seventeen years old . My major is English . I like English very much . In my future , I want to be an English teacher . What about you?
2014 年 12 月 3 日 3:15
Ah, that's good. I'm good Nini. That's really cool - I'm 18 years old and I currently study Maths, Biology and History. I'm not too sure what my future plans are yet though.. What is it like where you live?
2014 年 12 月 3 日 21:16
I Math Biology and History are too hard to me to study . I'm admire you . I live in Taiwan , is a small and pretty island . Foreigner calls " formosa " . How about you ? Where do you live ?
2014 年 12 月 20 日 4:10
Sorry for the late reply. Aww, trust me I'm not very good at them, they are pretty hard though - how hard do you find English? Ahh, I know Juliana rather well, Taiwan seems lovely, what's it like? I live in England, in a city called Coventry

I always have a headache of History.   I learn English for twelve years ~

Our country is a real human interest

Place . We always help poor people.

I live in Chiayi in South .

Case 2 shown on Table 2 about how she started her conversation with people from Japan. From focused group interview, the participant said that she waited for a reply for a long time. She did not know how to write at all. When she got the first reply, she was so happy that someone understands her English, which motivated her to write more. After she completed her study, she is eager to explore more about English films, newspaper, and other English reading texts.

Table 2
Improving Her Writing Step by Step (Case 2)

My favorite actor and music

Postby **yuyingfanxx** » Mon Oct 20, 2014 3:16 pm

My favorite actor is Thomas Brodie-Sangster 😁

And my favorite movie is The Maze Runner!!

My favorite music are rock and jazz!!

Nice to meet you! My English name is Lua 😁

I'm a college student from Taiwan.

I don't speak English very well, but I will try my best! 😁😁😁

I play bass in band. I love bass very much!!

Do you also like Thomas Brodie-Sangster or music?

Could you recommend me some comedies?

Postby **yuyingfanxx** » Tue Dec 09, 2014 2:34 pm

I want to watch some interesting drama. Could you recommend me some comedies?

thank you~ 😆😆😆😆😆

Lua

trip to Japan

Postby **yuyingfanxx** » Tue Dec 02, 2014 2:52 pm

Hello~I'm Lua! 😁😁

I want to visit Japan. Could you recommend me where I can go?

I can speak a little Japanese but not very well.

Which part of Japan do you think is the best to visit? 🟡 🟡

Thank you~

Lua

Re: trip to Japan

Postby **Jarria** » Thu Dec 11, 2014 3:03 pm

yuyingfanxx! There is a lot of points of interests that you can enjoyed during your visit so I have no idea about your interests. If you will tell me the about your interest that are you interested in adventurous spots, entertaining free spots like the parks attractions, or caring a historical nature. So, let me specify about it. Then I can further guides you.

Re: trip to Japan

Postby **yuyingfanxx** » Tue Dec 30, 2014 2:20 pm

Thank you Jarria!

I want to go to visit historical nature. Could you tell me where I can go?

I like Japanese history very much so I want to know more things and visit historical nature!

It was found on Table 3 that the participant gets a lot of replies from English Club Forum. She also found that she use mobile visual device to join the discussion easily. And she discovered modern technology such as internet blog, mobile device are useful media to improve her English.

Table 3

Mobile Visual Device facilitates English learning

Favorite singer

- Posted by Sherry on November 25, 2014 at 6:51 in General Discussion
- View Discussions

Hello everyone~ Do you have a favorite singer? My favorite singer is One Direction :) They are very young and their songs are very nice. And what about you? Do you have a favorite singer?

My English teacher

- Posted by   Sherry   on November 18, 2014 at 6:44 in General Discussion
- View Discussions

My English teacher is very funny and kind.

She has long curly hair.

She taught me English when I was 7 years old.

Sometimes she told me many interesting things.

I like my English teacher very much.

If you have a English teacher, you can share!

How to celebrate Merry Christmas

- Posted by Sherry on November 11, 2014 at 6:52 in General Discussion

Hello everyone, I am Taiwanese people.

We don't celebrate Christmas. We have to go to school.

And what are they celebrating Christmas?

Reply by Joseane Cardoso on November 18, 2014 at 22:47

Hello!! You can go to school and after your classes; you can join your family to celebrate. Would it be possible???
I'm not sure if this is what you're asking. Bye

4.1. Discussion and Conclusion

Through assessing the participants' feedbacks record from the discussion forum, the students' attitudes toward their learning can be found. The following discussion shows evidence that students' English learning is motivated.

> "I like English Club (www.englishclub.com) because I can practice English on this website and make friends from other countries. Sometimes, I experience a little bit of difficulty to understand, but I still like to login the website and to improve my English" (Student 09401010).

> "From the English Club, I learnt how to chat online with foreigners in English. I also learnt to express myself by e-mail writing. When I receive replies from others, I feel excited other people understand my English" (Students 09401297).

> "Learning English from English Club is easier to memorize the vocabularies and sentences. I spent much time to learn English but my English was still poor. Now I know English forum is a good and easy way of learning English" (Student 09501355).

5. Implications and Conclusion

The findings showed that students' attitudes were positive and it appeared that students were no longer afraid of writing English. Given the evidence of the data, the study concluded that the EFL learners could improve their motivation and writing proficiency through mobile visual device because it is very easy to access Internet anytime. Likewise, in spite of complaining lack of opportunities to practice English for most students in Taiwan, it seems mobile visual device can be seen as a solution to this difficulty and it serves as an useful instrument for English educators and students to improve their teaching and learning environment. The study was not sufficient to generalise the many aspects of modern technology which were applied to teaching and learning. More research was needed to explore and to validate the findings.

REFERENCE

[1] Hsu, H.C. (2011) The Construction of an Affective English Classroom. Paper published in The Journal of Chung Jen College of Nursing, Health Sciences and Management. Volume 5 (December)

[2] Lang, P. (1998). 'Towards an understanding of affective education in a European context' in Lang, P., Katz, Y. and Menezes, I. (eds.) Affective Education: A Comparative

View, London: Cassell. pp. 4-16.

[3] Lambert J (2013) Digital Storytelling: Capturing Lives, Creating Community, fourth edition, Routledge.

[4] Nunan, D. (1989). The Learner-centered Curriculum. Cambridge: Cambridge University Press.

[5] Robson, C. (2000). Real World Research. Oxford: Blackwell Publishers Ltd.

[6] Rose G (2012) Visual Methodologies: An Introduction to Interpreting Visual Materials, third edition, Sage.

[7] Sharples, M., Taylor,J., Vavoula, G (2005). Towards a theory of mobile learning Proceedings of mLearn 2005, Mlearn. Org.

[8] Songtag, S. (2003) Regarding the pain of Others. New York: Picador/Farrar, Straus and Giroux.

[9] Yin, R.K. (1994). Case Study Research: Design and Methods. 2nd Edition. California; London: Sage Publications, Inc.

[10] Sharples, M., Taylor,J., Vavoula, G (2005). Towards a theory of mobile learning Proceedings of mLearn 2005, Mlearn. Org.

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THE NEED FOR ENTERPRISE ARCHITECTURE IN THE HEALTHCARE INDUSTRY

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ABSTRACT

Technology is used in health care industry to reduce medical errors and to save lives. These same technology built to save lives has increasingly becoming a system of data silo that operate independently of one another due to adopting technology at different speeds, for different reasons and competitiveness in the vendor market. As a result, systems are incapable of communicating, interacting with one another which leads to fragmented care and services, wasted investment and resources and customer dissatisfaction. This research aims to study the need of Enterprise Architecture in the healthcare industry. Enterprise Architecture (EA) is a strategic top down planning exercise for an enterprise, which facilitates high-level decision-making by enabling a conceptual view of the enterprise. Architecture concepts are well-known and well-used in designing health care objects and artefacts to support the underlying Electronic Health Records. However, there is a lack of evidence that EA techniques are well adopted in health care technology implementation. EA has the potential to facilitate the integration of health objects with business architecture. A comparison study was conducted between many architecting techniques and its usefulness within the health care industry. The study explore a modelling approach of health care using EA. This paper conceptualise the above analysis and concludes that the practice of top-down architecture may serve up to be the missing link to the less that lustre of many electronic health records implementation.

Keywords: Enterprise architecture (EA), Electronic Health Records (EHR), Health care

INTRODUCTION

Enterprise Architecture (EA) has gradually emerged to help enterprises in many markets to build new operating models and connect their as-is and to-be business strategies and IT capabilities. Though the discipline still lacks industry wide consistency, EA advocates in academia and industry readily point to successful EA frameworks offering business-IT governance, standardisation, and more sophisticated software and information architectures.

Rouse in "WhatIs.com" (2015) defined enterprise architecture (EA) as a conceptual blueprint that defines the structure and operation of an organisation. The intent of enterprise architecture is to determine how an organisation can most effectively achieve its current and future objectives.

Microsoft's Michael Platt (2002) offers a view of enterprise architecture as containing four points-of-view, called the business perspective, the application perspective, the information perspective, and the technology perspective. The business perspective defines the processes and standards by which the business operates on a day-to-day basis.

EA plays a very important role in the integration of any healthcare organisation's resources such as people, technology and process. Burke (2013) made an observation that a

Certification Commission for Health Information Technology report on accountable care never mentions the concept of enterprise architecture. It generally avoids describing any actual IT framework. And a Patient-centred Primary Care collaborative report offers a health IT shopping list with more than 10 items but overlooks the obvious status quo challenges: lots of software with very little process and data orchestration.

In fact, virtually all of today's healthcare buzzword initiatives – population health, health information exchanges, health analytics, medical neighbourhood models, performance and quality management – share common capabilities manageable through EA. The industry's current preoccupation with electronic health records is a necessary precursor to more cost-effective, data-driven healthcare. But technology veterans know that buying more software and dumping data into a warehouse does nothing to orchestrate sustainable business performance. Information availability does not equate to usability, and databases filled with electronic versions of paper document structures do not naturally assist the improvement of health outcomes or financial performance.

To understand the usefulness of EA in the health care domain, we need to understand the many architecture frameworks which are available to use in the development of an organisation's enterprise architecture.

ENTERPRISE ARCHITECTURE FROM AVAILABLE FRAMEWORKS

It is clear that framework and architecture approaches are available to apply in any business scenario. There are many architecture frameworks which are used in development of organisation's enterprise architecture, the five top architecture frameworks used in Australia are briefly define as:

Zachman Framework: is a schema. It suggested a logical structure to classify and compose the detail description of an organisation. A basic intention of the Zachman framework is to bring an infrastructure which helps the enterprise to develop, integrate, design, manage and access an organisation's information systems (Sajid & Ahsan 2014). This framework concern with information technology in an organisation is usually depicted as a 6 x 6 matrix, in which rows show perspective such as Scope (planner), Enterprise Model (Owner), System Model (designer), Technology Model (builder), Detailed Representations, Functioning Enterprise (subcontractor) and columns represent six basic questions (what, how, where, who, when, why) in the scenario of perspective (Marques & Sousa, 2004). Importantly this framework is not a methodology for creating the implementation of the object, this is a framework for describing the Enterprise. Unlike a methodology, this framework does not imply anything about whether you do architecture or whether you just start building the system whether you do architecture from a top down or bottom up perspective, or about the flexibility afforded in producing composite models. Although all these elements are significant, they are not prescriptive of this framework structure.

Federal Enterprise Architecture Framework (FEAF): provides and organised structure and a collection of common terms by which Federal segments can integrate their respective architectures into the Federal Enterprise Architecture (The Chief Information Council, 1999). It is developed by employing the classification of five models which are for references namely:

1. The performance reference

2. A business reference
3. A service component reference
4. Data reference; and
5. Technical reference model

This framework facilitates U.S. Federal Agencies to share information and design common processes between other agencies. As mandated in the Clinger-Cohen Act of 1996, Federal agencies must develop and maintain an enterprise IT architecture. Increasingly, federal agencies are finding that architecture development is tied to capital IT investment planning processes. This development is, even at an agency level, a large, complex, resource-intensive effort. By collaborating on cross-cutting activities, federal Agencies can share staff efforts and products, thereby leveraging budget resources and lessening burdens. Collaboration can also encourage development of interoperability standards, which in turn, promote Federal-wide information sharing and common capabilities. A better understanding of common federal processes, information, and other areas where economies of scale might be applied can also evolve through collaboration.

Australian Government Architecture (AGA): is an Australian implementation of the above FEAF. The Australian Federal government has adapted the established and proven FEAF. This framework is being used in a number of other countries as well as some State Governments in Australia. The framework and these reference models have been endorsed by the Australian Government's Chief Information Officers Committee. The diagram illustrates the structure of the Australian Government Architecture (Figure 1):
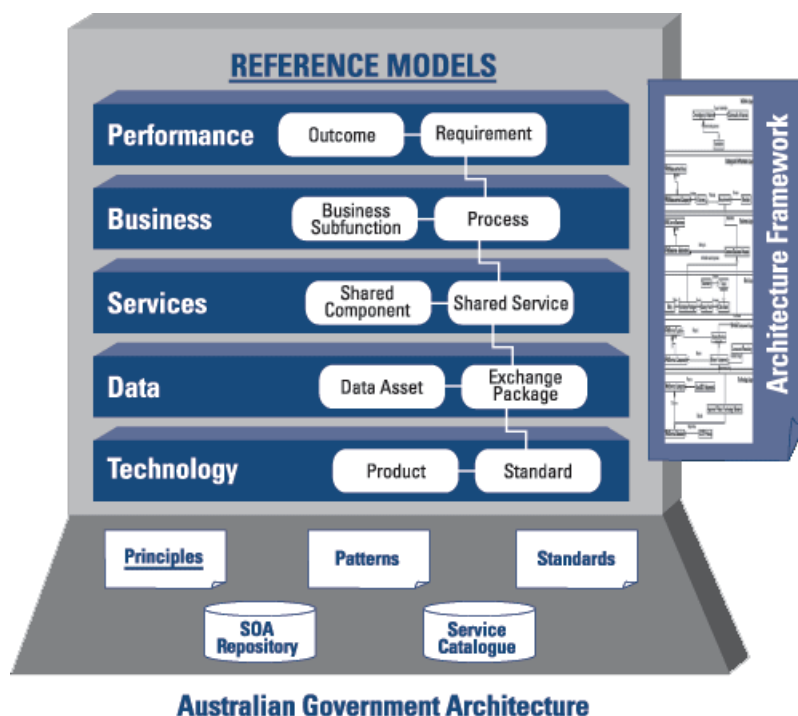

Figure 1: Australian Government Architecture (Department of Finance and Deregulation, 2014).

The AGA aims to assist in the delivery of more consistent and cohesive service to citizens and support the more cost-effective delivery of ICT services by government, providing a framework that (Department of Finance, 2015):

1. Provides a common language for agencies involved in the delivery of cross-agency services;

2. Supports the identification of duplicate, re-usable and sharable services;

3. Provides a basis for the objective review of ICT investment by Government; and

4. Enables more cost-effective and timely delivery of ICT services through a repository of standards, principles and templates that assist in the design and delivery of ICT capability and, in turn, business services to citizens.

Queensland Government Enterprise Architecture 2.0 (QGEA 2.0): was developed by Queensland Government as a variation to the above AGA. This framework aims to unite Queensland Government collection of ICT policies and associated documents that guides agency ICT initiatives and investments to improve the compatibility and cost-effectiveness of ICT across the government.

The QGEA 2.0 framework (Figure 2) (Queensland Government Chief Information Office, 2015):

1. Defines classification framework covering business processes and services, the information they use, and the applications, technology and information security elements that support them

2. Formalises the types and structures of ICT policy documents, their usage and relationships to other types of QGEA 2.0 documents

3. Describes the current state of the government's investment in information and ICT

4. Provides processes for development, management approval and compliance of strategy, policy and related documents.

This framework is used extensively within the Queensland Government. The Department of Health Information Portfolio Classification levels are based on the QGEA 2.0 Information Portfolio Classification Framework. In addition to using its generic endorsed Queensland Government Information classification, it also provides for extended taxonomy with additional levels of classifications and variants specific to the organisation's knowledge domain.
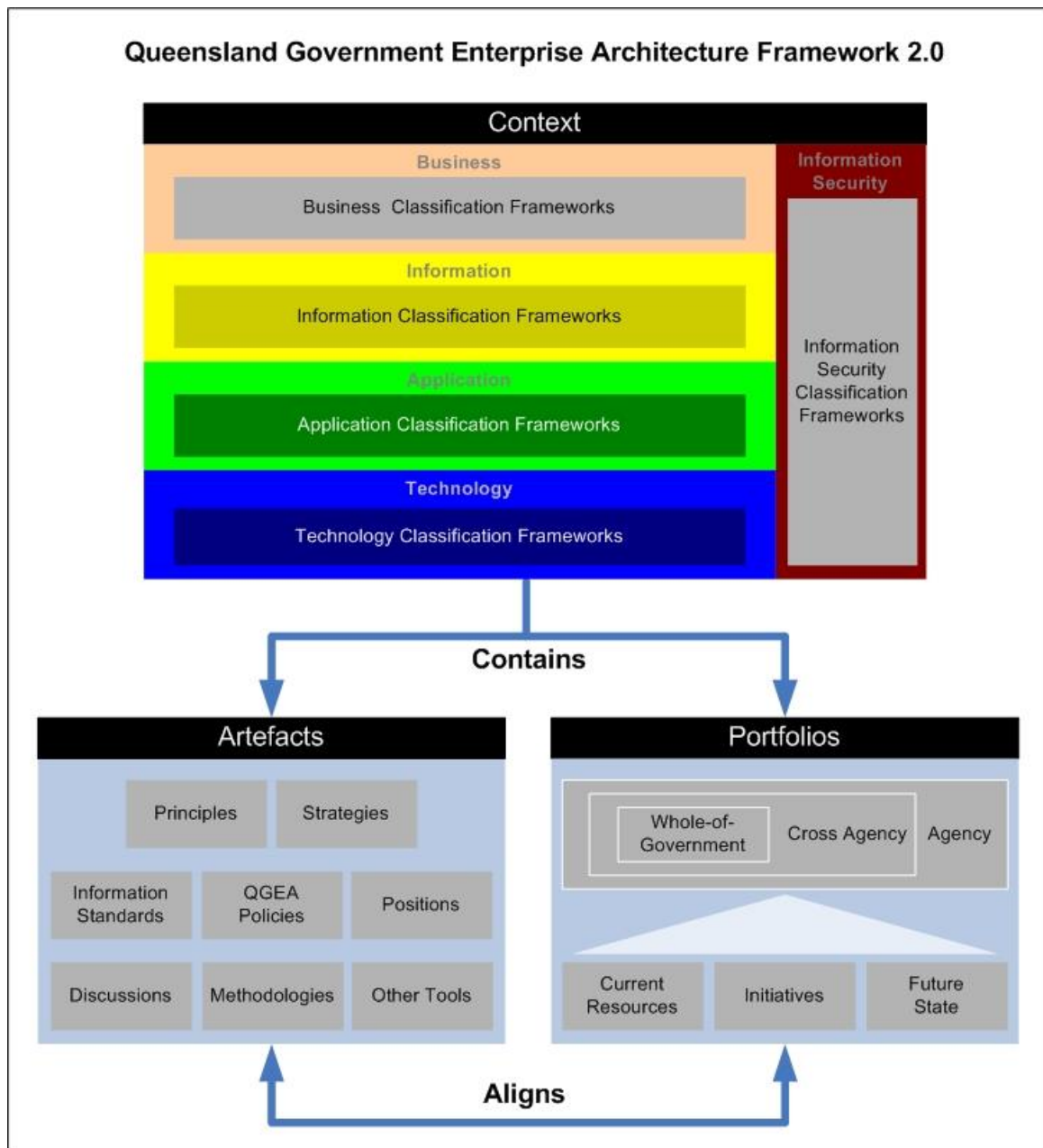
Figure 2: Queensland Government Enterprise Architecture Framework 2.0 (Queensland Government Chief Information Office, 2015).

However, the usage of the framework is limited and specific to Queensland Government. Although it can be shared under creative common there is limited research into its effectiveness and its utilisation in other enterprises.

The Open Group Architecture Framework (TOGAF): an open Group Standard, is a proven enterprise architecture methodology and framework used by the world's leading organisations to improve business efficiency. Any organisation may use TOGAF freely to design enterprise architecture. TOGAF enable any organisation to evaluate and built the right architecture.

TOGAF seeks to be an approach to "rapid" architectural development and effective governance. It does not prescribe the models that should be used to represent the architecture,

it guides the process when creating an architecture. Due to its scalability, it can be used for government organisations, large enterprises and even small or medium sizes companies. When looking at the different levels of architecture a framework could support, TOGAF seeks to support all levels, ranging from business architecture, to data and technology architecture. The main benefits of TOGAF are (Burst, 2015):

− It's a proven method with years of research as a background and developed by world leading architects

− It uses a common vocabulary, so that everyone in an organisation can read and understand the information provided by the resulting architecture.

ENTERPRISE ARCHITECTURE MODELLING IN HEALTHCARE ENTEPRISE

It is clear that frameworks and architecture approaches are available to apply to any health care scenario. It is essential that the application of tools and methods are selected based on the goals and feasibility of the organisation.

Modelling an enterprise is very complex and can vary according to the modeller/viewer's perception and the goal/mandate of the enterprise. Ahsan, Shah & Kingston (2010) noted that with the right domain knowledge, the modeller represents the model of the enterprise through their conception and represents the systems within the organisation by integrating and optimising the system to fit the economy of information to satisfy the value of information for its user. The tendency for many modellers are working from the bottom-up rather than a top-down modelling approach.

The question is, healthcare modelling has predominantly focused on a bottom-up approach, focusing primarily on the lowest denominator of a clinical record, have we over-looked the broader aspects that all elements are interconnected and that this may even transverse into non-clinical fields, such as health care funding and administration. The notion that these intersect with care decision-making and a knowledge framework indicates that we must explore the full benefit of adopting an Enterprise Architecture framework to optimise the outcome of any system being created.

One very well-known architecture in healthcare is the openEHR specifications. The openEHR architecture embodies 15 years of research from numerous projects and standards from around the world (openEHR, 2015). OpenEHR uses multi-level modelling within a service-oriented software architecture, in which models built by domain experts are in their own layer. The domain experts - clinicians, allied health workers, and other experts - are directly involved in defining the semantics of clinical information systems, which makes using terminology much easier. The whole repository of these models, known as 'archetypes', is now an ISO standard (ISO 13606-2). These are now being used by several national governments to specify national e-health information standards.

Its architecture can also be highly generic (no data has been hard coded), and particularly due to being archetype-driven, it satisfies many requirements outside the original concept of the 'clinical EHR'. This particular standard is not limited to patient-centric, longitudinal, shared care EHR, as it can be also applied to a purely episodic, specialist situation relating to events outside the clinical functions (see figure 3).
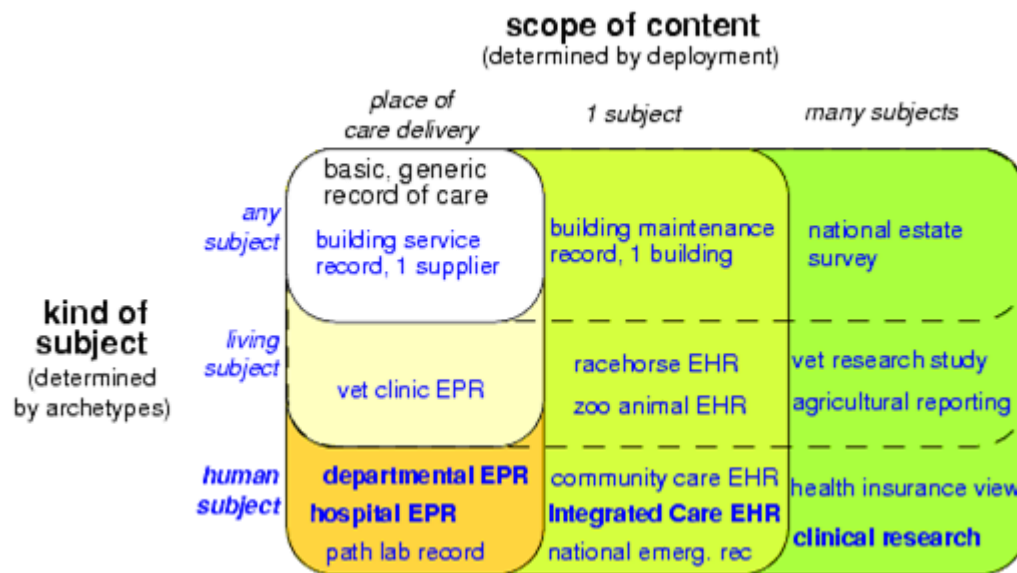

Figure 3: Structured of Requirements in openEHR (openEHR, 2015)

The approach taken by openEHR, allowed an integrated shared care record to be deployed by building layers of episodic events (Figure 4).
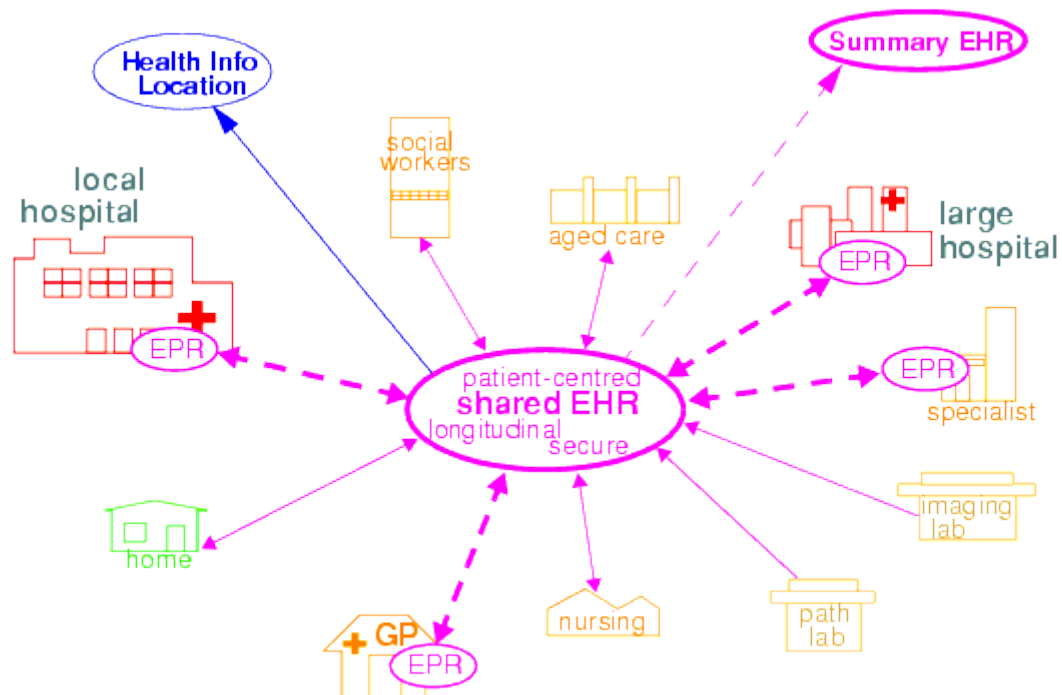
Figure 4: Community Shared-care Context (openEHR, 2015)

As the result of the approach taken by openEHR, components and applications are built to satisfy local requirements and also the broader purpose of integrated shared care record – a bottom-up approach to modelling. And is also provides flexibility by enabling the knowledge to be updated without requiring new interfaces or compromising interoperability.

Top-down comes from a decomposition of the problem space into sub-problems, while bottom-up comes from organising parts of the solution space into larger chunks. To effectively use top-down architecting, we need a very solid understanding of the problem and for bottom-up to be effective, we need to be solving a 'standard' problem whose pieces are well-known, but where the exact assembly might need some experimentation before we get it right. While it is difficult to distinguish which method is more effective, the right answer is consider using both, as appropriate.

DISCUSSION

The Electronic Health Care record (EHR) is not an entity in and of itself. It is a pool of data that can be viewed in multiple different ways and exchanged across various settings. A common misconception is that the EHR will improve information sharing and interoperability. In actuality, information sharing will enable the EHR. By linking with the laboratory and other data centers/sources, such as health care funding, nursing case mix ratios, consumer-held health devices, the EHR will have the ability to reduce medical errors, improve patient care delivery and also be accountable to the funding sources of health care.

While product and data integration is one of the most complex challenges facing any organisation, this is not an unsolvable problem. Many other traditional domains such as banking, HR, transport and logistics have managed to use EA methodology to explore the

ability to share data and information across systems in a logical and organised fashion and to also resolve the prioritisation of enterprise issues. EA is not about solving the 100 percent of the problem at once but most importantly to iterate the solutions, and focus on the most important parts. The traditional mechanism of approaching things from every stakeholder's point of view in order to solve the bigger problem in healthcare enterprises forced that each problems has to be tackled right away. From an EA standpoint, it could have been incrementally explored and prioritised by the enterprise.

In the health care industry, we struggled to understand what a good architecture is. Because it is difficult to replicate the costs and benefits just like in other industries. How does one measure the benefit of good health care? Is 18% GDP spend for one country in comparison to 8% GDP spend in another country equates to healthier citizens? How about the cost benefit of spending $100,000 on a hip replacement for a 99 years old? EA concept and framework is able to assist at providing the big picture level and at the solutions level, where both areas need architecture. They need to sing from the same song sheet. The strategic needs to be at the governance level, solutions at the implementation level, but the solutions level needs to inherit from the enterprise architecture, otherwise it's a waste of time and money. All these need to work from the same set of principles.

Therefore, using just a bottom up approach in architecting the EHR solution may led to a very robust data objects and health information implementation with high integration between all these data sources, but may miss the value, purpose and vision of why these integrations were required in the first place.

REFERENCES

[1]   Ahsan, K., Shah, H. & Kingston, P. (2010), "Healthcare Modelling Through Enterprise Architecture: A hospital case", *2010 Seventh International Conference on Information Technology - IEEE Computer Society*, pp. 460-465.

[2]   Burke, J. (2013), *Where is Enterprise Architecture in Healthcare?,* Retrieved on 8 Jan 2015, http://www.informationweek.com/healthcare/leadership/where-is-enterprise-architecture-in-healthcare/d/d-id/898882

[3]   Burst (2015), *The Open Group Architecture Framework,* Retrieved on 25/2/2015, http://www.burst-digital.com/files/ebooks/togaf.pdf

[4]   Department of Finance (2015), *Australian Government Architecture (AGA)*, Retrieved on 9 Jan 2015, http://www.finance.gov.au/policy-guides-procurement/australian-government-architecture-aga/

[5]   Department of Finance and Deregulation (2014), *Australian Government Enterprise Architecture Principles,* Retrieved on 9 Jan 2015, http://www.finance.gov.au/sites/default/files/AGA_EA_Principles_-_V1.1_0.pdf

[6]   Marques, C. & Sousa, P. (2004), "A method to define an enterprise architecture using the Zachman Framework", *ACM Symposium on Applied Computing*, pp. 1366-1371.

openEHR (2015), *Release 1.0.2,* Retrieved on 15 March 2015, http://www.openehr.org/programs/specification/releases/1.0.2

[7]   Platt, M. (2002), *Enterprise Architecture,* Retrieved on 8 Jan 2015, http://msdn.microsoft.com/en-us/library/ms978007.aspx

[8]   Queensland Government Chief Information Office (2015), *Queensland Government Enterprise Architecture 2.0,* Retrieved on 9 Jan 2015, https://www.qgcio.qld.gov.au/products/about-the-qgea

[9]   Rouse, M. (2015), *Enterprise architecture.* Retrieved on 8 Jan 2015, http://searchcio.techtarget.com/definition/enterprise-architecture

[10]   Sajid, M. & Ahsan, K. (2014), "Enterprise Architecture for Healthcare Organisation", *World Applied Sciences Journal,* Vol.20, No.10, pp. 1330-1333.

[11]   The Chief Information Council (1999), *Federal Enterprise Architecture Framework, Version 1.1*, Retrieved on 9 Jan 2015, http://www.enterprise-architecture.info/Images/Documents/Federal%20EA%20Framework.pdf