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EDUCATIONAL SCIENCES

ADAPTATION OF THE EFFECTIVE LIFELONG LEARNING INVENTORY (ELLI) IN TURKISH

BY
SEMA KARAKUŞ BERG

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SEMA KARAKUŞ BERG

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SUBJECT: ADAPTATION OF THE EFFECTIVE LIFELONG LEARNING INVENTORY (ELLI) IN TURKISH

APPROVAL:

Prof. Dr. A. Münire ERDEN _____ _____
(Advisor) (Signature)

Assoc. Prof. Dr. Dilara DEMİRBULAK _____ _____
(Member) (Signature)

Assoc. Prof. Dr. Rüchan UZ _____ _____
(Member) (Signature)

SUBMITTED BY : Sema KARAKUŞ BERG
DATE OF THESIS DEFENSE : 10.12.2018
DATE OF THESIS APPROVAL :

ABSTRACT

ADAPTATION OF THE EFFECTIVE LIFELONG LEARNING INVENTORY (ELLI)

Karakuş Berg, Sema

M. S. Department of Curriculum and Instruction

Supervisor: Prof. Dr. Münire Erden

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Aim of present research is adaptation of ELLI, which was developed by R. Deakin Crick, P. Broadfoot, G. Claxton in 2004, into Turkish by carrying a language equivalency, reliability and validity study. It is a Likert-type, online inventory to diagnose, track and develop learning power of students by a subjective self report. Results could be used as an opportunity to create free learning spaces for them to become aware of learning to learn capacities they can develop. A strong positive Pearson ve Spearman correlation has been found between the total scores and seven dimensions of Turkish and that of English forms of ELLI in the language equivalency study. 552 students studying in grades 5-12 were completed online ELLI Turkish Questionnaire for validity and reliability study. The Cronbach Alpha reliability coefficient of Turkish version of ELLI has been found .90; and that of its dimensions' values have been changed between .62 and .83. Confirmatory Factor Analysis was performed on the collected data to test goodness of fit of the dimensions in relation to the data. Although the confirmatory factor analytic results were showing quite poor fit for the Turkish sample, overall the dimensions showed a reasonable fit within the data.

The RMSEA is below 0.05, except the three weak items, rest of the items' fit at good levels. It has been decided to keep all Turkish version of ELLI questionnaire items as it is for cross-cultural researches to explore learning dispositions comparatively using international data collected from different countries.

***Key words**: lifelong learning, learning power, learning to learn, key competence, learning dispositions, ELLI*

ÖZET

ETKİLİ YAŞAM BOYU ÖĞRENME ENVANTERİ(ELLI) 'NİN TÜRKÇEYE ADAPTASYONU

Karakuş Berg, Sema

Yüksek Lisans, Eğitim Programları ve Öğretim

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Kasım 2018, 100 Sayfa

Etkin Yaşam Boyu Öğrenme Envanteri (ELLI), öğrencilerin öğrenme gücünü, elde edilen öz raporlarla "teşhis etmek" ve öğrenmeyi öğrenme üzerine yedi boyutta diyaloğu başlatmak için kullanılan, sübjektif beyana dayalı bir envanterdir. ELLI aynı zamanda geliştirebilecekleri kapasitelerin farkına varmalarını sağlamak için öğrencilere serbest alanlar yaratmakta bir fırsat olarak da kullanılabilir. Bu çalışmanın amacı da geçerlilik ve güvenirlik çalışması yapılarak Etkin Yaşam Boyu Öğrenme Envanteri (ELLI)'nin Türkçe'ye uyarlanmasıdır. Envanter, 2004 yılında Ruth Deakin Crick, Patricia Broadfoot ve Guy Claxton tarafından geliştirilmiştir. Araştırmanın dilsel eşdeğerlik çalışmasında, envanterin Türkçe ve orijinal formlarının toplam puan ve alt boyutları arasında arasında yüksek bir Pearson ve Spearman korelasyon katsayıları ölçülmüştür. Geçerlilik ve güvenirlilik için yürütülen çalışmaya farklı okulların 5-12 sınıflarında okuyan 552 öğrenci katılmıştır. ELLI nin Türkçe formunun Cronbach Alpha güvenirlilik katsayıları tüm form için .90; değişimve öğrenme, eleştirel merak, anlamlandırma, yaratıcılık, öğrenme ilişkileri, stratejik farkındalık, dayanıklılık için sırasıyla 0.73, 0.62, 0.66, 0.74, 0.69, 0.81 ve 0.83 olarak bulunmuştur. Verilere ilişkin

boyutların uygunluğunu test etmek için, toplanan veriler üzerinde doğrulayıcı faktör analizi gerçekleştirilmiştir. Doğrulayıcı faktör analizinin sonuçları seçilen Türk örnekleminde oldukça zayıf olmasına rağmen, boyutlar verilerle genel olarak makul bir uyum göstermekte olduğu gözlemlenmiştir. RMSEA, 0.05'in altında bulunmuş; üç madde dışında birçok maddenin oldukça iyi seviyelerde orijinal formla kabul edilebilir uyum göstermiştir. ELLI anketini, öğrenme eğilimleri üzerine yapılacak olan uluslararası araştırmalarda farklı ülkelerden alınan verilerle karşılaştırmalı olarak araştırmaya imkan yaratması açısından, olduğu gibi tüm maddeleri ile tutulabileceği gözlemlenmiştir.

***Anahtar Kelimeler**: Yaşamboyu öğrenme, öğrenme gücü, öğrenmeyi öğrenme, anahtar yeterlikler, öğrenme eğilimleri, ELLI*

DEDICATION

To Ahmet & Zehra Karakuş,
Reasons of my learning story for dignity

To Selda, Temel, Seda, Taner,
Seasons of my learning story for values

To Cemre Deniz,
Leading actress in my story of learning for future

To Airan,
Leading actor in my story of learning love

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TABLE OF CONTENTS

LIST OF ABBREVIATIONS

ABBR .	
ELLI	Effective Lifelong Learning Inventory
UNESCO	United Nations Educational, Scientific and Cultural Organization
EC	European Commission
EU	European Union
OECD	Organisation for Economic Co-operation and Development
MoNE	Ministry of National Education
EPALE	Electronic Platform for Adult Learning in Europe
NGO	Non-Govermental Organisation
DeSeCo	Definition and Selection of Competencies
SFSO	Swiss Federal Statistical Office
NCES	National Center for Education Statistics
LLF	Lifelong Learning Foundation

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER I

INTRODUCTION

This is a study about cross-cultural adaptation of Effective Lifelong Learning Inventory (ELLI) from its original language to target language: Turkish.

Bacground of the study, significance of the study, purpose of the study, reseach questions, research variables, operational definitions are the sub-titles of the Chapter One.

The connection between European lifelong learning approach, its reflections on education systems; new responsibilities of individuals for development of key competences especially learning to learn; learning power and ELLI model of Learning to learn were presented briefly in the background of the study.

1.1. Background of the Study

As a result of globalism and radical developments in the science and technology, education and hence learning become the center of attention of developed countries, regions and the world "for the development of citizenship, social cohesion, and employment" (European Parliament, 2000). Learning is a social act happening at every stage of individuals' life. However, in "the third generation" (Rubenson, 2006) of lifelong learning, learning activities have aims of developing competences and effectively cultivating the knowledge under the "third way values" (Giddens, 2013). The origins of lifelong learning arose from the existential needs to find an alternative way to "cumbersome" education systems and it redefines the concept of education by bringing the individual at the center as the owner of learning. European Union also emphasized that "People are Europe's main asset and should be the focal point of Union's policies." (European Parliament,2000) hence they should be the focus of education policies. In order to adapt this "master concept", each country has to study existing educational system according to its guiding principles and reconstruct the system in line with the lifelong learning framework. It needs extensive researches, interdisciplinary policies, effective strategies, harmonious coordination and deep understanding of learning process for all stages of life. In the third generation of lifelong learning, what to learn, when to learn, why to learn and how to learn are all under the responsibility of the individual in order to construct a sustainable living, a high quality of life for herself and the society; governments have a responsibility of planning,

implementing, coordinating, facilitating national and international learning opportunities to create a competent, highly qualified workforce for a competitive economy and for a peaceful, humanitarian, welfare society (Giddens,2013; Duke,2015; Rubenson,2006; Schuetze& Casey,2006). In order to fulfil the responsibility, every individual should develop the key competences and basic skills starting from as early as s(he) can. It is the responsibility of governments to establish a strong, competent, accessible, equitable, flexible formal education system to activate lifelong learning policies for their citizens. As Euripides declared that "Whoso neglects learning in his youth, loses the past and is dead for the future" (Cullen, 2009; pp.9).

On the other hand, fuzzy future scenarios were designed for todays' children in the European white paper. European Union admitted that: "It is likely that most children entering primary school today will end up working in new job types that do not yet exist." (European Council,2017). As Claxtons' (2001) informal surveys show that "schools are not equipping young people to face the complex demands and uncertainties of 21st century life" and "around eighty per cent of these admit they are unclear about a way out of this impasse". Bloom's (2015) article states that "the school curriculum and teaching method should be such that inculcates several skills amongst children such as confidence, curiosity and creativity." How can our children succeed to survive and can manage the shape their lives under the future's uncertain reality? The answer to the question was given in the same papers: by developing basic skills and key competences; in particular, the one that is one of the key competences: "learning to learn" to develop the learning power. In order to get prepared for the "uncertain era" in the near future, lifelong learning was presented as a guiding frame to transform schools to the future's education.

"Learning to learn" is the key competence that increases awareness of individual's own existing skills for learning and creates an objective knowledge of how prior learnings will contribute to future learning activities. It can be regarded as an internal stimulus that creates a self-generated motivation for learning (White,1959). Learning to learn brings a truth to the debate that learning is a learnable process. It is a process that gives opportunity to the individual to rediscover own strengths and weaknesses and gives power to re-establish new skills and competences to cope with the demands of the 21st century. They need to be aware of their own process of learning, how to learn, how to use their knowledge and skills

by thinking critically, applying knowledge to new situations, analyzing information, comprehending new ideas, communicating, collaborating, solving problems, and making decisions. (Learning for the 21st century,2002)

Learning Power has mostly appeared in Claxton's articles(Claxton,2007), books (Lucas & Claxton,2010; Claxton,1997; Claxton,1999) or interviews (Building Learning Power-TLO Limited,2017) as a term that is used to emphasize on the learnability of intelligence by giving researchbased descriptions of learning dispositions that are empowering learning in seven dimensions. According to Deakin Crick et al. (2004), learning power is "a form of consciousness characterized by particular dispositions, values and attitudes, with a lateral and a temporal connectivity." Learning power represents self-awareness, the necessity to first develop certain behaviours, together with particular cognitive and affective senses in order to construct priorities valuable both in learning and in life. (Deakin Crick.&Wilson,2005).

Effective Lifelong Inventory (ELLI) is used as a formative, self-evaluative assessment tool. It diagnoses the potential learning power of a student as a firsthand feedback from individual. It can be accepted as awareness of the student about seven dimensions of personal learning power. ELLI Model of learning to learn aims to support individual first, in a Vygotskian way. It creates opportunities to increase awareness of the personal instead of numbering the personal in summative evaluations (Deakin Crick,2007). Accredited ELLI teachers, will start the dialogues with the student, as a learner, to understand the outcomes of the inventory together in a neutral environment and to create possible aims, goals and objectives for future, by clarifying zone of proximal development (Deakin Crick et al.,2013). It is expected that ELLI Model of learning to learn will give opportunity to an individual to develop a personal learner identity enriched and strengthened by values and attitudes towards learning. It also supports the personal identity in the socialization process of individual as the individual opens its place in the society (Deakin Crick et al.,2008). ELLI provides teachers and schools with the data coming from the very first subject of the learning: who is the student. Teachers can redesign learning activities accordingly or school administrations can activate programs enveloped with more effective pedagogy to scaffold the student in the journey of development of learner identity, using the data direcly coming from the students. In this paper, term of Learning Power is used in a relation to Effective

Lifelong Learning Inventory. The inventory itself has had widespread application from kindergarten to higher education. In practice, it is useful as a pedagogical assessment tool in the development of learner centered practices. (Deakin Crick, 2007).

1.2. Significance of the Study

There are many developed (Diker Coşkun&Demirel,2012; Günüç, Odabaşı&Kuzu,2014) and adapted (Arslan&Akcaalan,2015; Engin, Kör &Erbay,2017) Lifelong Learning Scales, Inventories or Questionnaires in Turkish.

However, ELLI is a unique inventory in many ways: it is an instrument used as a self-assessment tool to diagnose learning power of students; it gives qualitative feedback to the student's themselves and to their teachers, to the school administrators about how students perceive themselves in terms of their learning dispositions as a resource for creating strategy and for developing learning to learn key competence besides tracking and empowerment of students' dispositional learning power.

Turkey also needs to create her own reaction to the indispensable force of change on her educational system either by designing new curriculums that empower the individual with lifelong skills to survive in the World that has already been changed –yet lifelong learning skills have not found a space in the young students' program in the Turkish curriculum (Demirel, 2009)- or creating more participatory classrooms environment for all learning opportunities.

ELLI is an educational instrument that can support educators in the design of inclusive curriculums and/or inclusive classroom practices in the formal, non-formal and informal layers of education. It was reported that more than 10,000 online accounts has been accumulated since 2004 across the United Kingdom, Australia, and the USA (Deakin Crick et al., 2008)

1.2.1. Effective Lifelong Learning Inventory(ELLI)

ELLI is one of the four comprehensive and significant models of learning to learn (Stringher, 2014): the Alberta Project, Gibbon's Cube, the Learning to Learn Framework of the University of Helsinki and the ELLI Project (Stringher, 2014). In this research paper, ELLI model of learning to learn is the main concern. The other models may be the topic of another research.

In ELLI Model, the competence of learning to learn should be developed starting from early ages including formal education period and should continue during the adulthood period. According to the model, every individual has stored a learning power for learning, during one lifespan. It is possible to develop the learning power more effectively by scaffolding the person socially and individually. However, this must be a volunteer act. There is self-report questionnaire, administered online through 72 items collecting responses ranging from "No not all like me", "A little bit like me", "Quite a lot like me", to "Yes very much like me" used to measure what participants say about themselves in a particular domain of their learning, at a particular point in time. The quantitative data collected from the inventory should be shared with the individual to start dialogues about learning with a new terminology of learning and individuals are the main decision makers of their future plans and progresses. (Stringher, 2014; Deakin Crick, Broadfoot &Claxton, 2004). Changing and Learning, Critical Curiosity, Meaning Making, Creativity, Strategic Awareness, Learning Relationships, and Resilience were described as the seven learning dimensions and scales which were derived from the multi-phase factor analytic studies and represent learning dispositions and all together develop "the power to learn" (Deakin Crick et al., 2004; Heron&Reason,1997).

ELLI Questionnaire is available online, every student will have an ELLI student profile, with a detailed questionnaire report and visual figure of the report in the pattern of a spider diagram (Figure 1.1). ELLI reports or frequency charts can be presented for both individuals and groups; they will be the reference point of the guiding dialogues to develop future strategies for empowerment of learning dispositions as a self-learner and a team-learner

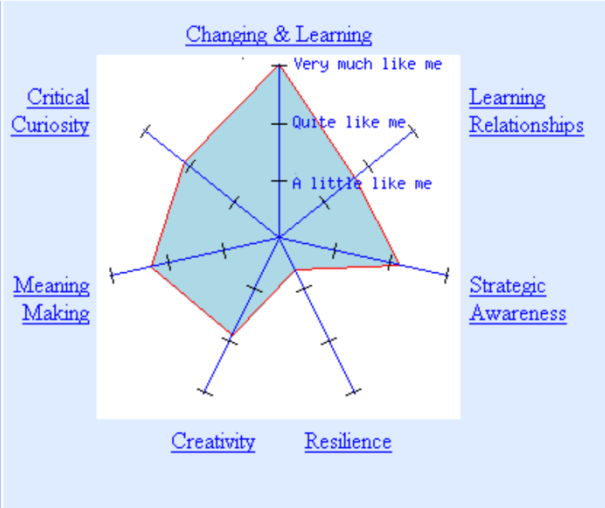

Figure 1.1: A spider diagram in an ELLI learner profile with 7-dimensions, University of Glasgow,2016: May 25

It is reported that ELLI model of learning to learn improve the awareness about language of learning for teachers, administrators and students. Many find that their profiles motivate them to improve their learning. When managed effectively over a year, significant gains have been achieved in learning power. (Smith,2012).

Individuals can achieve particularly significant improvement in the dimensions they target and work on. One of the benefits of the spider diagrams is that any student can observe any changes that might happen through all surveys from superimposed diagrams of all, at the same time. (Deakin Crick, 2008)

1.3. Purpose of the Research

The purposes of the present research are to adapt the Effective Lifelong Learning Inventory (ELLI) into Turkish; to measure the equivalency criteria between original and adapted versions of ELLI questionnaires; to create an online ELLI platform in Turkish; to measure validity and reliability of the adapted versions of the questionnaire.

Parallel to the purposes presented here, research is naturally divided into four general steps. The first step is about Adaptation of ELLI Questionnaire into Turkish; the second step is the measurement of the equivalency of original and adapted questionnaires; the third step is the creating an online ELLI platform in Turkish; the fourth step is the field study for the measurement of validity and reliability

1.4. Research Question

The main purposes of the research is to test the validity and reliability of the data collected by ELLI Questionnaire in Turkish. Therefore this study will adress the following questions:

1. Is the adapted version of Turkish ELLI Questionnaire and original ELLI Questionnaire linguistically equal?
2. Is the data gathered by the adapted version of Turkish ELLI Questionnaire reliable?
3. Is the data gathered by the adapted version of Turkish ELLI Questionnaire valid?

1.5. Research Variables

Research is planned to be carried on the students who are inbetween the ages of 10-18 and attending 5^{th}-12^{th} grades in middle schools and high schools in İstanbul in Turkey.

The dependent variables of the reliability and validity study are seven dimensions of ELLI questionnaire representing the learning power of an individual, and independent variables of the reliability and validity study are the items in each dimension of the questionnaire.

1.6. Limitations of the Study

1. ELLI in Turkish has 72 items and is an online questionnaire. It is needed to work in the schools having internet and devices to access internet (computers, mobile phones etc.). It is the biggest challenge of the research. Because of the White boards that schools have in every class, they are not keen to create a computer lab or keep the existent ones because of the high cost of its technical maintenance. Few public schools are using the computer labs actively, all because of dedicated work of teachers and principles.
2. Test-retest reliability check is not recommended by ELLI Global in Bristol. Due to the fact that ELLI is designed sensitive enough to reflect changes in individuals exposing learning environment whether during the school or out of the school.
3. Criterion-related validity evidence can not be searched due to the fact that ELLI is a subjective self-report declared by students about their self-perceptions of learning.
4. According to Stringer (2014), “Limitations lie in the instrument itself, which allows self-evaluation, yet with no more ‘objective’ measures. However, this could also be interpreted as an opportunity: … allowing them to become aware of the capacities they can develop.”
5. Although, a cross-cultural equivalency study is highly recommended in the respected

guidelines as a cross-cultural research route in order to prove reliability and validity of the adapted assessment instruments (Guillemin, Beaton, & Bombardier,1993; Epstein, Santo, & Guillemin,2015; Hambleton, 1996, April), Johnson (1998) recorded fifty-two types of equivalence in the literature. Flaherty and his colleagues (1988) developed a stepwise validation proposal to this chaotic nature of adaptation studies.

1.7. Operational Definitions

Lifelong Learning*:* Any learning activity which an individual attends during his/her whole life with a personal, social and employment related approach for the purposes of developing his / her knowledge, skills, interests and qualifications

Competence**:** The capacity to master intricate challenges in specific circumstances through the mobilization of psychological and social qualifications (encompassing cognitive as well as non-cognitive facets)

Key competences: Key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment.

Dispositions**:** They are defined as relatively enduring "habits of mind" or "characteristic ways of responding to experience across types of situations, e.g. persistence at task, curiosity, generosity and meanness and the disposition to read or solve problems."

Learning to learn: Capability to both seek and persevere in learning and coordinate one's personal learning, including effective management of time and information, both individually and in groups.

Learning power**:** A form of awareness about oneself as a learner defined by specific frames of mind, learning habits, beliefs and perspectives, expressed through the story of our lives and through the relationships and connections we make with other people and our world.

Changing and Learning: New name of 'Growth Orientation'. Learning creates a change in mind, in body, in learning energy of an individual and they are getting stronger with guidance. This change stimulates a desire to develop a learning identity equipped with new learning skills for demanding strategies.

Critical Curiosity arises questioning of what being told instead of prefering to listen and accepting the information.

Meaning Making helps individuals to reproduce the big picture of their own personal reality that are reflected by personal awareness about the connection and coherence between individual's concerns and learning."

Creativity nurtured by playfulness, lateral thinking imagination and intuition.

Learning Relationships enhances learning happening in social learning environments.

Strategic Awareness increases the awareness of individuals support them as they are taking control of the learning process

Resilience: "The tenacity to persist in the face of confusion, not knowing and failure"

CHAPTER II

REVIEW OF THE LITERATURE

In this research, literature review was aimed to present a brief history of lifelong learning concept mostly at the level of the students between the ages 10-18 and its reflections on their learning. History of lifelong learning also has reshaped the international policies; The new shape has created a force of change on the national policies and affected the curriculums and education systems of every country including Turkey.

Some vague concepts like competence, key competences, understanding of "learning to learn" as a key competence, what learning power is and presentation of ELLI with its constructs constitute the other parts of the review.

2.1. Conceptions of Lifelong Learning in its Historical Context

History of lifelong learning is the history of the man who dreams to establish the utopian society after the two world wars. Its aim has changed for each country, culture and for each institution because of the competing views and conflicting ideologies in education. According to European Union Commission "all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/ or employment-related perspective" is called lifelong learning (European Commission(EC), 2001: 9)

Since human learning is not only an individual but also a social process that starts from the cradle and ends in the grave, many societies and religions developed their community system relations based on the concept of learning throughout life.

According to Kenneth Wain (2016), the first official paper in which Lifelong Education was first mentioned was the 1919 Final Report of the Ministry of Reconstruction, Adult Education Committee in London, in the chaotic times just after The World War I.

According to 1919 Report, social, economic, moral, humanistic reconstruction of society and development of the country and the world starts with a democratic true and lifelong education. It was emerged as not only national but also an international call for a reform in education system to reconstruct an educated democracy to solve social, economic, political, moral problems of governance with the aid of national and international co-operation in

education to establish the peace in the country and in the world. They argued that Reform in education was necessary in order to grow the trust in the governments and democracy; to create “a new sense of unity, new sense of power and a new reading of social justice”; to create more enlightened public that have a social conscience after the World War 1. The Committee strongly emphasises that the main goal of education must be citizenship. They clearly described the future citizens and future society for democracy and peace. Future citizens have to develop some certain skills (open habits of mind, clear-sighted, searching for truth and proofs against sophism, shibboleths, claptrap phrases) and knowledge (relations between labour and capital, science and production etc) in order to actively participate in the democratic life as a full-filled member of an enlightened community, “to fit a man for life in a civilised community. According to the Report, Education is a continuous process starting from Family and includes the School, the trade or Union, the local town or district. Each part and stage of education has to successfully contribute the completion and fullness of the goal of citizenship. Humanistic and unifying lifelong nature of “true education” will support the individual to take the responsibility of their own learning and life at every stage of their life span. For this reason, true education has to be life-long (Ministry of Reconstruction,1919).

This important call for reform in education never was heard, lifelong learning appeared in the form of adult education in England and Denmark to lift the devastated economy after the First World War by training the man to acquire new skills to create a new workforce. It created new learning opportunities for large number of adults to change their attitudes towards learning throughout life. It helped the break prejudices that schools are only for children or youngsters and proved that an old man can learn new tricks. It brought new perspectives to human learning and opened the new questions whether teaching and learning were the same processes or not.

Seven years later, Lindeman (1926) challenged the minds that “Education is life. It is not a mere preparation for an unknown kind of future living. The whole life is learning. Therefore, education can have no endings “Lindeman’s concept of learning throughout life is inclusive, not age, space, or social-class bound. (Lindeman, 1926, p.6-7) According to Lindeman, providing an intellectual base to an individual from early years of his education affects the quality of his adult life (Lindeman, 1926, p43).

Yeaxlee, describes education as a life long process “by which men become more clear-sighted, imaginative, aware of their resources, disciplined and purposeful in use of them-not only vividly interested in life or wisely critical of it, but veritably alive, in the harmonious exercise of all their capacities…” (Smith, 2007).

Dewey (1916), focused the attention on education as a self-renewing process between birth and death for re-adaptation of environment for harmonious development of all the powers of personality " or “social efficiency”. “The school has a function of coordinating within disposition of each individual the diverse influences of the various social environments into which he enters.”

Just after the second world war, and during its chaotic post-war times, in 1945, the education of humanity was chosen as one of the effective means for reconstruction of a new world society that will live in peace, justice, liberty and security by forty-four countries with the foundation of an international organisation named UNESCO. Experiencing two world wars during the one half of the century, put a great impact on human history and the governments. After the “That great and terrible war”, Humanity had to learn how to make a new meaning of peace; how to change her ignorant, suspicious and distrustful nature; how to learn to live together in “democratic principles of the dignity, equality and mutual respect”; how to construct learning relationships through intellectual and moral solidarity of governments and of the citizens. It is important to educate creative new generations that have curious minds to design a peaceful world and are resilient enough to achieve it. Like it is mentioned in the first sentence of UNESCO Preamble: “That since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed.” (UNESCO, 2018 january 29)

The first time lifelong learning appeared in an official paper as a concept of lifelong education is in the Faure Report which was published by UNESCO in 1972 (Faure, et al., 1972). UNESCO declared it as a “master concept” that will shape the future of education all over the world. The report, critically questions aims, ethics, values, democracy in the present educational discourse and gives “a re-interpretation of the notion of education as a whole” by bringing evolutionary humanism and human-rights perspective to the center. The philosophical paradigm of education was pushed from a field of having to that of a

state of becoming in lifelong education. Individuals and their development were the main aim of the education which “integrates learning and living both vertically, over an individual’s whole life from birth to death, and horizontally, that is to say involving all aspects of a person’s life— family, community, study, work and leisure.” It stressed the unified nature of formal, non-formal and informal forms of education in a sequential or parallel order complementing each other in a learning process. An individual should voluntarily choose and participate in the learning opportunities. These learning opportunities should provide a space to make individuals aware of their learning potential, their democratic rights as a unique human being. Any pupil acknowledged about their potential will develop a self-awareness about their responsibilities about different social, historical, political, ethical contexts as a citizen of a nation and the world. The person who is aware of her/his own development story will gain self-esteem and self-confidence for any role that s(he) takes in life. For this reason, Lifelong Education is as the right of each individual to learn the social, economic, political and cultural changes or "developments" in the society s(he) lives in. The Faure Report proposed a holistic approach to learning in order to develop more humane individuals and communities as part of a growing "learning society". Spreading education opportunities over the lifetime of individuals in order to reduce social inequality, adapting generations to social and economic changes, offering professional opportunities, not only to young people but also to older generations, were the main aims of this strategy (Faure, et al., 1972).

In UNESCO’s 1996 Delors Report the term “lifelong learning” replaced the term “lifelong education”, which was in use since UNESCO's report Learning: The Treasure Within from 1972 (Delors, et al., 1996). Education was defined as a principle means of development for individual and society to promote inclusion, understanding, equality, humanity, wealth, democracy and peace. According to Delor’s report, main goal of education and lifelong learning should be developing effective learning relationships among individuals parallel to his four pillars of learning that were named as learning to know, learning to do, learning to live together, learning to be (Delors, et al., 1996). Delor’s commission explained that the pillar called learning to know actually was meant as “learning to learn” and it was accepted as “the passport to lifelong education” (Delors, et al., 1996). The children and young people in the primary and secondary schools must get greater attention especially

during pupil-teacher interactions because those periods are the golden periods of human life to develop a novice individual to a lifelong learner who has love, curiosity, creativity and resilience. Aims and means of education need attention. Children will take over from today's generation of adults. Thus, lifelong learning enables individuals from the very beginning of life to cope with the demands of the rapidly changing needs of a global world (Matheson&Matheson, 1996; Bagnall, 2000).

OECD as well as the World Bank adopted lifelong learning into a kind of systemic form that fuses two opposite philosophies into one body together: education and economy (WorldBank,1999; OECD,1973). They perceive education as more comprehensive form of adult continuing education. According to OECD and World Bank, lifelong learning is a qualification system view of education. In their lifelong learning system, the system should cover scope of each individual's life cycle. Each educational setting should be connected to each other. Every successful passage must be recognized and should be awarded by a progress within the learning stages. The connections should be designed in such a way that all trending or arising demands of individuals should be satisfied by the system. The learner and the needs of the learner are at the centre of the system. Main goal of the system is to cater learning opportunities for diversity of learner needs that are decided by demand-supply laws of economy. Life cycle of an individual within the system is defined from early childhood to retirement. Visibility and recognition are the two important criteria for all learning types: formal, non-formal and informal. To keep the individual within the system, motivation will be provided by targeting the best performance for the best jobs, the highest salary, better social statue. Learning is self-paced and self directed. To encourage the individual in the self-paced and self-directed learning, it would be helpful to experiment with "the reference frames" of the curricula, or examine new pedagogical practices together with national or international colloborators. An individual is advisable to maintain a balance between economic, social and cultural objectives in lifelong learning. An individual may benefit from different sets of objectives at different stages of her/his life to satisfy changing demands. Todays' students and future workers have to be effective lifelong learners in order to meet the fast changing "demands" of the labour market. It is believed that competence, competency and skill building at early stages of life can provide a great advantage to support the dynamics of economy and novice learners need guidance

to explore their learning potentials as they are developing key competences (World Bank,2003; World Bank,2005; OECD,1973; OECD,2001).

The European Union(EU) had adopted "lifelong learning" in1995 and celebrated the following year as the European Year of Lifelong Learning. EU's approach to lifelong learning carries both instrumental and human-right based, humanistic characteristics because of equal priority of social, economical and political concerns. (Panitsidou, Griva& Chostelidou, 2012). They collaboratively work with UNESCO and OECD in this challenging task.

EU set four important goals to implement lifelong learning on both national and European level: active citizenship, personal fulfilment, social inclusion, and employment-related aspects. All lifelong learning strategies will be developed and implemented over common building blocks of European level coherence and comprehensiveness. According to European Commission (2001), lifelong learning is "all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective"

In the European lifelong learning approach, they target the individuals from preschool to post-retirement. The learner is at the centre of all formal, non-formal and informal learning settings. It increases responsibility of learners in the development of their own knowledge, skills and competences. "Learning to learn" is placed among the basic skills that essential for improving awareness of individuals about their own learning energy and responsibility of learning action. It keeps the learner motivated for the next learning opportunities It has to be improved as early as possible and especially through compulsory schooling. It is among the foundational skills of lifelong learning and governments must provide it notedly for the students living in disadvantaged areas or early school leavers.

2.2. Lifelong Learning in Turkey

Turkish education system has been familiar to Lifelong learning concept, since 1923, since the transformation of a young Turkish Republic from totalitarian society to democratic, egalitarian, knowledge society had started by this new educational approach in Turkey. All country was turned to an open school and new learning environments were created for all citizens through the formal, non-formal and informal platforms of education to connect

society with “knowledge” that was nourished by both science and humanities. A collaborative, humanitarian “knowledge” society in the future would be created by the interaction between the society and knowledge surrounding the society (Kısıklı, 2012; Sinanoğlu, 2012). According to Koçak and Başkan (2012), European lifelong learning policies have already been implemented in schools through a distinctive program called Village Institute program in the rural schools of young Turkish Republic. Turkish Education System could carry on this revolutionary and controversial program until 1948. It was the time when the village institutes programs were abandoned (Koçak and Baskan, 2012; Stone, 1974). One year later Turkey joined the council of Europe. Turkey requested partner status in European Economic Community in 1959; signed the Ankara Agreement in 1963 to start equally involved legal relations and it was officially included in the EU enlargement process in the Agenda 2000 Report in 1999. Thus, Turkey received the right to participate all EU programs and agencies like all candidate countries. (European Commission, 2014).

After 1949, Turkey could not manage the momentum of change and development successfully. As a result, Turkish Education System was feeling the pressure for change to catch the fast changing global, technological world in the 1990s. According to Ayhan (2004), national lifelong learning was in the form of adult education and radically changing from humanistic discourse to an instrumentalist discourse because of the triggering effect of economic crises on social and political crises. She also criticized the direct implementation of ready-prepared “learning activities” brought from abroad instead of using the historical potential of the country that could help to develop lifelong “learning actions” that have to take into account the individual’s self-perceptions, hopes, and learning motivations. It is also necessary to find a way to create a well-qualified, competent workforce in the professional area for employment with the humanistic national economy policies (Ayhan, 2004; European Commission,1998; European Commission, 2010). Duman (2004) researched that even though no laws, regulations or policies directly related to lifelong learning existed, Basic National Education Law No 1739 contains some items indirectly connected to lifelong learning (like items 40, 41, 42); National Development Plans and National Education Council may have decisions, but those decisions did not have any sanction power on governments. Şahin and Özteke (2003) concluded in their research

paper that although the educational targets in the Primary Education level were written in the National Development Plans, they could not reserve corresponding budgets and priority in the Governmental Plans because of lack of a consistent strategy or policy between the years 1980-2000.

After Turkey was officially announced as a "candidate country" by the EU, Turkey also has accepted implementation of some changes or reforms under the guidance of European Union in the concerned areas. "Accession negotiations" with European Commission on behalf of EU were used to develop a strategy for this process. Turkey has also been receiving 'accession partnership' aids and a reform monitoring service to create the desired positive effects in the national economy (European Union, 2010). Since 1998, dialogues at all levels including education had started between EU and Turkey to understand and take "forward the European strategy to prepare Turkey for the membership" (European Commission,1998). EU researched for concepts of liberty, democracy, respect for human rights, fundamental freedoms, the rule of law in Turkish National Educational System within all formal, non-formal, informal levels. The Commission also researched about the impact of the National Education and Training Systems on the development of the human capital for economic competitiveness (European Commission, 2010).

Since education is a key concept in improving social inclusion and economic competitiveness, in the discourse of European reports about Turkey's progress in the membership processes, Education sector and Training sector observations had been assessed under same title from 1998 to 2004. Lifelong learning was presented as a strategic objective to Turkey in the field of education and training to develop improvements under the future policies and strategies in the Progress Report in November 2005 (Ministry for EU Affairs , 2018). Since every policy development, decision making process, evaluations of recommendations have to be parallel to the general objective of the rule of law in European Union, Turkey was also expected to show the same sensitivity during the process of development of Lifelong learning strategies and policies that are connected to the general objective of national rule of law. In December 2005, a comprehensive Education Sector Study were carried by World Bank in association with Education Reform Initiative (ERG) to give an overall existing education system picture and recommendations for the

possible paradigm shifts “that will serve Turkey in its pursuit of European integration and global competitiveness” (World Bank, 2005).

Development of competencies and skills, starting from preschool through the secondary school education, was one of the recommended five strategic objectives. Lifelong learning was presented as a potential policy option to create high-quality learning opportunities and outcomes for all students. Turkey has tailored a lifelong learning policy from European Union to create vital reforms in order to move from traditional approach to inclusive and competence-based lifelong learning system approach in education for European integration and accession (UNESCO, 2018). The first National Lifelong Learning Draft Policy Paper named “Driving Force for the Success of Turkey” was a reflection of 5-years experience of SVET (Strengthening the Vocational Education and Training System in Turkey) Project (UNESCO, 2018, March 10). It was a European funded project that had a budget of 58.2 million euro, was signed between EU and Turkey in 2000 (Aydın & Meral, 2005). Gök (2011) mentions that one of the aims of the Project was the development of a lifelong learning concept as an agent to create improvement in educational quality by bringing the formal and non-formal forms of Vocational Education together in Turkey. Although the project was conducted by MoNE (Ministry of National Education) in Vocational Schools, the policy paper gave a broad information and feedback about readiness of MoNE to implement lifelong learning concept in all schools of the Ministry beyond vocational ones (Gök, 2011).

The Draft Policy paper put attention on the importance of formal education during early school years for the development of lifelong learning competences in the individual and for cultivating lifelong learning culture in the society. A kind of knowledge society that creates equal opportunities for development of key competences and basic skills for individuals for all of their life, starting from early ages (UNESCO, 2018, March 10). The policy report was asking urgently to create policies about individualised information, advice, guidance for learners for the development of lifelong learning culture in schools and every stage of life. It has been known that higher quality of learning opportunities will develop stronger key competences if initiated early. It is important for individuals to gain power to take an active part in the society and to adapt their qualifications according to the speedily changing nature of social and economic life.

Learning to learn is a key competence that is enabling individuals to take the challenges of the changing nature of the world and increases participation to the social and economic life effectively. It enables individual to take the responsibility of own learning and transforms the individuals to the self-motivated and self-confident learners. It is strongly recommended to be developed during formal education years to increase the participation to learning at every level of formal education and it will decrease the cost of the key competences for future investments. It is important to use the limited budget for education effectively especially in middle income countries like Turkey.

After the draft policy paper, Ministry of National Education(MoNE) has prepared two papers: first one was Lifelong Learning Strategy Paper for 2009-2013; second one National Lifelong Learning strategy paper and work plan for 2014-2018 (UNESCO, 2018, March 13; EPALE, 2018). MoNE shared that strategy papers were developed parallel to the National Lifelong Learning Policy that was designed through the 9th and 10th National Development Plans (UNESCO, 2018, March 13; EPALE, 2018).

In the first Lifelong learning policy paper of Turkey It was shared that Lifelong learning was not only policy mentioned in the Ninth National Development Plan and also a great concern of Ministry of National Education (UNESCO, 2018, March 13). According to ninth Development Plan, Lifelong Learning was at the heart of the holistic approach that was used in the development of individual, society and economy to establish “competitive market, effective public administration, democratic civil society”. “Increasing employement” and “strengthening human development” are two important developmental axes that planned to be achieved by transparent, accountable, participative, efficient, and human focused lifelong learning actions. Main motivation of the plan was the “institutional and legal harmonisation with EU in order to compete successfully with regional countries and global world in both the economic and social arena (The Republic of Turkey Ministry of Development, 2018; UNESCO Institute for Lifelong Learning, 2018). The ninth development plan was pointing about the relationship between education and employment to overcome the unemployment problem; the first part of the solution was written under the axis of “Increasing employment “as a subtitle of “increasing the sensitivity of education to labor demand”.

“A lifelong education strategy will be developed towards increasing the employment skills of individuals in line with the requirements of a changing and developing economy and labor market. In order to develop the skills and abilities of people, this strategy will cover mechanisms that will support increasing formal and non-formal education opportunities, strengthen the horizontal and vertical relationship between the types of education, structure apprenticeship and public education towards these types of education as well as support the involvement of the private sector and NGOs in this area (The Republic of Turkey Ministry of Development, 2018)

Reforms in the vocational education system had the main target of the policy to satisfy the urgent high skilled, competent labor demand of the new economy. Reforms were asked to bring flexibility to the formal vocational education system with its modular curriculums to enable the individual to move in the system in vertical and horizontal dimensions as well as be part of the institutions and private sector through effective collaborative strategies. A sensitive vocational education system has to be established to equip the students with the changing competences and skills for every time by developing effective lifelong learning strategies. (The Republic of Turkey Ministry of Development, 2018). Second part of the solution was under the axis of “Strengthening Human Development and Social solidarity”. The paper mentioned the quality of education as having the same importance of employability. “… there still exists the need for increasing the quality of education and the employability.” The same radical changes were recommended for the secondary education modular curriculum in the flexible structure again to enable the students move horizontal and vertical in the system with an integrated approach developed using lifelong learning strategy to enhance the its quality. The rest of the recommendations for increasing the quality issue of the formal education were to expanding pre-school education, decreasing the number of students in the crowded classrooms, decrease the number of double shifted schools, enhancing teacher and physical infrastructure requirements, increase the investment in education, establishment of information and communication technology systems in schools together with educational software, improving curriculum, improving the physical infrastructure, equipment , qualifications of teachers, effective use of resources for implementation of new curriculum programs and application of new

teaching methods that is effective for all students including the ones with special needs (The Republic of Turkey Ministry of Development, 2018).

European definition of lifelong learning appeared in the first lifelong learning strategy paper:

“Lifelong learning is defined as any learning activity to which an individual attends during his/her whole life with a personal, social and employment related approach for the purposes of developing his / her knowledge, skills, interests and qualifications” (UNESCO, 2018, March 13, pp.7; European Commission, 2001). The aim of lifelong learning is to grant opportunity to individuals to participate actively in all stages of economical and social life in order to let individuals adapt to information society and better control their lives in this society. Lifelong learning also includes learning, which leads the individual to gain knowledge and skills through of education, and training institutions besides general and vocational education given under formal and non–formal education system.” (UNESCO, 2018, March 13, pp.7).

MoNE mentioned “sixteen priorities under the general goal of “Facilitating Access to Quality Learning Through Strengthening Lifelong Learning Infrastructure” in the first national lifelong learning strategy paper. Actually, this long general goal represents all aims of the lifelong learning strategy paper: Facilitation of learning, Access to learning, Quality of learning, Infrastructure of learning for effective lifelong learning (UNESCO, 2018; Gözübüyük Tamer, 2011). They were all quite parallel to formal education policies in the ninth development plan and recommendations in this area in the draft policy paper ((UNESCO, 2018). it was mentioned that first paper aimed to “contribute to the development of lifelong learning understanding within the society.” (UNESCO, 2018, pp.6) The aim of the lifelong learning strategy inserted formal education system openly related to demands of the market:

“The education system shall educate qualified labour which shall cover the expectations of economical market and strengthen the relation between employment and education with the execution of such system.” (UNESCO, 2018, March 13)

MoNE also separates and gives priority to early childhood and formal education period from the other segments of life in the policy paper.

"Learning at early childhood and formal education program should be designed and applied by taking into consideration business life and subsequent stages of life. Learning to learn and acquiring all daily life skills are as important as three basic skills (reading, writing, numeracy) of modern primary education" (UNESCO, 2018, March 13)

MoNE aimed to establish a flexible lifelong learning system inserted into the formal education system that have strong horizontal and vertical connections between formal and non-formal forms of education so that the system will enable the individual benefit from the education services as much as one needs for personal development - as it was recommended in the development plan.

Access to education especially to the pre-school education and secondary education for disadvantaged students, crowded classrooms, double-shift form of education, inefficiency in educational facilities, poor infrastructure of schools, school drop outs, low transition rates to secondary education, and the higher education, unequal educational opportunities for all students were the priority concerns of the MoNE's Lifelong Strategy paper (Electronic Platform for adult learning in Europe(EPALE), 2018,).

It can be said that aim of the tenth development plan were the completion of lifelong learning mission mentioned in the ninth development plan by increasing the gained momentum. Same concerns were mentioned in line with the lifelong learning approach under the titles of "Education" and "Basic and occupational skills development program" to move forward towards the establishment of competitive economy and democratic knowledge-society (Akça, Şahan, & Tural, 2017).

The 10th plan recommended learner-centered, system-wide and system-depth "transformations in the education system which develops individual's personality and skills, strengthens compliance with the labor market within the framework of lifelong learning and based on equality of opportunity will continue (Akça, Şahan, & Tural, 2017).

Since one of the aims of lifelong learning is to develop key competences especially learning to learn starting from early ages, the term "competence" was passed five times in the 10th Development paper (The Republic of Turkey Ministry of Development, 2018, April 6)

The term “competence” was first introduced as a concept that could be class-based-identified and used to monitor student’s educational progress.

“To monitor students’ educational progress in a way that enables evaluation of the performance of education system; class based success levels, competences and standards will be identified. Multi-evaluation and inspection mechanisms will be developed at the national level.” (The Republic of Turkey Ministry of Development, 2018, April 6; p. 32, paragraph 151)

The second time the term was used as mentioned a concept that could be used in teacher education to design a competence-based education system;

“The attractiveness of the teaching profession will be enhanced. The interaction between schools and faculties which educate teachers will be empowered. The system of teacher training and development will be organized in a way that is based on teachers’ and students’ competences, promoting continuous personal and career development and performance.” (The Republic of Turkey Ministry of Development, 2018, April 6; p. 32, paragraph 152)

The third time it was used as a concept that could be a common language between education system and labor market to start an effective supply-demand based educational communications.

“The harmony between the education system and the labor market will be enhanced by equipping people with skills and competences required for working life from the point of a lifelong learning perspective, by internalizing entrepreneurship culture, and by strengthening school-industry relations in vocational and technical education through medium and long term sectoral projections.” (The Republic of Turkey Ministry of Development, 2018, April 6; p. 33, paragraph 158)

It was clearly emphasized that in 2014-2018 National “Lifelong Learning Strategy Paper and Work Plan” was prepared in line with the European Lifelong Learning framework and overall aim was to move one step forward in the completion of efficient lifelong learning system structure in Turkey. The paper was planned to align new actions with both national and international lifelong learning approaches with 6 priorities:

Priority 1: Increasing lifelong learning culture and awareness in the society; Priority 2: Increasing lifelong learning opportunities and service; Priority 3: Increasing access to lifelong learning; Priority 4: Developing a lifelong guidance and counselling system; Priority 5: Developing the system of evaluation of prior learning; Priority 6: Developing lifelong learning monitoring and evaluating system (Ministry of National Education Lifelong Learning Directorate General, 2018)

It is the first time it was mentioned about EU key competences Framework for Lifelong Learning was mentioned and MoNE had decided to adapt eight key competences of EU into non-formal education "for personal development, social participation and employability" concerns. Both the Tenth Development Plan and Lifelong Learning Strategy Paper mentioned competence development, and skill development as priority. It resulted in recommendations for a curriculum update at all levels of education system to integrate basic skills development into the curriculum and establishment of a guidance system especially for middle and high school students to benefit from the individual capabilities effectively. (The Republic of Turkey Ministry of Development, 2018)

2.3. Learning to Learn

European Union had decided to bring the education to the heart of the developments in economy and social life heading the target of the most competitive knowledge economy for more secure future scenarios since the Lisbon Strategies launched in 2000. At the same times, the concept of competence had already taken its place in educational arena in the OECD scenarios for the future of schooling in 2001 (OECD Schooling for tomorrow: Knowledge Bank, 2018). In the same year, the education sector was aimed to be redesigned according to five concrete future objectives including an update in the definition of basic skills and competences for constructing the European definition of knowledge society (European council, 2001).

In a European Commission paper (2001), it was prioritized work on new definitions of basic skills in such a way that they can empower all individuals starting from pre-school age.

"Competence" was chosen as a base concept and a common term connecting two different areas: economy and education eventhough their approaches were different. It was brought

to the heart of Europe's education and training systems with a pragmatic, demand oriented approach to accomplish two important goals: employability and active citizenship. Key competences were described to design the European framework which can develop new basic skills, values, attitudes, competences needed for the successful transition to knowledge based economy and society. (European Commission, 2001)

2.3.1. Competence

The term "competency" was first introduced by American psychologist and consultant David McClelland in 1973 "to indicate the human factors by which competence depends "Evangelista (2009), accepted the term "competencies" as the plural form of "competency". and warned the reader about the confusion of the authors in "competence-competences" with "competencies- competency". It can be the aim of another research to explore deeply the differences or similarities between the concepts of competence and competency in the lifelong learning and educational terminology. However, it is a must to mention that they are used interchangeably in some resources citied in this research. Weinert (2001), also used competence and competencies interchangeably in his work.

Definition and Selection of Competencies (DeSeCo) was an interdisciplinary OECD Project, leaded by the Swiss Federal Statistical Office (SFSO), supported by National Center for Education Statistics (NCES) from America. Its first point was to create a theoretical background for competence concept to bring it as a reference point of future indicators in the effective assessment and interpretation of educational outcomes nationally and internationally. The main aim was to narrow the range of the indicators by selecting key competencies satisfying two goals:

Successful Life and a Well-Functioning Society (DeSeCo, 2018, April 17). Participative nature of DeSeCo Project had created opportunity to share the European perspective about competence with the rest of the OECD world through the debates (DeSeCo, 2017, November 23: p15). For the pragmatic requirements, conceptualisation of competence was designed with a demand-oriented, functional approach focusing on fulfilment of individual needs for active participation in economic life and democratic society. It was researched that demands for competence arising from real life situations could not be accomplished by one theory. On the other hand, functional approach gave opportunity to design

competence as a concept satisfying complexity of the real-life demands. (Weinert,2001). According to DeSeCo, “A competence is defined as the ability to successfully meet complex demands in a particular context through the mobilization of psychosocial prerequisites (including both cognitive and non-cognitive aspects)” (Rychen & Salganik, 2003). According to the definition of action competence model, a competence has “internal mental structures” (Rychen & Salganik, 2003) in the form “intellectual abilities, dispositions, content specific knowledge, cognitive skills, domain specific strategies, attitudes, emotions, personal value orientations and ethics, motivational tendencies, routines and subroutines, volitional control systems and social behaviours.” (Weinert, 2001: p.51)

They are the components of a competence and are dynamically interrelated, mobilized and re-defined by each real-life demand that the individual encountered. All components are active in the dialectic and dynamic interaction between the individual and the environment and actively transfer what embedded in the individual to the effective solution of the real-life situation. The individual experiences or builds know-how, know-what, know-why by doing and learning together; constructs a self-concept in community as well as internally and gains an experience and knowledge which one can adapt to future situations. Via the exchanging feedbacks, the individual acquires a new perspective, increases knowledge and awareness about the self and the situation and develops competence keeping in mind that actions, behaviours, choices that were embodied in a specific context can be observed and measured as her/his competence unless they all unify harmoniously to reflect a competent individual. In this model, an individual can learn a new competence or can improve the one that s(he) needs. Learning is situated and it occurs during the activity through the natural interaction of the individual with social environment, context and culture surroundings. it occurs during the activity through the natural interaction of the individual with social environment, context and culture surrounding her/him. It is not artificially forced but flourishes by mutual transfer of knowledge, values, attitudes, ethics through dialogs, appeared in actions (Gonzci, 2003; Oates, 2003; Weinert, 2001; Rychen & Salganik, 2003)

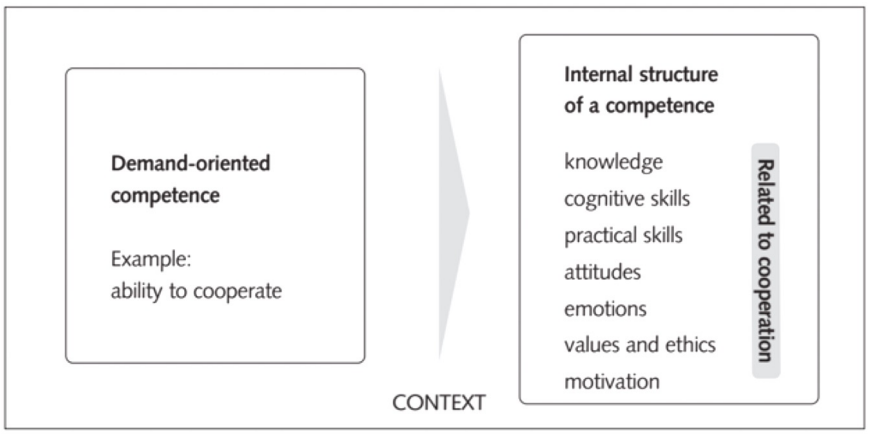

Figure 2.1: Internal structure of demand oriented competence, DeSeCo, 2018

Deakin Crick & Hoskins gave a new-description of achievement by pointing to the complex interaction between knowledge and skills, values, and attitudes in a real-world task to celebrate an accomplished task with an observable output.

"One's achievement is not based simply on the accumulation of second hand knowledge stored as data, but as a combination of this knowledge with skills, values, attitudes, desires and motivation and its application in a particular human setting at a particular point in a trajectory in time." (Hoskins & Deakin Crick, 2010)

2.3.2. Key competence: Learning to learn

What Levy and Murnane (2001) were sharing about the necessity of settling certain key competencies for economic success in the future they were two sources that were created that need: "globalization of trade and the international spread of technology" (p. 170). Actually these two forces have been popularly mentioned in many lifelong learning research articles.

Similarly, Rychen (2003) considered these two forces important motives in the construction of theoretical framework of key competences (p.72).

Weinert (2001) have shared that schools are context specific learning environments and they are the transition spaces from novice learner to a competent learner in terms of key competence acquisition.

There is a motivation to create context-independent key competencies which can be used in different social or vocational contextual situations in any demand.

According to the DeSeCo Project final publication (Rychen, 2003), key competences are the most critical competencies that contribute the development of other competences without compromising human rights, democratic values, social and individual diversity, welfare and sustainability of social and economic life. There are four conceptual elements of key competencies: they are multifunctional; they are transversal across social fields; they are multidimensional and refer to a higher order of mental complexity. Development of key competences are expected to develop three generic competencies: 1. Acting autonomously and reflectively; 2. Using tools interactively; 3. Joining and functioning in socially heterogeneous groups. The complex interaction of key competences with three generic competencies were supposed to bring individual and social success in a real life (Rychen, 2003).

According to European Council, Competences is defined "as a combination of knowledge, skills and attitudes."; "Key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment." (Official Journal of the European Union, 2006).

"The Joint Council/Commission Report on the Education and Training 2010 work programme adopted in 2004, reinforced the need to ensure that all citizens are equipped with the competences they need as part of Member States' lifelong learning strategies. To encourage and facilitate reform, the report suggests the development of common European references and principles and gives priority to the Key Competences Framework." (European Council, 2004).

Learning to learn is among the key competences which have to be acquired by every individual living in a so-called knowledge-society and working in the "knowledge-economy" in order to survive. Definition of learning has already changed according to lifelong learning framework all over the world, "personal fulfilment and development, active citizenship, social inclusion and employment" were all described in terms of key competences (Whipps, 2008). Actually, many European countries already implemented Learning to learn as a key competence in their curriculums starting from late 1990's (For

example Norway, Finland, Belgium (Flanders), Germany, Netherlands (early 1990s)) as it was written in the DeSeCo – A Country Summary Report paper (Trier, 2003).

EU's interpretation of learning to learn is:

"The ability to pursue and persist in learning, to organise one's own learning, including through effective management of time and information, both individually and in groups. " (European Commission: key competences for lifelong learning, 2006)

European Union believes that learning to learn is a competence that will develop an insight for the nature of own learning in the individual in a way that an individual becomes confident to create a solution for any problem that has been faced and foresee the personal needs for own future. Learning to learn means "gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance". (Official Journal of the European Union, 2006).

As defined, "learning to learn" competence describes a new kind of learner for the future generations of knowledge society. First of all, it argues that learning is a learnable process. To manage competently the learning process, it is needed to develop some certain "intellectual abilities, cognitive skills, knowledge, strategies, routines and subroutines, values, social behaviours" during a lifetime of an individual specific to each context. According to action competence theory, learning to learn competence, like all chosen key competences, "exclusively attributed to individuals from psychological perspective" and "socially centred" from the other approaches (Weinert, 2001, p. 51). It means that an individual should develop the competence effectively for both to learn autonomously or learn together in a team. Freedom, responsibility and Awareness are three key words for "learning to learn key competence". It is expected to be curious about the new learning opportunities and participate in them voluntarily; during the participation process, a person should be aware of personal abilities, preferences and responsibilities about what to know, what to do, how to do, when to do. Developing an understanding of the encountered changes in life, skills, abilities, qualifications, strategies, values, dispositions, as cumulative effect of naturally gained learning experiences and transfer them into new coming challenges are crucial to manage the conflicts and handle obstacles in life. A new

learner is expected to be a natural problem solver by using own reasoning abilities, creative strategies, and effective communication techniques.

According to Deakin Crick (2007) “Learning how to learn involves the person who is learning, and requires motivation, a sense of direction and desire, and a sense of agency and self-regulation. This implies a sense of time and direction: a person chooses a particular goal, or desired outcome which is achieved over time.”

2.4. Learning Power

It is “a form of awareness about oneself as a learner.” or “a form of consciousness characterised by particular dispositions, values and attitudes, expressed through the story of our lives and through the relationships and connections we make with other people and our world.” (Deakin Crick,2006)

ELLI model of learning to learn says that as human-beings, each of us has a learning power, which has seven dimensions. It has different degrees, context and learning stories for each person as a result of the differences in the values, thoughts, desires, feelings, abilities towards a context. Changing and Learning, Meaning Making, Critical Curiosity Creativity, Learning Relationships, Strategic Awareness, and Resilience are seven dimensions of the learning power and they should be developed starting from an early age. (Deakin Crick,2006; Stringher, 2014)

Double Helix Model was developed to explain what learning power is. According to the model, “personal development” and “the knowledge, skills and understanding that we are attending to” represents two strands of our learning to learn DNA. They are strongly holding each other and never crossing each other. Learning power is “the energy that runs through the middle of the double helix of learning. All dimensions of learning power hold the two strands together as well keeping them distinct from each other.” (Deakin Crick, 2006, p.3-4).

It is strongly emphasized that learning power dimensions and learning styles or learning preferences are different concepts (Deakin Crick, Broadfoot & Claxton, 2004; Deakin Crick, 2006; 2007). It is argued that learning power with dimensions scaffolds the novice learners during learning process (Deakin Crick, 2006).

"Learning power is about how learners perceive themselves as learners, rather than how they are seen by others, or how particular external criteria are applied to learners' behaviour. In this sense, learning power is deeply personal, (…) it is not private. What really matters in learning power is how the learner becomes aware of herself as a learner over time and how she can apply that awareness to life and learning." (Deakin Crick, 2006, p.7)

2.4.1. ELLI's power dimensions

All seven dimensions are meaningful when they are considered as parts of the same entity and each one represents one's perception of self in that dimension as a learner.

Every dimension has two poles showing two possible end results: an effective learner at one end and a less effective learner at the other end. It creates a sense of direction feeling during the personal learning journey on the reflection of the learner on a specified dimension. (Deakin Crick et. al., 2004)

Seven dimensions of learning power and their opposites	
Changing and learning	Being stuck and static
Meaning-making	Data accumulation
Critical curiosity	Passivity
Creativity	Being rule-bound
Learning relationships	Isolation and dependence
Strategic awareness	Being robotic
Resilience	Fragility and dependence

Figure 2.2: Dimensions of learning power, Deakin crick et. al., 2004

i. Changing and learning

In the original research this dimension was termed 'Growth Orientation'. There are two possible ends of the dimension. At the negative end of the learning spectrum a student has a sense of a weak self-efficacy, a limited learning power, and is afraid of challenging tasks. One should move gradually from dull and static negative end of the learning spectrum to the joyful, changing and learning end. (Deakin Crick, 2007; Deakin Crick et al., 2007; Deakin Crick & Yu, 2008)

ii. Critical curiosity

According to ELLI, critical curiosity dimension has two ends in a learning power spectrum. In the negative end of the spectrum, novice learners may perceive themselves as passive learners. They may not question what being told to them instead they prefer to listen and accept the information; they may not feel of power to engage in discussions. ELLI aims to move these learners from passive acceptance to active inquiry by purposeful guidance to equip the learner with higher level learning strategies (Deakin Crick, 2007).

iii. Meaning making

There are two possible ends in the spectrum for meaning making dimension of learning power. According to ELLI model, less effective learners fragment what they have learnt and place them in separate compartments in their brains. However, the students should transform their learning potential from memorising fragmented pieces to making meaningful connections between bits and pieces of every knowledge that were gained at different spaces and time during guided learning processes (Deakin Crick, 2007).

iv. Creativity

For ELLI Model of learning to learn, learners can be at two poles or between the two poles of the learning power spectrum in creativity dimension. Rule-boundedness sits at one pole and the risk-taking and playfulness sit in the other. Some students feel comfortable in problems that they have experienced and solved before and if possible they tend to stay in that safe zone. According to ELLI, students at that pole can gradually transform themselves to more effective learners with playfulness, lateral thinking, imagination and intuition (Deakin Crick, 2007)

v. Learning relationships

Learning relationships is defined as “The ability to learn with and from other people and to learn” alone (Deakin Crick, 2006, page 25)

It has two ends: dependence and isolation stays at the negative end, and interdependence and socialization at the positive end. Effective learners are the ones that use their lifelong or life-wide relationships or communications as a learning opportunity, regardless of time and space. ELLI is the instrument will guide the students journey as they aimed to move from isolated and dependent end to interdependence and social learner end. (Deakin Crick, 2007)

vi. Strategic awareness

Strategic Awarenes is described as “being aware and actively managing (..) own learning feelings, processes and strategies”

Some students might be not interested in collecting the strategies that they once followed and gained success, for future uses. ELLI, supports the students to develop them from a robotic end into strategic, “lifelong self-evaluator” (Deakin Crick, 2007)

vii. Resilience

Resilience is described as “The tenacity to persist in the face of confusion, not knowing and failure”

Two possible ends for Resilience for learners are dependent and fragile learners at one end and independent and resilient learners in the other end. ELLI aimed to scaffold until they change their learning identity from dependent and fragile one to independent, resilient and effective end. (Deakin Crick, 2007)

2.4.2. Effective Lifelong Learning Inventory(ELLI) for tracking learning dispositions

Effective Lifelong Learning Inventory (ELLI) is a well-known and widely accepted learning to learn model (Stringher, 2014) that was resulted from a long-term research project to develop self-construction of learning dispositions by series of dialogic decision-making interventions (Deakin Crick, Broadfoot & Claxton, 2004). All dialogues are carried around the results of the students's self-evaluations about the seven dimensions of ELLI learning power questionnaire to start a multidimensional Vygotskian interpretation with them.

Katz (1989), emphasized that learning dispositions must be targetted equally and simultaneously together with the knowledge and skills in both the curriculum and teaching practices.

According to Katz (1989): “Dispositions are broadly defined as relatively enduring “habits of mind” or “characteristic ways of responding to experience across types of situations, e.g. persistence at task, curiosity, generosity and meanness and the disposition to read or solve problems.” She added that “Unlike an item of knowledge or a skill, a disposition is not an end state to be mastered once and for all. It is a trend or consistent pattern of

behaviour and its possession is established only if its manifestation is observed repeatedly".

Claxton and Carr (2004), designed a research to track the development of learning dispositions and recommended that it is necessary to develop an instrument by integrating the different assessment methods to create a 'learning disposition grid' and a 'learning disposition portfolio'

In 2004, Claxton and Carr validated a three-dimensional dynamic approach to learning dispositions: increasing frequency and robustness of dispositions as dimension one, widening their domain as dimension two, and deepening their complexity and competence as dimension three. They claim that "(…) three dimensions along which a 'learning curriculum' can strengthen valued responses to learning opportunities" (Claxton & Carr, 2004)

Ruth Deakin Crick, Patricia Broadfoot & Guy Claxton (2004), developed and tested ELLI to "identify the elements of an individual's capacity for lifelong learning." They noted that

"We anticipated that the components of this capacity would include a complex mix of dispositions, lived experiences, social relations, values, attitudes and beliefs and that these various factors would coalesce to shape the nature of an individual's engagement with any particular learning opportunity."

CHAPTER III

METHODOLOGY

This chapter presents the information about research design, participants, and instrumentation

3.1. Research Design

This research is designed for adaptation of the Effective Lifelong Learning Inventory into Turkish and measurement of validity and reliability of the adapted questionnaire.

Before the research design process, a blind-search was carried to understand the nature of the national and international methodology for cross-culturaladaptation guidelines.

Graduate theses that were carried the cross-cultural adaptation research into Turkish were identified from the Council of Higher Education web page to understand the national preferred methodology of adaptation.

International reference books, guideliness, academic articles related to cross-cultural adaptation, that were either cited by the national adaptation theses or provided from online discovery services were identified.

As Guillemin, Beaton, Bombardier, & Ferraz (2007); Epstein, Santo, & Guillemin (2015) mentioned in the researches, cross-cultural adaptation guidelines recommend the following steps in an adaptation process: initial translation, synthesis/ reconciliation of the translations, back translation, expert committee review, pretesting.

Current research is planned parallel to recommended steps and structured under the four phases:

i. Phase 1: Adaptation of ELLI Questionnaire into Turkish

The initial translation, synthesis/ reconciliation of the translations, and back translation of Cross-cultural adaptation of ELLI from original language to Turkish is going to be carried in this phase.

ii. Phase 2: The equivalency of original and adapted questionnaires

Expert committee review, and pretesting steps for equivalency of original and target inventories are going to be carried under the second phase.

iii. Phase 3: Creating online ELLI platform in Turkish

Hence the ELLI is an online questionnaire, preparation of online ELLI platform in Turkish is going to be carried in the third phase.

iv. Phase 4: Measurement of validity and reliability

Data collection process with the final form of adapted inventory was carried in the Fourth phase

3.2. Participants

Because of the nature of the research design two different groups of participants were created. Detailed information about each group was presented in the following two subtitles:

3.2.1. Participants in the adaptation of ELLI questionnaire into Turkish: Language equivalency

For the language equivalency research, selected students have to be proficient in English and Turkish to respond to both original and adapted questionnaire items without any language bias (Guillemin, Beaton, Bombardier, & Ferraz,2007); they have to be volunteer to take part in the research.

Before the language equvalence study, information about the targetted group characteristics was given to the school administration. They created a group consisted of 55 students who are competent in English and Turkish. Their ages were between 15-18 and are attending 10th and 11th grades. 11th grade students were covering both Turkish National Curriculum in Turkish and International baccalaureate curriculum in English at the same time. Table 3.1 shows participants' information for ENKA High School.

Table 3.1
Number Of Participant Students In Each Age Group For ENKA High School In The Current Language Equivalency Study

Age	Number of students N	Percent %
15	16	29
16	21	38
17	15	27
18	3	6
Total	55	100

3.2.2. Participants in the validity and reliability study

ELLI is a kind of inventory that can create new perspectives towards learning in students. In order to collect an effective data reflecting the strength of adapted questionnaire, it was decided to carry the field work in public schools in the four randomly chosen municepalities in İstanbul. 42 municipalities in İstanbul were numbered, are written on a small piece of paper, folded and mixed together then randomly two folded papers were picked up. They were Sarıyer and Bayrampaşa, in order.

ELLI in Turkish has 72 items and is an online questionnaire. It was needed to work in the schools having internet and devices to access internet (computers, mobile phones etc.). It was the biggest challenge of the research. Because of the White boards that schools have in every class, they were not keen to create a computer lab or keep the existent ones because of the high cost of its technical maintenance. Few schools were using the computer labs actively all because of dedicated work of teachers and principles.

Every public school has a web page İstanbul Provincial National Education Directorate online platform. Each school is sharing the physical conditions they have including computer labs and internet. Schools that have a computer lab and internet were chosen from the İstanbul Provincial National Education Directorate online platform and a school list was created and started to call schools one by one to arrange an appointment to give detailed information about my research. School administrators were not keen to learn more about a research that do not keen to participate. The research was accepted by four schools whose principals and teachers are amazingly hospitable, humble, resilient and competent. They supported the research with their high level organisation abilities by activating the computer labs and old-fashioned computers. With the help of them I succedded to reach 552 students between the ages 10-18 (see Table 3.2 and Table 3.3). Younger ages could not included because of diverse computer skills. Sample size is reasonable according to Bentler and Chou (1987) minimum criteriteria which is 5 observations for each of 72-item in the ELLI Questionnaire.

Table 3.2
Schools And Number Of Students In The Current Validity And Reliability Study

School names	Number of students N
Ali Ülker Secondary School	119
İTO Vocational and Technical Anatolian High School	107
Mustafa Kemal Anatolian High School	153
Orgeneral Emin Alpkaya Secondary School	173
Total	552

Table 3.3
Number Of Students, Observed Age Interval, And The Age-Interval Percentages For Each Grade Tn The Current Validity And Reliability Study

Grade	Age Interval observed in each classroom	Number of students N	Percent %
5	10-12	48	8.7
6	11-13	103	18.7
7	12-14	77	13.9
8	13-14	64	11.6
9	14-16	51	9.2
10	15-17	145	26.3
11	16-17	45	8.2
12	17-18	19	3.4
		Total=552	Total=100

3.3. Instrumentation

It was aimed to present a brief historical bacground, important technical and psychometric properties of original Effective Lifelong Learning Inventory(ELLI) under the instrumentation title.

Effective Lifelong Learning Inventory was originally result of ELLI Project which was guided by Ruth Deakin Crick, Patricia Broadfoot and Guy Claxton from University of Bristol, UK and was funded by Lifelong Learning Foundation (LLF) in early 2000s. (Deakin Crick et al., 2004)

Lifelong learning is defined as “a coherent, inter-linked process of cumulative learning

through life."

General aim of the Inventory to track and develop seven learning dispositions of learning to learn from the holistic perspective through the dialogues by exchanging knowledge, experiences volunterly to create times and spaces, making learning smoothly move from personal to social and collaborative to self-directed ends in natural learning experiences. ELLI is respectful to all known personal, social, natural ingredients of learning process and sensitive enough to reflect changes visually or verbally when happens. It creates a space for an advanced learner to create positive relationships with a novice learner, starts the dialogues to share the perspectives, preferences, about learning from each side to increase the awareness for both. ELLI online platform is smart enough to store every change in the learning process of an individual and present them back when it is asked; tracks the progress when a student move from a passive and depended learner to an engaged and independent learner and vice versa.

ELLI Questionnaire consists of seven dimensions, seventy-two items and is constructed as a Likert scale consisting of four options asking for different levels of agreement or disagreement for each item. Each item is a statement related to one dimension and students are asked to read the statement first, then choose their answer according to "How much like me is this?"

It is not a traditional "assessment tool of learning" but a "diagnostic self-assessment tool for learning". It identifies "learning power" of a student with its seven dimensions and shares the results right after the completion of the 72 items- online-questionnaire on the private online space called the ELLI learner profile by a spider diagram having seven legs each represents the one dimension of learning power (see Figure 1.1., pp. 6). Each leg is calibrated without numbers and divided into four equal parts. What it shows is the percentage form of calculated results of the questionnaire. Its shape is unique for each student and it is the starting point of the dialogues. Its aim is not grading and ordering the students according to success; contrariwise its aim is to give feedback to the student about self-perceptions of their learning power that they voluntarily reported for a specific time. All conversations and interventions that are all shaped by students aim to increase the awareness about their own learning dispositions, to take their ownership of personal

development and take the responsibility of their learning through

Teachers will be aware of learner profile of their students how they perceive themselves as a lifelong learner in seven dimensions. All dimensions are recorded and evaluated separately.

First draft questionnaire had 97 items that was administered to the students whose ages ranges from 6 to18+ with different social, economic, ethnic histories. Multi-phased factor analytic study was designed and implemented by adding or removing the items to understand the nature of the items when they were acted together after checking for possible clusters, correlations between the items in the clusters and correlations within the clusters. Main aim was to search for possible dimension(s) of learning or learning power and its subscales. According to first collected data's factor analytic results, new arrangements had been made by adding or removing some items from the questionnaire. The refined questionnaire was administered to more than one thousand students between the ages 6-18 and from 12 different schools implementing different formal education programmes. (Deakin Crick et al., 2004)

It was reported that the new data were the constructed with seven dimensions of learning power.

An exploratory analysis with varimax rotation were applied in the next step, it was reported that Kaiser-Mayer-Olkin value and Bartlett's Sphericity were both at the acceptable measures. (see Table 3.4) (Deakin Crick et al., 2004)

Table 3.4.
KMO and Barlett's Test In The Original ELLI Study

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.900
Barlett's Test of Sphericity	Approx. Chi-Square	16755.207
	df	2016
	Sig.	.000
Deakin Crick et al., 2004		

(Deakin Crick et al., 2004)

It was reported that initially sixteen components were selected by principle

component analysis. These components were responsible for 51.1% of the variance. When the factor analysis was applied a second time to force the components into seven factors, as it was supported by the scree plot graph (see Figure 3.1), the accounted total variance for seven components was recorded as 35.3%.

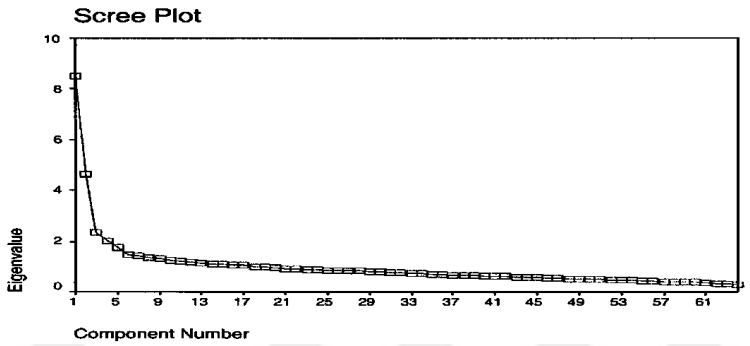

Figure 3.1: Scree plot in the ELLI study, Deakin Crick et al., 2004

Seven scale were constructed and the sample were considered in three groups: group KS-2(ages 7-11), group KS-345+, (ages 11-18+) group all KS-2345+. In order to report the internal consistency of the dimensions, the Cronbach alpha coefficients were reported for each dimension in each group (see Table 3.5). (Deakin Crick et al., 2004).

Table 3.5
Total Item Numbers, Alpha Coefficients Of Each Dimension In 2004 ELLI Study

Learning power dimensions	Items	Cronbach's Alpha
Strategic awareness	13	0.50
Meaning making	7	0.62
Critical curiosity	9	0.71
Creativity	10	0.68
Changing and learning	4	0.69
Learning relationships	12	0.68
Fragility and dependence	17	0.70

Deakin Crick and Yu (2008) and Deakin Crick et al. (2013)

3.4. Implementation

Epstein, Santo and Guillemin (2015) shared that there are many different recommended

pathways that researchers followed during the cross-cultural adaptation of a questionnaire, however there is not enough evidence proving which quidelines is working more effective than the others. Present research were divided into four phases for two reasons: Following the adaptation pathways recommended by International Test Comission and preparation of the online Turkish platform similar to the original questionnaire. The phases were also recommended by Hambleton and Petsula (1998), Akbaş &Korkmaz (2007) and Aksayan & Gözüm (2002). Following pharagraphs will present detailed information about each phase.

3.4.1. Phase 1: Adaptation of the ELLI questionnaire into Turkish

The initial translation, synthesis/ reconciliation of the translations, and back translation of ELLI Questionnaire from original language to Turkish is going to be carried in this phase.

ELLI was first discovered in the internet by the researcher while searching for a dynamic and interactive instrument for creating effective learning environments in formal and non-formal areas of education after one year of search. Dialogues have been started with an email. More detailed search about ELLI and universal constructs of learning power had been carried; permission for the intellectual property rights and for the adaptation of original ELLI into target language Turkish were agreed with both sides parallel with the pre-condition guidelines of International Test Comission (ICT) (International Test Comission, 2018).

i. The initial translation

Two Turkish Translation Agencies have found: both have academic translation services. One was describing itself a company provides sworn and notarized translation services; the other describes itsef as a company certified with EN 15038 European Standart. Each translation agency independently translate the official ELLI Questionnaire.

ii. Synthesis/ reconciliation of the translations

Each translation was re-evaluated item by item to avoid any loss in the meaning by two different experts that competent in both English and Turkish. It was requested to provide their solutions to overcome any such case.

Three of experts were from English Prep Program of School of Languages in Şehir University and Dokuz Eylül University; one expert was from Turkish Literature and Language Teaching in Yeditepe University.

iii. Back translation

Back translation technique was implemented in the adaptation process. Two translated Turkish version of ELLI with the alternative suggestions were sent to Bristol University. They both were translated seperately to English back by a third translation agency in Bristol.

iv. Review of two translations and their back-translations

ELLI Senior Consultant put his recommendations and questions when necessary to save the meaning and function of each item. Feedbacks were shared by the researcher. Questions and recommendations answered after all discussed together with an Assisstant Professor from Translation and Interpreting Studies Department in Yeditepe University. Final version of Turkish ELLI were created after last meeting with the ELLI Consultant.

3.4.2. Phase 2: The equivalency of original and adapted questionnaires

Expert committee review, and pretesting steps for equivalency of original and target inventories are going to be carried under the second phase.

Original ELLI has a language that is clear to range of students between the ages 7-18. The present research has targeted to study with students between the ages 10-18 which is corresponds the classes 5-8 in middle school level and 9-12 in high school level. A middle school Turkish teacher, two high school Turkish teachers were reviewed the draft Turkish questionnaire.

Because of the time and space constraints, all reviews were not in the form of a committee review, intead an individual review.

The draft version of ELLI Turkish was finalized after reaching a consensus in the content

with both ELLI-global senior consultant and project director Dr. Nigel Newton, and research advisor Prof. Dr. Münire Erden.

It was given to 55 participants from ENKA High School for Language Equavalency tests.

3.4.3. Phase 3: Creating online ELLI platform in Turkish

Hence the ELLI is an online questionnaire, preparation of online ELLI platform in Turkish is going to be carried in the third phase.

ELLI Online Platform documents were translated to Turkish. Two IT Instructors shared their knowledge and recommendations for the technical terminology included in the documents. Final translated rendition of the documents was rearranged accordingly. Corrected versions of translated online platform documents together with adapted final version of the ELLI Questionnaire were sent to Bristol University. Activated Turkish ELLI Platform were experimented by several people from different backgrounds by visiting the created web adress. Their feedbacks were collected with the screenshots and shared with ELLI Global in Bristol.

3.4.4. Phase 4: Data collection process for the measurement of language equivalence, validity and reliability

Data collection process by using the final form of adapted Turkish inventory was carried in the Fourth phase. A mix method was used and both quantative and qualitative data were collected during the field visits.

Before visiting each school, because of the ethical concerns, a coding system created to represent each student participating the research from different schools and municepalities. According to that code, ELLI student accounts were created. Student ID-Cards printed, with a personal code as a user name, a password, code of the school, web adress for computers, QR code of the link for mobile phones in order to access the Turkish ELLI web page easily. Age, and class places were left empty on the ID Card for fulfilment by the students.

Before the data collection period, each participant school was visited. Since the information about both the research and the ELLI were sent to the principal via the research request email, then

The brief history of aim and development of adapted version of Turkish ELLI Questionnaire were shared with the participants in the visited schools. It is also shared that the current research shows respect to the privacy and security of participant students. The questionnaire were also controlled by both the Ethical Commities in Yeditepe University

and MoNE. It is announced that participation in this current research is a volunteer act. If they do not feel comfartable, they can leave the classroom anytime they need.

An example of student ID-Card were written on the white board, steps that each student must follow were written next to ID-Card image on the board. It was controlled that every student could see the board clearly. It is announced that there is no time limitation for the questionnaire and they were free to share their questions if the sentence is not meaningful for them or they do not grasp what question wants from them. There is no right or wrong answer in the questionnaire. Every student should give their personal answers.

After researcher's informative talk, volunteer students logged in their online ELLI student profile according to the information written on their ID Cards and the following the steps written on the board. Any student who had a problem in the access to the profile, volunteer teachers provided support for them. There were at least one volunteer teacher in every session.

Directions were written at the very beginning of the online questionnaire. It is again announced that there is no time limitation in the questionnaire and they were free to share their questions if the sentence is not meaningful for them or they do not grasp what question wants from them. Students started the answer the questionnaire without any time limitation. Although the same 72 questions were loaded to the online questionnaire system, every student had the questionnaire in different question orders.

When students finalized the adapted Turkish ELLI questionnaire, they were allowed to open and read the personal Turkish ELLI reports: one is in a spider diagram form and one is in written form. Researher asks to the student that how much the report describes him/her in the seven dimensions. If the student volunteered to give feedback, then dialogue was continued and afterwards the student logged out. If the student did not volunteered for feedback, s(he) just read the reports alone and logged out. During the school visits, all students were keen to learn more about their reports. During the recess, all came and shared their feedbacks with the researcher.

CHAPTER IV

RESULTS

The linguistic equivalence in relation to the adaptation of the Effective Lifelong Learning Inventory (ELLI), the validity and reliability results are provided in this section of the research.

4.1. Language Equivalence

The Turkish and original English ELLI inventories were implemented respectively on 55 students to describe the form and strength of the relationships between inventories by analyzing the collected data. However, only 36 students's were fullfiled the task successfully. The Pearson's and Spearman's (rho) correlation coefficients between the learning power dimensions in the Turkish and the English forms were calculated. Pearson correlation will present the degree and direction of the linear relationships between the data and the Spearman correlation was measured the understand consistency of the relationship. Both results are presented in Table 4.1 given below.

Table 4.1

Language Equivalency Results For Adapted Turkish Version Of ELLI

Variable	Pearson Correlation	Spearman's(rho) Correlation
Changing and Learning	.892**	.894**
Critical Curiosity	.908**	.900**
Meaning Making	.833**	.835**
Creativity	.823**	.783**
Learning Relationships	.893**	.889**
Strategic Awareness	.926**	.926**
Resilience	.883**	.880**
ELLI Total Score	.948**	.939**

Note. ** $p < .001$

As can be seen in Table 4.1, a high correlation between the Turkish and English forms of ELLI in terms of its total score was detected ($r = 0.948$, $r_s = 0.939$, $p < 0.001$). A high correlation is also observed between the Turkish and original forms of the ELLI's sub-dimensions of changing and learning ($r = 0.892$, $r_s = 0.894$, $p < 0.001$), critical curiosity (*r*

= 0.908, r_s = 0.900, p < 0.001), meaning making (r = 0.833, r_s = 0.835, p < 0.001), creativity (r = 0.823, r_s = 0.783, p < 0.001), learning relationships (r = 0.893, r_s = 0.889, p < 0.001), strategic awareness(r = 0.926, r_s = 0.926, p < 0.001) and resilience (r = 0.883, r_s = 0.880, p < 0.001). As a result, it is understood that the adapted Turkish version of ELLI and its original form are linguistically aligned.

After the linguistic equivalence of ELLI was tested positively, the validity and reliability phases were begun.

4.2. Reliability

In order to explore the reliability of the adapted Turkish version of Effective Lifelong Learning Inventory with its seven scales, the Cronbach Alfa reliability coefficient was calculated and an item analysis was conducted. The Cronbach Alfa reliability coefficient was calculated both for each dimension and the entire scale. Reliability coefficients from the original data set (2004), and from the current adaptation study for the same scales are presented in Table 4.3. Some items that are belong to tested form of scale are presented in Appendix B. The overall reliability of the adapted Turkish version of ELLI (see Table 4.2.) is 0.90. When the Cronbach Alpha reliability coefficients of dimensions of original and Turkish versions of ELLI were compared, it is clearly seen that the dimensions in Turkish version of ELLI have higher coefficient values than that of the ones in the original version, except Critical curiosity. (see Table 4.3.) It can be said that the adapted Turkish version of ELLI scales have good internal consistency in this study and its reliability is demonstrated by the repetition of the study with a new population, which produced acceptable reliability coefficients." (Deakin Crick, 2008)

Table 4.3
Cronbach Alpha Reliability Coefficients For Original Version And Adapted Turkish Version Of ELLI Dimensions

Learning power dimensions	Cronbach alpha for ELLI 2004 study	Cronbach alpha for Adapted Turkish version
Strategic awareness	0.50	0.81
Meaning making	0.62	0.66
Critical curiosity	0.71	0.62
Creativity	0.68	0.74
Changing and learning	0.69	0.73
Learning relationships	0.68	0.69
Resilience (Fragility and dependence)	0.70	0.83

Deakin Crick and Yu (2008) and Deakin Crick et al. (2013)

Tablo 4.2. *Corrected Item-Total Correlation For The Adapted Turkish Version Of ELLI*

Dimension	Item	r_{jx}	M	SD	Dimension	Item	r_{jx}	M	SD
Changing and Learning (α = .73)	1	.55	3.21	.80	Strategic Awareness (α = .81)	1	.51	3.02	.86
	2	.64	3.33	.78		2	.37	2.60	.89
	3	.47	3.41	.80		3	.45	2.78	.97
	4	.42	3.24	.82		4	.38	2.30	1.07
Critical Curiosity (α = .62)	1	.35	2.69	.99		5	.38	2.45	.90
	2	.28	3.68	.61		6	.47	3.26	.77
	3	.38	3.14	.87		7	.45	3.00	.95
	4	.26	2.92	.99		8	.45	2.75	.98
	5	.12	2.51	1.09		9	.41	3.16	.81
	6	.34	3.20	.83		10	.48	3.23	.82
	7	.31	2.37	1.03		11	.50	3.29	.82
	8	.35	2.77	1.01		12	.46	3.14	.88
	9	.38	2.56	1.05		13	.42	2.79	.92
Meaning Making (α = .66)	1	.48	3.11	.83	Resilience (α = .83)	1	.49	2.20	.96
	2	.51	3.16	.85		2	.48	2.14	.97
	3	.06	2.80	1.02		3	.48	1.56	.90
	4	.46	3.35	.76		4	.38	2.74	1.00
	5	.39	3.64	.64		5	.00	3.04	.88
	6	.30	3.57	.70		6	.44	1.95	1.03
	7	.52	3.10	.88		7	.51	2.23	.98
Creativity (α = .74)	1	.43	2.80	.97		8	.42	2.50	.90
	2	.25	2.70	1.03		9	.42	2.71	1.02
	3	.48	3.12	.89		10	.52	2.01	.94
	4	.42	3.13	.85		11	.49	2.14	1.00
	5	.43	3.17	.85		12	.58	2.28	.93
	6	.28	3.10	.94		13	.29	2.66	1.00
	7	.50	3.16	.82		14	.40	2.25	.91
	8	.49	2.95	.93		15	41	2.23	.96
	9	.46	3.37	.76		16	.55	2.05	1.00
	10	.34	2.97	.97		17	.34	1.90	.99
Learning Relationships (α = .69)	1	.47	2.56	1.12	ELLI-Turkish Total Score's Cronbach α = .90				
	2	.22	2.82	.91					
	3	.37	3.06	.91					
	4	.28	3.07	.99					
	5	.13	2.65	.97					
	6	.35	3.07	.89					
	7	.33	2.99	.95					
	8	.42	2.71	1.09					
	9	.28	2.51	.94					
	10	.44	2.52	1.18					
	11	.29	2.68	.90					
	12	.31	2.79	.83					

The Cronbach Alfa reliability coefficient of adapted Turkish version of ELLI was calculated for grades 5, 6, 7, 8, 9, 10, 11,12. In Table 4.4, each grade was presented with the number of students successfully completed the inventory (For observed age interval , see Table 3.3.) In Table 4.5, Cronbach alpha coefficients by age group were presented for the original ELLI study. In this table, each group was presented with recorded age interval and number of students who were successfully completed the inventory.

Table 4.4
Cronbach Alpha Coefficients By Grades For The Adapted Turkish Version Of ELLI

Learning dispositions	Grade 5 N=48	Grade 6 N=103	Grade 7 N=77	Grade 8 N= 64	Grade 9 N=51	Grade 10 N=145	Grade 11 N=45	Grade 12 N=19
Changing and Learning	0.64	0.55	0.76	0.77	0.61	0.80	0.76	0.67
Critical Curiosity	0.67	0.48	0.55	0.65	0.69	0.63	0.67	0.67
Meaning Making	0.70	0.60	0.58	0.59	0.76	0.67	0.64	0.40
Creativity	0.71	0.69	0.65	0.79	0.74	0.77	0.79	0.48
Learning relationships	0.62	0.65	0.77	0.72	0.47	0.69	0.73	0.60
Strategic Awareness	0.81	0.73	0.83	0.80	0.74	0.81	0.82	0.83
Resilience (Fragility and dependence)	0.82	0.81	0.81	0.85	0.81	0.81	0.86	0.90

Participants of the both study has a wide age-range that is inbetween the ages 10-18. Table 4.5. presents the reliability coefficient values in four sub-groups for seven dimensions of learning dispositions for original ELLI. Table 4.4 presents the reliability coefficient values in eight sub-groups for seven dimensions of learning dispositions for adapted Turkish version of ELLI.

The alpha coefficients belonging to adapted Turkish version ELLI were changed inbetween 0.40-0.90. The coefficients of Resilience (Fragility and dependence) and Strategic Awareness are higher than that of ones in the original version of ELLI. However, it can not be said for the dimensions of Critical Curiosity, Meaning Making, Creativity and Learning relationships. These values also parallel to the researchers' field observations that students were lack of the experiences or needs related to develop these learning dispositions.

Table 4.5.
Cronbach Alpha Coefficients By Age Group For Original Version Of ELLI

Learning dispositions	KS2:7-11 yrs N=796	KS3:11-14 yrs N=671	KS4:14-16yrs N=137	KS5:16–19yrs N=1437
Changing and Learning	0.64	0.72	0.69	0.72
Critical Curiosity	0.66	0.75	0.71	0.78
Meaning Making	0.59	0.66	0.62	0.73
Creativity	0.65	0.69	0.68	0.81
Learning relationships	0.68	0.67	0.68	0.86
Strategic Awareness	0.43	0.57	0.50	0.74
Resilience-Fragility and dependence	0.71	0.70	0.70	0.81

4.3. Validity

Confirmatory factor analysis (CFA) was carried out to confirm the construct validity of data collected by Turkish Effective Lifelong Learning Inventory whose original

version of the scale was confirmed among individuals in the 10-18 age bracket. The original Effective Lifelong Inventory is a socio-psychological instrument not designed to be used as merely a measurement tool but as a dynamic profiling method for personal self-reflection.

Confirmatory factor analysis is a functional method used to determine the consistency level of the factors that are constructed in connection to an existing structure compared to real data (Kline, 2010; Tabachnick and Fidell, 2013). Therefore, since ELLI has a structure consisting of 7 dimensions and 72 items, its adapted version in Turkish has also been tested in 7 dimensions and 72 items.

While the results are interpreted in confirmatory factor analysis, different fit indices are taken into account to check the model and collected data compliance.

Absolute fit indices are a direct measure of the degree to which the specified model reproduces the observed data

In this study, the ratio of the Chi-Square Goodness of fit to the degree of freedom (χ^2/df), the values of Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA) are considered.

Chi-square Correlation Test is a method that is used to measure how far is the collected data from the expected ones. However, sample size has an effect on the Chi-Square Goodness of fit, then the ratio of the Chi-Square Goodness of fit to the degree of freedom (χ^2/df) will be the value that can determine whether theoretical model fits the collected data or not. Even the statistical result of the ratio is accepted as a direct measure indicating a harmony between the model and the data, it is not accepted as a stong evidence for validity alone (Meydan & Şeşen,2011).

Goodness-of-fit index (GFI) indicates the proportion of the variance in the sample variance- covariance matrix. Its value is affected by the size of the population. The bigger the population, the greater the GFI value. Its value changes between 0-1 and 0.90-0.95 is the accepted value interval for a good fit. (Meydan & Şeşen,2011).

Root mean squared error of approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) are both absolute fit indices that are evidences showing the good match of the data and the theory. They are direct measures of good fit of the model and the data. Both indices' values are expected to be between 0-1 and preferred to be closer to zero. If RMSEA value is equal or smaller than 0.05, it points "a perfect fit" (Meydan & Şeşen,2011).

Both Comparative Fit Index (CFI) and Tucker Lewis index (TLI) are incremental indices (Wipulanusat, Panuwatwanich, & Stewart, 2017). They can have values between 0-1. When their values are closer to 1, it implies a better match between the data and the theoretical model (Meydan & Şeşen,2011).

The values of χ^2/df = 3 (Briggs and Cheek, 1986; Watkins, 1989) and χ^2/df = 5 (Bollen, 1989) appear as acceptable critical points. A result above 0.90 for GFI, CFI and TLI means

that they are acceptable (Bentler, 1990; Brown, 2006; Hooper, Coughlan and Mullen, 2008). A result below 0.80 for SRMR and RMSEA indicates that the data has good correlation (Hu and Bentler, 1999; Joreskog and Sorbom 1993; Schreiber et al., 2006).

In confirmatory factor analysis, factor loadings of the items forming the dimensions as well as the fit indices are expected to be above 0.30 and significant. Standardized factor loadings for items in relation to the confirmatory factor analysis and the explained variances are presented in Table 4.6.

As can be seen in Table 4.6, factor loadings of most of the items of the Effective Lifelong Learning Inventory are above 0.30 and significant. However, it has been found that the factor loadings of item 3 in Meaning making and item 5 in Resilience scale are insignificant or weak.

Data first derived from ELLI Turkish sample, is processed by the confirmatory factor analysis (CFA), to understand whether data collected by ELLI Turkish matches the hypothesized seven-dimensioned diagnostic questionnaire of the original ELLI.

The suggestions of Bollen (1989); Hooper, Coughlan and Mullen (2008); Hu and Bentler (1999); and Joreskog and Sorbom (1993) have been taken into account for acceptable values to evaluate the results of CFA. The results have produced quite poor fit for the Turkish sample, the fit indices of the scale are: $\chi^2_{(552,\ N = 654)} = 1631.68$, $\chi^2/df = 2.16$ ($\chi^2/sd \leq 5.00$); GFI = 0.77 (GFI ≥ .90); CFI = 0.71 (CFI ≥ .90) ; TLI = 0.71 (TLI ≥ .90) ; SRMR = 0.070 (SRMR ≤ .08) ; RMSEA= 0.046 (RMSEA ≤ .08) 90% G.A. (0.044 – 0.048). (Table 4.7)

Tablo 4.7
Confirmatory Factor Analysis Results For The Adapted Turkish Version Of ELLI

Fit Index	Calculated Value	Acceptable Values
χ^2/df	2.16	$\chi^2/df \leq 5.00$
GFI	0.77	GFI ≥ 0.90
CFI	0.71	CFI ≥ 0.90
TLI	0.71	TLI ≥ 0.90
SRMR	0.070	SRMR ≤ 0.08
RMSEA	0.046	RMSEA ≤ 0.08

Note The suggestions of Bollen (1989); Hooper, Coughlan and Mullen (2008); Hu and Bentler (1999); and Joreskog and Sorbom (1993) have been taken into account for acceptable values.

Tablo 4.6

Factor Loadings And Variances Of The Adapted Turkish Version Of ELLI

Dimension	Item	λ	*p*	R^2	Dimension	Item	λ	*p*	R^2
Changing and Learning	1	.70	.001	.48	Strategic Awareness	1	.59	.001	.34
	2	.74	.001	.54		2	.41	.001	.16
	3	.56	.001	.30		3	.50	.001	.25
	4	.59	.001	.34		4	.40	.001	.16
Critical Curiosity	1	.46	.001	.21		5	.43	.001	.18
	2	.37	.001	.13		6	.54	.001	.29
	3	.49	.001	.24		7	.49	.001	.24
	4	.32	.001	.10		8	.48	.001	.22
	5	.12	.01	.01		9	.44	.001	.19
	6	.57	.001	.32		10	.54	.001	.29
	7	.29	.001	.08		11	.58	.001	.33
	8	.40	.001	.15		12	.56	.001	.31
	9	.51	.001	.26		13	.46	.001	.21
Meaning Making	1	.59	.001	.35	Resilience	1	.53	.001	.28
	2	.63	.001	.39		2	.56	.001	.31
	3	.08	.094	.00		3	.55	.001	.29
	4	.59	.001	.34		4	.40	.001	.16
	5	.53	.001	.28		5	.04	.398	.00
	6	.39	.001	.15		6	.50	.001	.25
	7	.64	.001	.40		7	.55	.001	.30
Creativity	1	.52	.001	.27		8	.44	.001	.19
	2	.32	.001	.10		9	.47	.001	.21
	3	.61	.001	.37		10	.59	.001	.34
	4	.42	.001	.17		11	.54	.001	.29
	5	.45	.001	.20		12	.66	.001	.43
	6	.32	.001	.10		13	.30	.001	.08
	7	.65	.001	.42		14	.44	.001	.18
	8	.62	.001	.38		15	.43	.001	.18
	9	.50	.001	.24		16	.63	.001	.39
	10	.39	.001	.15		17	.36	.001	.13
Learning Relationships	1	.45	.001	.19					
	2	.29	.001	.08					
	3	.51	.001	.26					
	4	.34	.001	.11					
	5	.23	.001	.05					
	6	.50	.001	.24					
	7	.48	.001	.22					
	8	.41	.001	.16					
	9	.36	.001	.12					
	10	.41	.001	.16					
	11	.39	.001	.15					
	12	.44	.001	.18					

Note. λ = Standardized factor loading; R^2 explained variance

CHAPTER V

DISCUSSION AND CONCLUSION

Prime intent of the carried research was adaptation of the original ELLI into Turkish for the use of assessment for learning among students between the ages of 10-18. For this purpose, the further translation of the original scale, which had been already translated by two different translator agencies, was completed, a field study was done; reliability and validity studies were completed and results are presented in tables.

5.1. Discussion About Language Equivalency of Adapted and Original version of ELLI Questionnaires

It is recommended to set especially the semantic equivalence, idiomatic equivalence, experiential equivalence and conceptual equivalence in cross-cultural adaptation researches (Guillemin, Beaton, & Bombardier;1993). In the current research, semantic, idiomatic and experiental equivalence were verified by working together with the bilingual professionals in Turkish and English Literature ranging from academics from the different universities to middle and high school teachers.

Two different versions of Turkish ELLI translations were back translated in Bristol, England to satisfy conceptual equivalence.

The equivalency of the learning dispositional dimensions in the original and the adapted versions of ELLI questionnaire were successfully tested with the Pearson's and Spearman's correlation coefficients and were resulted in values .823 ≤ Pearson's correlation coefficient ≤ .948; .835≤ Spearman's correlation coefficient ≤ .939 (except creativity dimension with a Spearman coefficient of .783.)

However, although there is high correlational result from the small bilingual sample, experiential differences were showed its consequences in the big sample and 13 items were observed as weak to carry the functions that they serve in the original questionnaire. It can be said that Turkish students may not possess the learning dispositions that these items address. Students also shared similar sentences or questions supporting this option during the school visits. There is not a research supporting this comment yet. However, it is necessary to carry one when it is possible.

These items and their dimensions are written below:

Critical curiosity: items 2,4 and 5

Learning relationships: items 2,4,5,9 and 11

Creativity: items 2 and 6

Meaning Making: item 3

Resilience: items 5 and 13

Critical curiosity(CC) scale items

Item2	When I am really interested in something I find it easy to learn

Item4	Getting to the bottom of things is more important to me than getting a good mark.

Item5	I prefer an interesting question to an easy answer

I mostly heard from students that schools are the center of the learning. However, topics covered in schools are not taking their interest mostly and they do not have any experience supporting the other way. It is not logical to solve challenging question, it is better to let the teacher solve it and memorize the answer for the exam if it is asked.

Learning relationships(LR) scale items

Item2	I prefer to work on a problem on my own.

For item 2, it was said that the word “problem” in the original ELLI represents in and out of school problems but not math kind of problems. However, our students might misinterpret it in the Turkish adapted form.

Item4	I feel that my family is an important source of learning for me.

Item5	I usually learn best on my own.

Item9	I can usually work well on my own and with others.

Item11	I learn equally well on my own and with others.

Content of items 4,5,9 and 11 is a new concept for most students; the learning experience is to learn in the classroom from the teacher; if they can not they try to memorise the answers as much as they can.

Creativity (C) scale items

Item2	Stories help me in my learning.

Item6	I get my best ideas when I just let my mind float free.

Meaning making (MM)

Item3	I like to have a good reason to learn something.

Some students shared that it is an "obligation" to learn in school, no "reason" is necessary.

Resilience (R) scale items

Item5	When I don't understand something, I tend to struggle with it for a while.

Item13	I know it's easy to learn if all my friends are learning the same as me.

Some students shared that if they do not grasp any topic, they put it in their short memories just before the exam and it mostly helps them to pass their exams, not with high grades but that is not a problem.

According to field observations and unrecorded dialogues with the students, some more possible reasons could be the following:

a. While students respond to the questions related to learning that may happen out of the school, they had a difficulty to remember their experiences and relate it to their life and share the personal reactions.
b. It seems it is the first time most of the students asked themselves these questions about their learning dispositions.
c. Some concepts were quite new for them (like "interested in something" (CC-item 2) or "learning for understanding deeper" beyond the grades (CC-item 4), in the school, "a good reason for learning" (MM-item3), stories for learning or "let your mind float free and get the best ideas" (C-items 2-and-6).
d. Sometimes their learning experiences (learning without an expert or teacher (LR-item5, R-item5) were not sufficient to internalize some cases presented in the questionnaire.

5.2. Discussion About Reliability of ELLI

Reliability is defined as obtaining the same results on successive administrations without a change in physical conditions. Reproducibility (test–retest reliability) and internal consistency are the two evidences for the reliability. The homogeneity of the subscales and internal consistency are two parallel concepts. In this study, the internal consistency was assessed by Cronbach alpha. Cronbach's alpha coefficient ranges from 0 to 1. The closer values to 1 show a higher internal consistency of the instrument (Koldas Doğan, Ay, Evcik & Baser, 2011)

When table 4.2 is examined primarily in terms of the Cronbach alpha coefficient, it is understood that there is a high reliability coefficient ($\alpha = 0.90$) for the entire scale. In addition, when the Cronbach alpha coefficients are addressed in terms of dimensions, changing and learning was computed as $\alpha = 0.73$; critical curiosity as $\alpha = 0.62$; meaning making as $\alpha = 0.66$; creativity as $\alpha = 0.74$; learning relationships as $\alpha = 0.69$; strategic awareness as $\alpha = 0.81$; and resilience as $\alpha = 0.83$. The results were similar to original ELLI research results carried in 2004 in which changing and learning was computed as $\alpha = 0.69$; critical curiosity as $\alpha = 0.71$; meaning making as $\alpha = 0.62$; creativity as $\alpha = 0.68$; learning relationships as $\alpha = 0.68$; strategic awareness as $\alpha = 0.50$; and resilience as $\alpha = 0.70$.

As a result of the item analysis carried out on the items of the Effective Lifelong Learning Inventory in order to determine the predictive and distinctive power for the total score, it is observed that the corrected item-test correlations of the scale range from 0.42-0.64 for changing and learning; 0.12-0.38 for critical curiosity; 0.06-0.52 for meaning making; 0.25-0.50 for creativity; 0.13-0.47 for learning relationships; 0.37-0.51 for strategic awareness; and 0.00-0.55 for resilience. Given that items which turned out to have a coefficient of 0.30 and higher in the analysis of the total item correlation were distinguished well by the individuals in terms of the dimension that is desired to be measured (Büyüköztürk, 2017). This inventory has a diagnostic mission for learning dispositions. Although 13-items in the Turkish version of ELLI were observed to have low coefficient values, the Cronbach alpha coefficients for each dimension were quite close to that of the ones in the original ELLI.

5.3. Discussion About Validity of the Study

Messick (as cited in Messick, 1994), describes the validity as "an overall evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of interpretations and actions based on test scores or other modes of assessment."

5.3.1. Discussion about content validity

According to Sireci (1998), "Content validity refers to the degree to which a test measures the content domain it purpots to measure" In order to evaluate "domain definition, domain representation and relevance of particular "assesment instrument involvement of proffessionals in that content area is vital.

Content validity was checked by Prof. Dr. Münire Erden. Final versions of two drafts of inventory were shared by Prof. Dr. Erden before sending for back translation to Bristol University. After back translation, Dr. Nigel Newton has constructed final form of ELLI to target Turkish language. He confirmed that final form of ELLI in Turkish is equal in content to that of original ELLI.

5.3.2. Discussion about construct-related evidence of validity: Factorial validity and item construction

Data derived from ELLI Turkish sample processed by the confirmatory factor analysis (CFA), in order understand to whether the data collected by ELLI Turkish can fit the hypothesized seven-dimensioned diagnostic questionnaire of the original ELLI.

The suggestions of Bollen (1989); Hooper, Coughlan and Mullen (2008); Hu and Bentler (1999); and Joreskog and Sorbom (1993) have been taken into account for acceptable values to evaluate the results of CFA. The results have produced poor fit for the Turkish sample, the fit indices of the scale are: $\chi^2_{(552,\ N = 654)} = 1631.68$, $\chi^2/df = 2.16$; GFI = 0.77; CFI = 0.71; TLI = 0.71; SRMR = 0.070; RMSEA= 0.046 90% G.A. (0.044 – 0.048).

However, ELLI is a socio-psychological instrument not designed to be used as merely a measurement tool but as a dynamic profiling method for personal self-reflection.

When the results were checked the absolute indices Chi-Square Goodness of fit to the degree of freedom (χ^2/df) is calculated 2.16 which is below 3 and shows an evidence that designed ELLI Questionnaire in Turkish fits the original ELLI Questionnaire (Shah &

Goldstein, 2006). Another evidence is the value of Root mean squared error of approximation (RMSEA) which is 0.046, while the Standardized Root Mean Square Residual (SRMR) is 0.070. When the RMSEA value is smaller than 0.05, it points to "a perfect fit". (Hooper et. al., 2008)

From the output, we can say that overall the dimensions are a reasonable fit within the data. The RMSEA is below 0.05. If we look at factor loadings of individual items, it can be seen that many fit at quite good levels (+0.6). There are some weaker fit items within the scales item 5 in Critical curiosity scale, item 3 in Meaning making scale, and item 5 in the resilience scale. If it was a process to produce a new questionnaire, then we would test what the scale reliability is without these items. But there are other reasons I want to keep the ELLI questionnaire as it is – for example, it has been tested globally and provides us the opportunity to explore learning dispositions comparatively from international data drawn from different countries. Consequently, we can say that there is sufficient goodness of fit between the Turkish version and original version to warrant continuing with use of the full questionnaire.

However, values of Goodness-of-fit index (GFI), Comparative Fit Index (CFI) and Tucker Lewis index (TLI) are all below the accepted value, that is 0.90-0.95, for a good fit and do not support the absolute validity yet (Meydan & Şeşen,2011). Possible reason for the results can be the sensitivity of GFI to the sample size. Even the sample size seems between the accepted numbers for Confirmatory factor analysis for construct validity, Gagné & Hancock (2006), emphasized that sample size should be decided according to the nature of the model. In this study, each factor should be tested with bigger sample size for each grade or respected age intervals. Although CFI does not have the same sensitivity, "dispositions are dynamic" and so may be quite difficult to study, particularly in short time frames or with limited data points." (Driscoll et. al., 2017)

As Kjesrud and Wislocki (2011), Conard-Salvo and Spartz (2012), Driscoll, Gorzelsky, Wells, Hayes, Jones, & Salchak (2017), reported in their so called "failed studies" that it is a cliché to accept only successful research as a good research; any research that "informs future studies" can be regarded as good research too. It is also accepted that "validity is not something that can be established by a single study and that tests cannot be labelled 'valid' or 'invalid' "(Fernández-Ballesteros, 2003: pp.1067).

5.4. Conclusion

1. The adapted Turkish version of ELLI and its original form are linguistically aligned. A high correlation was observed not only between the Turkish and English forms of ELLI in terms of its total score ($r = 0.948$, $r_s = 0.939$, $p < 0.001$) and also between the Turkish and original forms of the ELLI's dimensions of changing and learning ($r = 0.892$, $r_s = 0.894$, $p < 0.001$), critical curiosity ($r = 0.908$, $r_s = 0.900$, $p < 0.001$), meaning making ($r = 0.833$, $r_s = 0.835$, $p < 0.001$), creativity ($r = 0.823$, $r_s = 0.783$, $p < 0.001$), learning relationships ($r = 0.893$, $r_s = 0.889$, $p < 0.001$), strategic awareness($r = 0.926$, $r_s = 0.926$, $p < 0.001$) and resilience ($r = 0.883$, $r_s = 0.880$, $p < 0.001$) in the cross-cultural language equivalency study.
2. When the reliability is examined primarily in terms of the Cronbach alpha coefficient, it can be said that Turkish Effective Lifelong Learning Inventory has a high reliability coefficient ($\alpha = 0.90$) for the entire scale and acceptable reliability coefficients with its dimensions (changing and learning ($\alpha = 0.73$); critical curiosity ($\alpha = 0.62$); meaning making ($\alpha = 0.66$); creativity ($\alpha = 0.74$); learning relationships ($\alpha = 0.69$); strategic awareness ($\alpha = 0.81$); resilience ($\alpha = 0.83$), critical curiosity ($\alpha = 0.62$).
3. As a result of the item analysis carried out on the items of the Effective Lifelong Learning Inventory in order to determine the predictive and distinctive power for the total score, it is observed that item 2, item 4 and and item 5 in the Critical Curiosity scale; item 2, item 4, item 5, item 9 and item 11 in the Learning Relationships scale; item 2, and item 6 in the Creativity scale; item 3 in the Meaning Making scale; item 5 and item13 in the Resilience scale are weak items in the questionnaire.
4. ELLI is a socio-psychological instrument not designed to be used merely as a measurement tool but as a dynamic profiling method for personal self-reflection.

   Confirmatory Factor Analysis was performed on the collected data. This would be testing goodness of fit of the dimensions in relation to the data. From the output, we can say that overall the dimensions are a reasonable fit within the data. The RMSEA is below 0.05. If we look at individual items, it can be seen that many fit at quite good levels (+0.6). There are some weaker fit items within the scales Item 5 in the critical curiosity, item 3 in the Meaning Making and item 5 in the Resilience scale. If we were producing a new questionnaire, then we would test what the scale reliability is without

these items. But there are other reasons needed to keep the ELLI questionnaire as it is – for example, it has been tested globally and provides us the opportunity to explore learning dispositions comparatively with international data drawn from different countries. Consequently, we can say that there is sufficient goodness of fit between the Turkish version and original version to warrant continuing with use of the full questionnaire.

5.5. Recommendations for Further Studies

Morin (2008), emphasized "the need for a new way of thinking (pp xxxvii)" in our uncertain, chaotic transition times that we are living in nowadays. He is asking for "a radical awareness (pp. 2)" about "a new blindness about the deterioted use of reason (pp. 2)" and "blind and uncontrollable advances of knowledge (pp.2)"

1. Linguistic alignment did not guarantee the alignment of items under the same dimensions. Because of the dispositional nature of the questionnaire, it is recommended to keep all items; rewrite alternatives for the problematic ones by collaboratively working with ELLI Bristol then, carry the multi-phase factorial adaptation process with a larger sample for each grade, similar process that carried in the item construction of original ELLI Questionnaire with larger samples.
2. Language of original ELLI is the dispositional language of learning. It is a learning to learn model with its questionnaire for not only identifying, and tracking learning dispositions but also developing a learner identity and terminology of learning for uncertain times of future. It is advantageous to continue new researches related to the sensitivity of adapted Turkish version of ELLI to tracking Turkish student's learning dispositions. It can be the next phase in the validity research of the adapted ELLI.
3. Although both the Tenth Development Plan and Lifelong Learning Strategy Paper mentioned about the competence and skill development as priority, it only resulted in recommendations for a curriculum update at all levels of education system for middle and high school students. There is urgent need to research on the key competence learning to learn in Turkey, as the competence concept has not been fully defined and developed in Turkish educational terminology yet.

4. Movement of the educational paradigm from traditional teacher-centered system to learner-centered system "requires adoption of a new pedagogical …" models. (World Bank,2003). ELLI Model of learning to learn, is promising to be a powerful and effective connection between teachers, students and school administrators through qualitative data directly coming from the learners who will become the owners of their learning.

APPENDICES

Appendix A: Permission Papers

T.C.
MİLLÎ EĞİTİM BAKANLIĞI
Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü

Sayı : 81576613/605.01/2862596 03.03.2017
Konu: Araştırma İzni

Sayın Prof. Dr. Münire ERDEN
(Yeditepe Üniversitesi Eğitim Bilimleri Enstitüsü İnönü Mah. Kayışdağı Cad. 326A 26 Ağustos Yerleşimi 34755 Ataşehir - İstanbul)

İlgi: a) 22/02/2017 tarihli dilekçe
b) 07/03/2012 tarih ve B.08.0.YET.00.20.00.0/3616 sayılı genelge

İlgi (a) dilekçe ile Yeditepe Üniversitesi Eğitim Bilimleri Enstitüsü Eğitim Programları ve Öğretim Anabilim Dalında danışmanlığını yaptığınız yüksek lisans öğrencisi Sema KARAKUŞ BERG'in "Etkili Yaşamboyu Öğrenme Envanteri'nin (ELLI-Effective Lifelong Learing Inventory) Türkçeye Uyarlanması" konulu yüksek lisans tezi kapsamında hazırlamış olduğu veri toplama araçlarının İstanbul İli Bayrampaşa, Gaziosmanpaşa ve Sarıyer İlçelerinde, Muğla İli Marmaris İlçesinde ve Kocaeli İli İzmit İlçesindeki okulların 5,6,7,8,9,10. ve 11. sınıflarında öğretim gören öğrencilere uygulanmasına yönelik izin talebi Genel Müdürlüğümüz tarafından incelenmiştir

Denetimi İl, İlçe Millî Eğitim Müdürlükleri ve okul/kurum idaresinde olmak üzere onaylı bir örneği Bakanlığımızda muhafaza edilen, uygulama sırasında da mühürlü ve imzalı örnekten çoğaltılan veri toplama aracının eğitim öğretim faaliyetlerini aksatmadan gönüllülük esas olmak üzere ve öğrencilerin velilerinin yazılı muvafakatları alınmak şartıyla uygulanmasına ilgi (b) genelge doğrultusunda izin verilmiştir.

Gereği bilgilerinize sunulur.

Gürhan ÇİÇEK
Bakan a.
Genel Müdür V.

Ek: Veri toplama aracı (9 sayfa)

Güvenli Elektronik İmzalı
Aslı İle Aynıdır
06 Mart 2017
Seyda BERKITEN
Şef

Emniyet Mahallesi Mevlana Bulvarı 06500 Yenimahalle-ANKARA
Telefon No: (0 312) 296 94 00 Fax: (0 312) 213 61 36
E-Posta: yegitek@meb.gov.tr İnternet Adresi: http://yegitek.meb.gov.tr

Bilgi için: Şeyda KARABULUT
Öğretmen
Telefon No: (0 312) 296 95 82

Atilla DEMİRBAŞ
Koordinatör

Bu evrak güvenli elektronik imza ile imzalanmıştır. http://evraksorgu.meb.gov.tr adresinden 69a5-78d2-317d-8066-1036 kodu ile teyit edilebilir.

T.C.
İSTANBUL VALİLİĞİ
İl Millî Eğitim Müdürlüğü

Sayı : 59090411-20-E.2506284 27/02/2017
Konu: Anket ve Araştırma İzin Talebi

VALİLİK MAKAMINA

İlgi: a) 17.02.2017 tarihli dilekçe.
b) MEB. Yen. ve Eğ. Tek. Gn Md. 07.03.2012 tarih ve 3616 sayılı 2012/13 nolu gen.
c) Milli Eğitim Araştırma ve Anket Komisyonunun 24.02.2017 tarihli tutanağı.

Yeditepe Üniversitesi Eğitim Bilimleri Enstitüsü yüksek lisans öğrencisi Sema KARAKUŞ BERG'in **"Etkili Yaşam Boyu Öğrenme Envanterinin Türkçeye Uyarlanması"** konulu tezi kapsamında, ilimiz Bayrampaşa, Sarıyer ve Gaziosmanpaşa ilçelerinde bulunan ortaokul ve liselerde öğrenim gören öğrencilere; kişisel bilgi formu ve etkili yaşam boyu öğrenme envanterini uygulama istemi hakkındaki ilgi (a) dilekçe ve ekleri Müdürlüğümüzce incelenmiştir.

Araştırmacının; söz konusu talebi; bilimsel amaç dışında kullanılmaması, **uygulama sırasında bir örneği müdürlüğümüzde muhafaza edilen mühürlü ve imzalı veri toplama araçlarının uygulanılması, katılımcıların gönüllülük esasına göre seçilmesi, araştırma sonuç raporunun müdürlüğümüzden izin alınmadan kamuoyuyla paylaşılmaması koşuluyla, okul idarelerinin denetim, gözetim ve sorumluluğunda, eğitim-öğretimi aksatmayacak şekilde ilgi (b) Bakanlık emri esasları dâhilinde uygulanması, sonuçtan Müdürlüğümüze rapor halinde (CD formatında) bilgi verilmesi kaydıyla** Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görülmesi halinde olurlarınıza arz ederim.

Ömer Faruk YELKENCİ
Milli Eğitim Müdürü

OLUR
27/02/2017

Ahmet Hamdi USTA
Vali a.
Vali Yardımcısı

Ek:1- Genelge
2- Komisyon Tutanağı

İl Milli Eğitim Müdürlüğü Binbirdirek M. İmran Öktem Cad.
No:1 Eski Adliye Binası Sultanahmet Fatih/İstanbul
E-Posta: sgb34@meb.gov.tr

A. BALTA VHKİ
Tel: (0 212) 455 04 00-239
Faks: (0 212)455 06 52

EK-1- ELLI ÖĞRENCİ SORULARI SEMAKARAKUŞ BERG

Kod:.....

OKULUM: .....

YAŞIM:.....

ELLI Etkili Yaşamboyu Öğrenme Envanteri

Bu envanter, İngiltere'de Bristol Üniversitesi'ndeki araştırmacılar tarafından geliştirilmiştir. Amacı, 11-18 yaş aralığındaki bireylerin yaşam boyu öğrenme potansiyelini ölçmektir.

Anketi doldururken lütfen aşağıdaki hususlara dikkat ediniz:

1. Önce yazılı ifadeyi okuyunuz. Sonra bu ifadenin

"Hiç uymuyor",

"Biraz uyuyor",

"Oldukça uyuyor",

"Tamamen uyuyor"

Seceneklerinden sizin için en uygun olan birini seçerek, ifade ile cevabınızın kesiştiği kutuya (x) işareti koyunuz (bir örneği aşağıdaki şekilde gösterilmiştir.)

ELLI Etkili Yaşamboyu Öğrenme Envanteri

	Evet bana oldukça uyuyor	Bana oldukça uyuyor	Bana biraz uyuyor	Bana hiç uymuyor
1. Öğrenen biri olarak sürekli gelişiyorum	X			
2. Öğrenen biri olarak geliştiğimi hissediyorum		X		
3. [illegible]				

2. Sorulara cevap vermek için çok uzun süre düşünmeyin ve anket boyunca hep aynı hızda ilerlemeye çalışın.

3. Soruları yanıtlarken şu anki halinizi, size bir şeyler öğreten bütün durumları, boş zamanlarınızı, kendi başınıza, arkadaşlarınızla ya da ailenizle birlikte olduğunuz zamanları ve ilk anda hatırladığınız ilintili deneyimlerinizi düşünün .

Unutmayın, bu bir test değil; burada DOĞRU YANIT YOK!

Önemli olan yüksek puan almak değil, şu anda olduğu gibi, kendinizle ilgili mümkün olduğunca doğru ve gerçek bilgiler vermek.

Lütfen envanter sorularının tamamını, doğru bir şekilde yanıtladığınızı konrol ettikten sonra teslim ediniz.

Appendix B: Some Items From Original ELLI Questionnaire

Growth orientation
I expect to go on learning for a long time
I like to be able to improve the way I do things
I'm continually improving as a learner

Curiosity, challenge seeker energy
I don't like to accept an answer till I have worked it out for myself
I like to question the things I am learning
Getting to the bottom of things is more important to me than getting a good mark

Meaning-making
I like to learn about things that really matter to me.
I like it when I can make connections between new things I am learning and things I already know
I like learning new things when I can see how they make sense for me in my life

Imagination, creativity, playfulness
I get my best ideas when I just let my mind float free
If I wait quietly, good ideas sometimes just come to me.
I like to try out new learning in different ways.

Fragility and dependence
When I have trouble learning something, I tend to get upset.
When I have to struggle to learn something, I think it's probably because I'm not very bright.
When I'm stuck I don't usually know what to do about it.

Strategic awareness
If I get stuck with a learning task I can usually think of something to do to get round the problem
If I do get upset when I'm learning, I'm quite good at making myself feel better
I often change the way I do things as a result of what I have learned

Learning relationships
I like working on problems with other people.
I prefer to solve problems on my own.
There is at least one person in my community who is an important guide for me in my learning.

Appendix C: Thesis Originality Report

Appendix D: Decleration of Ethical Conduct

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