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A SCALING/ QUANTIFYING PROJECT FOR ASSESSING DIGITAL SKILLS IN PARTICIPATORY CULTURE: A TURKISH CASE

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Katılımcı Kültürde Dijital Yetkinlikleri Değerlendirmek İçin Ölçek ve Sayısallaştırma Projesi: Türkiye Vakası

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ABSTRACT

The dissertation is a scaling project undertaken for the purpose of assessing the digital skills in a participatory culture. The approach in this dissertation is to form a scale for measurement and apply the formed scale to a case study, whereby the focus of the analysis is on Turkey as a country. In this regard, the research study evaluates various concepts relating to digital skills, and digital literacy, with regard to how these constructs is affected and affect the participatory culture within the Turkish community for demystifying the inner nature of digital skills. The study population used in this analysis is for the youngsters in the Turkish community, specifically those aged between 18 years and 22 years of age. Around this period, most of the Turkish youngsters are usually still in college, and as such, most of the participants are university and college students or newly graduates. The results are important from two different perspective. One is access to digital literacy and the skills level difference between groups. There is a significant difference between the digital competence levels of Play, Simulation, Performance and Appropriation between the ages of 18-22. These differences are in favor of men. There is also significant difference between the levels of Digital Skills related to Simulation and Negotiation according to the type of high school graduates between the ages of 18-22. In terms of simulation, the subscale scores of the students who graduated from private schools were high. In terms of negotiation, the subscale scores of graduates of public schools were high.

ÖZET

Bu tez katılımcı kültür ortamında dijital yetkinliklerin değerlendirilmesi amacıyla yürütülen bir ölçeklendirme/sayısallaştırma projesidir. Bu analizde ölçeklendirme çalışmasının uygulaması için vaka incelemesi yaklaşımı kullanılmış olup analizin odağında Türkiye'de yakın zamanda mezun olmuş lise öğrencileri bulunmaktadır. Bu bağlamda, araştırma çalışması, medya okuryazarlığı ve özellikle dijital okuryazarlık ile ilgili çeşitli kavramları, bu yapıların Türk toplumunda katılımcı kültürü nasıl etkilediğine bağlı olarak değerlendirmektedir. Analizde kullanılan popülasyon, Türk toplumundaki gençler, özellikle de 18 ve 22 yaşları arasındaki yeni mezunlardır. Bu yaşlar arasındaki gençlerin çoğu üniversite öğrencisidir ya da liseden mezun olmuşlardır. Elde edilen sonuçlar, dijital yetkinliklerin, dünya geneli ile karşılaştırıldığında Türkiye gibi yüksek düzeyde medya okuryazarlığı becerileri olan bir katılımcı kültürde nüfusun önemli bir bölümünde dijital yetkinliğin yaygınlığını doğrulamaktadır. Geliştirilmiş olan ölçeğin vaka analizine uygulanmış halinin sonuçları iki farklı açıdan önemlidir. Bunlardan biri dijital okuryazarlığa erişim açısından gruplar karşılaştırıldığında beceriler arasındaki farktır. 18-22 yaş arasındaki dijital yetkinlik düzeyleri Oyun, Simülasyon, Performans ve Faydalanma arasında anlamlı bir fark vardır. Bu farklılık erkekler lehinedir. 18-22 yaş arası lise türüne göre Simülasyon ve Müzakere yetkinlikleri açısından dijital yeceri düzeyleri arasında da anlamlı bir fark bulunmaktadır. Simülasyon yetkinliği açısından, özel okullardan mezun olan öğrencilerin alt ölçek puanları daha yüksektir. Müzakere yetkinliği açısından ise devlet okullarının mezunlarının dijital yetkinlik düzeyleri daha yüksek görünmektedir.

CHAPTER 1
INTRODUCTION

The following paper is a scaling and a quantifying project purposing to assess the digital skills of participatory culture. In this case, the focus will be on Turkey, whereby the research study will aim to create a tool to determine the level of digital skills and with that tool I will measure the skill level of Turkish youngsters, aged between 18 years to 22 years of age. I intend to measure the level of skills in terms of gender perspective and a comparison between Private and Public Schools to have an idea on the participation gap. The age group mentioned is the most active age bracket of digital consumption globally, and as such, an analysis of their participatory culture in digital skills will be instrumental in painting a picture regarding the prevalence and uptake of digitalization within the country and the world at large (Adams, 2010). In this case, the scaling project will bring into focus the eleven digital skills suggested by Henry Jenkins, who is believed to be among the pioneers in digital media literacy.

None of us has the power to see future with full details. However, we are obliged to prepare youngsters for a shadowy future. When we try to draw the lines of how a prospect could be it takes time and even with that time, the future changes itself. Every change in paradigms changes the way and methods of foreseeing future. Whatever the obstacle is we need to continue to try if we dream of having a brighter vision. Yuval Noah Harari tells us the difference between man an animal lies on at the societal level rather than individual level. The most important reason of that human being rules the world is that the human can achieve things in large groups systematically and in a corporation.(Harari, 2018) A citizen in India can get fast food order on behalf of Mc Donald's in USA. Many people who had never seen each other and located in many different places around the world can make news broadcasting in Reuters or as in 1994 Brazil Rod Stewart Concert 3.5 million

audiences can gather at the same time for entertainment. All of these can happen if there are planning and corporation between different and many stakeholders. Human can define collectively the laws to obey to live together different than other creatures.

This collectivity and corporation needs common ground and rules to better societal relations and well being. So the education needs to be based on right and skills required for form up a better society and a world with a broader definition.

“One of the most distinctive features of the Education System is arbitrariness. For example, in History lesson, we focus on Egypt for three months and 15 days on Persia and nobody tells it is why? (as teachers are ignorant about this civilization but I am sure to learn the reasons of ignorance will add value to wondered eyes).” (Baker, 2018)

The fact that a French mother (Cathrine Baker) who did not send her daughter to schools to emphasize her war against reframes them mentioned sentence could be seen as an exaggeration and to think like that seems reasonable however dos not remove the suspicion of “Do we teach the right skills to children.”

In this thesis, I do not aim to answer this question. However, I do want to attract attention to the definition of needed rights skills for the participatory environment. Jenkins who could be seen one the eminent figure in participatory culture and spreadable media has already defined digital skills in a white paper “Confronting the Challenges of Participatory Culture: Media Education for the 21st Century” In this work, I will take the definition of Media Education to a level of Education Policy for 21st Century. I claim that we can define, tailor, measure and improve digital skills in the educational context.

Toward such a goal, I will examine old literacy and new literacy definitions and measurements at the school level. By doing that I intend to be aware of what are the skills aimed to improve. Later I will define digital skills and sub-components to elaborate the measurable parts. At the end of the work, I will identify scale questions and do the testing. Finally I will apply the scale to a case. The case will have two hypotheses to test.

- A) Private High Schools graduates have a higher level of digital skills comparing to Public High School Graduates. (Age Bracket 18-22)
- B) Boys have a higher level of digital skills compared to Girls. (Age Bracket 18 – 22)

1.1. DIGITAL SKILLS

Tech Partnership defined digital skills as the ability to search for, find, examine, use, transfer and create content through information technology platforms such as the Internet. In research performed by Tech Partnership in 2017 presents digital skills in 5 categories as Managing Information, Communicating, Transacting, Problem Solving, and Creating. In that work, those components are called as basic digital skills. (Tech Partnership, 2015)

In another work, Digital skills refer to any skills that make an individual digitally literate (Dynamic Measurement Group, 2010). By extension, digital literacy involves having the expertise and knowledge for effectively utilizing technology-based devices such as tablet computers, laptops, Smartphones, desktops and iPads among others to communicate and express oneself (Dynamic Measurement Group, 2010). As such, it is through the acquisition of these digital skills that one can make good use of the available digital platforms in the market for both business as well as social purposes.

The commercial perspective of digital skills entails the skills that enable an individual to buy or sell something through the internet. An excellent example of a digital retail platform is e-commerce, whereby buyers and sellers can interact freely over the internet and undertake constructive business transactions by exchanging their goods and services. Examples of globally renowned e-commerce platforms include Alibaba.com, Amazon.com, eBay, as well as online stores run by individual companies and institutions to reach out to their global customers (H.Good III, 2015). For instance, Wal-Mart Store, the largest retail outlet in the world by sales volume, operates an online store, aside from its brick and mortar stores located all over the world, to sell goods to its online customers. In this regard, digital skills are what enable the users of these e-commerce platforms to undertake their business activities seamlessly over the internet by creating and receiving content. Other forms of commercial usage of digital skills include e-mailing, teleconferencing, as well as virtual networking.

On the other hand, the social perspective of digital skills entails the skills that enable an individual to socialize by making new friends and meeting new people through online interactions. In this case, the individual uses his or her digital skills to create new social networks by meeting new people, making new friends, joining new groups, as well as interacting with people from different countries, cultures, as well as backgrounds (The Glossary of Education Reform, 2015). Examples of the best and most commonly used digital platforms for social purposes include Facebook.com, Twitter.com, Instagram.com as well as Youtube.com. Through these platforms, internet users exercise their diverse digital skills in improving making new friends, learning new cultures, as well as expanding their social networks.

Digital skills could also be evaluated as digital media literacy skills. According to Deborah Kozdras, Christine Joseph, and Karen Kozdras (Deborah Kozdras, Christine Joseph, 2015): “Digital media literacy combines the multimodal properties of media literacy with the technological capabilities of digital literacy. In

order to be digital media literate, one must be able to critically consume and creatively produce multimedia "texts" using digital technologies."

The white paper proposed by Jenkins claims that the needed skills for the participatory digital culture has changed in many ways and education systems should be adjusted accordingly. His definition of digital skills seems to cover both technical abilities and digital media literacy (Jenkins, 2006).

This paper calls the needed skills in participatory culture as digital skills throughout the thesis. So, in this work, the usage of digital skills will be used interchangeably between digital technology skills and digital media literacy skills. Accordingly one of the aims of this paper will be an evaluation of how schools are teaching youngsters the needed skills for the participatory culture and its future also evaluating participation gap of youngsters.

One of the examples of digital competencies is "Negotiation Skills." Negotiation skills are not directly related to technology, but it is one of the most critical competencies to be developed in children. Similarly, it can also be listed "Judgment" or "Networking." Or more recent skills can be listed as more technology-dependent examples of "Transmedia Navigation" or "Distributed Cognition." After this part of the thesis, the term "Digital Skills" should be understood as the competencies that an individual need in participatory and convergence cultures.

1.2. PARTICIPATORY CULTURE

A popular character Internet Mahir (Mahir Çağri) established a website name ikissyou.org (I kiss you) in 1999. Just 20 years later internet structure changed in many ways but of course in 1997 by saying of Janet Murray:

“Digital environments are procedural, participatory, spatial, and encyclopedic. The first two properties make up most of what we mean by the vaguely used word interactive; the remaining two properties help to make digital creations seem as explorable and extensive as the actual world, making up much of what we mean when we say that cyberspace is immersive.”

When Murray in 1997 was talking about the interactivity between man and machines (computers) but not the website. Today we are talking about a different set of digital environments (Murray, 1997).

The level of participatory culture in the world is high. A recent research study on internet usage confirmed that over one-half of all the teens across the US have at least created media content during their lifetime.

Similarly, the study also concluded that over one-third of the teens who use the internet have also shared the content that they produced through the internet. As such, it is worth noting that the activities of these teens could be considered as active involvement in participatory cultures (The Glossary of Education Reform, 2014). As such, a participatory culture refers to the culture in which people use their digital skills to interact through the internet for both businesses as well as social purposes. Thence, the participatory culture is characterized by the firm belief that the contribution of everyone, however little it may be, matters. Moreover, this culture is defined by regarding social connections with one another very highly. The reason for this assertion is because the people feel that at the least these internet users care about what other people think of the internet content that they create. It seems that producers are no different that audiences (evaluators) (Bruns, 2009). Participatory culture made mass information about the people and data providers (authors, editors, creators, etc) more vulnerable and created chances to control and manipulate the web field players (Langlois, 2013).

There are four main forms of participatory cultures, which include affiliations, expressions, as well as collaborative problem-solving and circulations. Affiliation is defined as the membership of an individual within an online community, either formally or informally. These online communities focus on a wide range of platforms used in media communication, including social media sites such as MySpace, Twitter, or Facebook, Instagram, Linkedin as well as other social interaction sites including gaming clans and message boards. According to Nelson (2012), expression is defined as the production of creative media, particularly in reference to digital skinning, fan fiction writing, or fan video making. Collaborative problem-solving is an integral aspect of the participatory culture. It involves working with others closely either in formal or informal teams with the ultimate objective of completing specific common tasks (Nelson, 2012). It is achieved, particularly in the digital world, through alternative reality gaming and spoiling. Finally, circulation in this context refers to the dissemination of digital content through technology-based channels like podcasting and blogging (Nelson, 2013).

The participatory culture is associated with numerous benefits to stakeholders. They include increased learning opportunities among peers, enhanced positive attitudes towards the concept of intellectual property, improved perception towards cultural diversity, and advancement in digital skills which are virtually a necessity for the contemporary workplace (Goffreda & DiPerna, 2010). In addition, the participatory culture also facilitates the development of a more empowered conception of belonging. It is a common assumption that the functionality of the participatory culture is to assume the role of a hidden curriculum that is instrumental in shaping the young minds or success. In fact, interaction with popular cultures is instrumental in promoting acquisition of skills and competencies among children.

Nonetheless, there are three major concerns arising, which subsequently suggest the need for interventions both policy wise as well as pedagogically. The concerns are ethics challenge, transparency problem, and participation gap (Good & Kaminski, 2011). The source of the participation gap is the unequal access to

various opportunities and experiences that promote the development of the right skills as well as the acquisition of the right knowledge that enables an individual to note only participate in the creation of new information for the modern society but to also sustain the production of informative content for the future generations (Good & Kaminski, 2011) The problem of transparency is inclined largely to enormous challenges to which young people are exposed, especially in regard to learning different ways through which the media shapes the world's perceptions. One of the main challenge of ethics revolve around the breakdown of professional training as well as socialization that have been used to familiarize youths with the dynamic nature of their public responsibilities either as media makers or community participants (Good & Kaminski, 2011).

The participatory culture is derived primarily from Jenkins' scholarly works whose primary focus is to develop a media theory as well as practice principles. These principles relate to the one's media users consider as not only creative for active participants, but also supportive of passive media consumers to transform from being receptive audiences (Bolter & Grusin, 1999). In this regard, a participatory culture is one that allows for the audience to participate as well as contribute in the creation and development of specific media content by criticizing, commenting, arguing, or disapproving specific media content created by reporters or any other broadcasting media. This is a culture that promotes the growth and inception of interactive media in the country whereby all members of the society participate in the provision and creation of existing media content.

In this regard, it is worth noting that the level of participatory culture has significantly improves in the modern times, a fact attributable to the interactive nature of new media platforms (Huang et al., 2006) This is especially considering the fact that new media platforms have an effective feedback mechanism that enables the audience or media content consumers to give their responses immediately regarding a particular piece of news or information aired within a specific media platform. It is imperative to note that participatory engagement plays

a crucial role in the creation as well as the presentation of media. This is largely attributable to the high level of interactivity of the new media platforms, as well as the networked communication capabilities that digital technologies, combined with the internet, have brought about to the modern world.

A perfect example of the positive developments brought about by the participatory culture as noted by Jenkins is the development of the creative social phenomena, which is primarily a creation of the participatory culture (Shin, Song, & Biswas, 2014). Key among these are the different types of social media platforms that allow users to participate in the creation and dissemination of media content by arguing, criticizing, commenting, as well as supporting a particular piece of media content. According to Jenkins, the participatory culture has a number of characteristics that should be taken into consideration during the creation and transmission of specific media content.

It is worth noting that among the most significant features that define the participatory culture is the fact that it also promotes the civic engagement of the communities, in addition to upholding the specific barriers that facilitate artistic expression with ease. As such, this means that there are no bureaucracies in the in making contributions or responding to media content, and neither is there an official manner through which people can respond to any form of media content. For instance, for one to create media content to be aired in the old media, he or she had to follow certain guidelines and procedures, as well as adhere to set principles and policies. There were also editors and analysts who reviewed a particular piece of media content before approving it for publication or for airing to the target audience (B.Graham, 2010).As such, in most cases the media content that was finally aired or published for consumption by the target audience would end up being completely different from the original media content created by an individual

In this regard, the participatory culture thrives in the elimination of bureaucracies affiliated to the creation and publication of media content. For instance, Facebook does not vet or control the media content that one posts on his or her timeline, or on a group discussion, as long as it is not obscene in nature (Gurevitch, Coleman, & Blumler, 2009). However, one of the biggest social media company Facebook inclined to put more barriers to this limitless status to some extent after Facebook announced that a company named Cambridge Analytica is suspended due to what's been done in 2016 elections and suspicions about the Trumps' Victory (Bump, 2018). In a debate between Mark Zuckerberg and Prof. Dr. Cass Sunstein, Zuckerberg stated that they increased the number and efficiency of precautions especially regarding elections and advertisements to define identity clearly (Sunstein & Zuckerberg, 2019) Social media platforms may have more policies as such around the political and civic pressures.

Even revealing the last barriers, there is a difference between old and new media platforms. The reason for this is that it is much easier for one to publish an expository content, such as the Wiki Leaks on new media platforms as opposed to doing the same on old media platforms. Furthermore, there is a high level of civic engagement in new media platforms because of the internet connectivity as opposed to the old media platforms as they did not have any form of direct interaction or connection with the audience.

Jenkins also defined the participatory culture as having a strong support for creating and sharing of one creation with others, largely attributable to the elimination of publication bureaucracies, as well as the increased prevalence of various social media platforms used in active interaction. Similarly, participatory culture also relates to apprenticeship because experienced media users are in a position to induct new media users into the digital platforms, imparting them with the much needed skills and knowledge to become novices. This is not forgetting the fact that participatory culture cultivates a creativity culture among the media users, such that more and more people develop the need to become media content creators (Gobe,

2010). This can be confirmed from the number of followers or friends that users of social media platforms have, what could easily be referred to as internet celebrities. For instance, as of 30 June 2019, PewDiePie who is the most followed person on earth has 96.929.176 followers on Youtube, and Enes Batur who is the most followed person in Turkey, has 10.582.466 followers on Youtube meaning that these followers consider PewDiePie's and Enes Batur's media content as important.

In this regard, it is appropriate to assert that members engaged in a participatory culture feel social connection in the sense that media creators are concerned of what the media consumers think of their media content. As such, no one is willing to create media content that will only attract criticism, as many strive to create informative and appropriate media content that will primarily attract positive vibes (Geradin, 2005) Therefore, this creates an avenue for the developers of media content to categorize media content into four main divisions including affiliations, like Instagram and Facebook, Expressions like digital sampling and video-making, collaborative problem solving such as alternative reality gaming and spoiling, and circulation such as podcasting and blogging.

1.3. CONVERGENCE

Convergence culture is another concept brought out and publicized by Henry Jenkins in his researches relating to how the public interact with different forms of media. In this case, convergence culture is defined as the bringing together of all media in such a way that it converges towards a particular central theme. In fact there are different forms of convergence covered in the modern day society, which include technological convergence, economic convergence, global convergence, cultural convergence, as well as social or organic convergence (Jenkins, 2004a). Of all the different types of convergence, media convergence takes a central role as it integrates and correlates all the other forms of convergence. Therefore the concept of media convergence is defined as a non-stop process arising from the intersections

of different platforms of media including the audience, content, technologies, as well as industries among many others.

In fact, it is presumed that media convergence large relates to the merging together of all media in such a manner that it would be possible to exercise control over the different forms of media through one central 'box'. In this regard, a general definition of media convergence is given as the bringing together of both old media as well as new media within a single creation (Jenkins, 2004b). As such, a perfect example given for this form of media convergence would be the combination of video games with music or the television, of the combination of movies with different sites of social media networks. Therefore, the operations of a particular media form ends up promoting the use and inception of another form of media, a fact that draws people much closer together, in addition to significantly promoting the participatory culture.

Similarly, technological convergence can be defined as the conversion of media, such as the different types of old media into new media forms, such as the digital technology. A perfect example of technological convergence relates to viewing a book online or reading a newspaper online since its primary mode of publication and presentation to the public is through the print media (Jenkins, 1992). As such, it involves taking any type of old media material, in this case a book or a newspaper, and converging it into new media or new technology. In this regard, it is worth noting that new media is not completely new as would otherwise be perceived. On the contrary, new media is simply the development of old media with the assistance of the convergence construct.

On the other hand, economic convergence relates to the linkage of a particular company to media. One exemplary example of the construct of economic convergence relates to the Time Warner Corporation, and how the telecommunications giant controls various media platforms, old media as well as

new media, inclusive of books, games, the internet, news as well as music and movies. According to Deuze, this economic convergence enabled the company to produce and release different genres of movies in two or more different platforms, such as the Tomb Raider movie, Tomb Raider Games, as well as th Tomb Raider Books. Other titles also produced in different media platforms include Harry Potter as well as the Pokémon series (Deuze, 2007). Some examples of Turkey could be Turkcell Corporation with Digiturk, E-Learning, Mobile Phone or Kral Şakir with books, films and even theatres.

Global convergence relates to the concept of globalization with relation to different forms of media that are in existence. Currently, there is serious wave that facilitates the sharing of media as well as its spread around the world (Wasson, 2009). In return, this creates a scenario whereby the different forms of media become globalized because of the interest they draw from different cultures.

Social or organic convergence is another form of convergence culture whereby an individual media stacks. Media stacking relates to the usage of many different forms of media at the same time (Jenkins & Green, 2009) A perfect example of media stacking relates to writing a presentation while listening to music from a play station or the radio, or searching on Facebook or surfing the internet while listening to music from an iPod.

According to Jenkins, cultural convergence relates to the empowerment of consumers with the authority to edit, annotate, as well as create media content (Jenkins, 2004b). However, this is particularly common with new media considering the technological advancements related to this particular form of media. As such, a perfect example of this is the role of consumers in the different forms of social networking sites as well as the wikis.

Conversely, it is appropriate to assert that media convergence plays an instrumental role in facilitating the expansion in the role that media plays in out day to day lives. In fact, media has now become a big part of our lives in such a way that the current generation cannot live without these forms of media, especially new media. For instance, the removal or crashing of social media might bring about demonstration and picketing from angry social media users that can no longer access their social media accounts (Jenkins, Purushotma, Weigel, Clinton, & Robison, 2007). Just proving that on 03 July 2019 there was a photo uploading problem on facebook and only twitter was working among the pupular social media sites. Followers on twitter created a trend topic about the Facebook operation (Mcmurry, 2019).

Figure 1.1: Facebook Announcement

Convergence cultures also increasing the hacktivist and slactivist activities on social media (Onat, 2017) This is a result of new communication and media

technologies. Targets, subjects, vehicles and tools are converging based on the new behavioral models.

The five different types of convergence cultures discussed above clearly outline the significant impact in which different forms of media affect people in different ways, in addition to the steps in development that each form of media has made over the years. As such, this also creates room for further development of these forms of media going into the future.

1.4. TRANSFORMATIONS IN PARTICIPATORY AND CONVERGENCE CULTURES

Participatory cultures and convergence cultures have registered significant transformations over the years, especially with relation to the transition from old media to new media. This is specifically with regard to the increase in the different platforms of media for use by both the media content creators as well as the media content consumers (Jenkins, 2004a). As such, it is imperative to note that the transformations in both participatory as well as convergence cultures are largely attributable to the developments in media platforms, specifically the development of old media into new media.

In this regard, it is worth noting that the level of participatory culture and convergence culture was very poor, especially during the old media era. The reason for this assertion is because old media platforms lacked elaborate channels to promote the growth of both cultures. For one, old media gives little room for media content consumers to participate in any way in the collection, correction, as well as publication of the content (Jenkins, 2004b). The reason for this assertion is because of the numerous bureaucracies associated with the preparation and publication of old media platforms. For instance, for a news item to appear under prime time news release of a broadcasting studio of one of the most watched television stations in

the country, such as the US, the news item has to go through several hands including reporters, camera persons, as well as editors before it is approved for presentation to the public consumers by the news cast presenter.

Conversely, it would be very difficult for the viewer at home, in this case being the consumer of the media content, to participate in any way in the creation, correction, or confirmation of the news item. Similarly, convergence cultures were also very poor during the old media era as it was practically impossible to converge any different forms of old media platforms. This was especially because of the use of analog platforms in the preparation and presentation of media across different platforms (Jenkins, 2012). As such, some of the common cases of media convergence considered in this case include a book appearing in a newspaper review, or in television review, or in a radio review. Therefore, the different types of convergence cultures discussed above were not present during the old media platform.

However, the transition of old media to new media, coupled with the development of digital skills and the inception of the internet greatly improved the growth and prevalence of both convergence as well as participatory cultures across different communities worldwide. The reason for this assertion is because the digital media platforms that characterized new media eliminated the bureaucracies experienced by media content creators and users in participating in the production and publication of media content (Jenkins, 2004a). This was achieved through the introduction of an interactive feature in the new media platform in such a way that the media content creators and the media content consumers can easily interact with one another as well as share and exchange views. Therefore, this has greatly improved the prevalence and growth of the participatory culture within the modern day society.

Similarly, convergence culture has significantly improved in the new media era, a fact attributable to the prevalence of digitalized media platforms. For instance, it is now easier for one to read a newspaper without necessary purchasing a print daily through the internet. Similarly, it is also very easy for one to watch prime time news at his or her own convenience by streaming the news live from the internet through his or her Smartphone, laptop computer or tablets without necessarily watching the news on the television or listening to the news on the radio (Thorburn & Jenkins, 2004). Therefore, it is evident that the development of new media has greatly improved the prevalence and growth of the convergence cultures.

CHAPTER 2
MEDIA LITERACY

2.1. INTRODUCTION TO NEW MEDIA

New media is completely different from old media. In fact, new media is the current media platform in use for communication purposes across the world. The best definition of new media is any form of media that is native to computers or computational devices, or that which relies on computers for distribution (Couldry, 2012). It is noteworthy that the invention of new media came about with the inception of the internet. Subsequently, new media platforms depend on the internet through internet supported devices such as Smartphones, tablets, laptop computers, desktop computers and iPhones among many others to transmit and disseminate information from one place to another or from one person to another. Common examples of new media include multimedia, mobile apps, computer games, and video games.

In this regard, new media is different from old media in the sense that new media relies on the internet for dissemination and on computerized devices for transmission, while on the other hand; old media relies on mass media such as print and broadcast platforms for dissemination and transmission of news and information (Taneja, Webster, Malthouse, & Ksiazek, 2012). In this regard, it is worth noting that new media has a much more significant impact to the target audience as opposed to the old media in the sense that it is possible to transmit new media easily, seamlessly, and at a low cost to many people at once without any geographical inhibitions. This is not the case with old media whereby geographical limitations and publishing as well as broadcasting costs reduce the rate of media coverage for old media platforms.

Furthermore, new media has a very high level of interaction compared to old media. The reason for this is that new media allows creators of the media and the users of the media, in this case the target audience, to communicate on a one on one basis (Yuan, 2011). This is a significant development from the old media platforms because these antique platforms only provided an avenue for the creators of media content to communicate with their target audience, but never allowed the audience to respond to the content in terms of criticism, comments, or any other form of feedback. Moreover, the existing feedback mechanisms in these forms of old media were very cumbersome and bureaucratic in the sense that they were both slow as well as ineffective.

The feedback mechanisms in new media platforms are very fast and automated, considering the reliance on computerized data systems and other platforms that promote the adoption and effective usage of new media (Mangold & Faulds, 2009). In this regard, the creator of media content can easily receive feedback regarding the media content he or she created almost immediately from the target audience, whereby the audience can criticize, praise, correct or contribute to the media content to make it more valuable and relevant to the target audience. For instance, when using email communication as a new media platform, the creator of media content can easily receive a response from the recipient of the email almost immediately. This is different from the old media whereby the sending and reception of letters through the postal service or the courier service usually took a few days to several weeks or months depending on the geographical distance between the recipient and the sender.

Furthermore, new media has increased the participatory culture between recipients and creators of media content through the globalization aspect brought about by the internet. This is particularly because the internet has made the world to be a small village whereby people from different parts of the globe can communicate, interact, as well as socialize with one another seamlessly through the internet (Ward & Wasserman, 2010). In addition, the internet has also provided instant feedback

mechanisms that enable people to contribute, support, comment, or criticize specific media content through various interactive and social media platforms including social media sites like Facebook and Twitter, emails, as well as Skype among many others. For instance, Facebook has a chat button whereby users can send private message to one another seamlessly and get immediate responses to their media content.

2.2. NEED FOR NEW MEDIA LITERACY

Conversely, judging from the significant transformations in the media platforms evidenced by the shift from old media to new media, it is imperative for individuals to impart themselves with new media literacy skills in order to facilitate the growth and prevalence of both convergence as well as participatory cultures (Julie Coiro, Knobel, Lankshear, & Leu, 2008). The reason for this assertion is because acquisition of new media literacy skills empowers an individual with basic literacy skills, in relation to the ability to read and write, and media literacy skills, in relation to the ability of an individual to access, analyze, evaluate as well as create media content.

In this regard, it is appropriate to assert that reading literacy has a close correlation with media literacy in the sense that both forms of literacy have several features in common. On one hand, reading literacy begins with the ability of an individual to recognize letters and phrases. After some time, the readers progress to understand the meaning of each word or phrase that they know. Subsequently, the readers eventually become writers, putting down their reading skills into writing skills (J Coiro, 2003). Consequently, the more reading experience an individual gains, the more he is in a position to read and write as well as develop strong reading literacy skills. On the other hand, the concept of media literacy relates to the ability of an individual to identify different types of media as well as the message contained in each type of media.

In most circumstances, individuals get access to a huge amount of information from a diverse range of sources. In this regard, new media platforms present these individuals with a better opportunity to access a wide array of media sources as opposed to old media platforms or traditional media, such as TV, radio, magazines, as well as newspapers. Examples of the new media platforms include text messages, viral videos, memes, social media, and advertising as well as video games among many others. Nonetheless, irrespective of the different features that characterize both old media and new media, one thing is for sure, that a person created the media content, and that there was a clear purpose that inspired the individual to create the media content (Lin, Li, Deng, & Lee, 2013). Conversely, media literacy entails understanding the reason for which the media content was created. Digital platforms in the modern-day world have been instrumental in promoting the ability of more and more individuals to create media content.

2.3. IMPORTANCE OF NEW MEDIA LITERACY

Therefore, new media literary is important because it primarily enables an individual to understand the purpose of creating a particular piece of media content. In this case, when an individual is armed with media literacy skills, he or she is in position to perform a number of tasks in new media as opposed to a case when the individual would be uninformed of the media skills (Ohler, 2008). As such, new media literacy skills are important because they enable an individual to develop critical thinking skills, transform into a smart consumer, recognize a particular point of view, exercise responsibility when creating media content, identify and understand the role of media in the society, as well as understand the goal of the author in creating a particular media content.

The modern society requires people to be critical thinkers in order to have the capacity to draw solutions to the everyday problems and challenges. As such, the absence of critical thinking skills will make an individual unable to develop or grow

in his or her own capacity as an individual, as well as in playing a special role in contributing to the searching for solutions for communal problems (J. VanHoorn, Nourot, Scales, & Alward, 2015). In this regard, it is appropriate to note that the acquisition of new media literacy skills is important in the sense that it enables an individual to critically analyze and evaluate all the media content he or she has access to, thereby being in a position to derive sense in the media content he or she reads, understand why certain information was included and what was not included in the media content, as well as outline the key ideas enshrined in a particular media content.

Therefore, this gives an individual an idea on how to create their own media content by using examples of evidence to support their individual opinions. In the same regard, it is imperative to note that these critical thinking skills also enable an individual to make up their own minds about the information they receive based on the knowledge that they already have, and as such, are not subject to manipulation or be victims of misleading information such as propaganda or rumors (Kubey, 2001). Similarly, critical thinking skills also empower an individual with the ability to create media skills, as it normally enshrines the concept of creative thinking. This ability to be creative thinkers is what enables the individual to create media content that will have some significant impact on the society, as well as influence the target audience positively.

New media literacy skills are also important in the sense that they enable an individual to become a smart consumer of products and services, as well as the information that they come across. The reason for this assertion is because media literacy empowers an individual with the skills to determine whether or not something is credible. Similarly, new media literacy skills also empower an individual with the capacity to determine the persuasive intent in advertising, in addition to resist other techniques used by marketers to sell products (Koltay, 2011). As such, they are in a position to make informed purchase decisions based on the knowledge they have about a particular product, as well as evaluation skills that

help them determine the quality of a particular product or service, thereby become smart consumers.

New media literacy skills equally enable an individual to recognize the point of view of a particular media content or trending topic in public domain. The reason for this assertion is because every creator of media content has a particular perspective. In this regard, the identification of a particular point of view of an author enables him or her to appreciate the different perspectives in media content (Kellner & Share, 1995). Similarly, this also enables the media consumers to place information in the context of what they already know, or somewhat, what they think they know in relation to the information presented within a particular media content.

Responsible creation of media content is the other importance accrued from the acquisition of new media literacy skills. This is especially with concerns that the recognition of one's ability to recognize his or her own point of view enables the media content creator to be responsible in creating a particular piece of media content. The reason for this assertion is because by knowing what they create and understanding the impact that the media content they created will have on the targeted media consumers, they will recognize the need to be responsible media creators (Kellner & Share, 2005). This is especially considering the fact that information has power to divide and unite, and as such, a loose tongue can easily lead to more harm than good for media content creator. For instance, it is not responsible for one to create media propaganda or rumors that will incite and divide the communities.

Media literacy skills also enable the individual media consumer to identify the role that media plays in our modern-day culture. Generally, the purpose of all forms of media is to inform, educate and entertain the media content consumers. Nonetheless, the extent of education, entertainment or information that media content consumers derive from such forms of media content is largely dependent

on the role in which the creator perceived it would play. As such, one is able to read between the lines and discern the appropriate media content to apply under each specific circumstance, considering the fact that each piece of media content informs us something, in addition to shaping our understanding of the world, not to mention compelling us to act or thing in certain ways (Alvermann & Hagood, 2000). For instance, fashion magazine publications inform their audiences about the latest trending fashions, as well as educate users on how best to remain fashionable. Similarly, car magazines inform buyers of the new car brand and models in the market, in addition to educating prospective car buyers on what to look for when purchasing a car.

Finally, it is also important to gain media literacy skills as they empower an individual with the capacity to understand the goals of the author. In this case, the focus is on what the author wants his or her audience to take home from a particular piece of media. Some of the points to consider in this case is whether the media content is purely informative, or its trying to change the mind of the audience, or whether it is trying to introduce the audience to new ideas that they have never heard of, or are unaware of (Kellner, 2002). Therefore, when the audience understands the specific types of influence that a particular media content has will enable individuals make informed choices, and preferably the right decisions.

2.4. Skills We Are Teaching And Old Media

Old media refers to the traditional forms of media that existed before the inception of the internet or the invention of the digital platforms of communication. Examples of old media include newspapers, yellow pages, televisions, books, magazines, radios, as well as cinemas among many others. As such, in order to participate in this form of media, it was necessary for the users to have adequate skills to enable them make contributions as well as learn from these forms of media. The most important skill required in this case was that of literacy, whereby the users had to

know how to read and write (Snow, 2002). This would enable them to be actively engaged in the cultures of these old media, such as reading newspaper articles, watching TV commercials, listening to Radio advertisements, as well as preparing ads for posting in yellow pages.

Literacy skills refer to the skills that are required for one to be able to read and write platform as it enables users to read and write, thereby be in a position to contribute to trending topics and news on old media platforms (Pearson, 2017). Similarly, literacy skills equally facilitate the gaining of knowledge among students by reading, writing and comprehension. In fact, it is these literacy skills used in adoption and promotion of the old media that facilitate the inception of digital skills necessary in the adoption of new media.

Consequently, from an early age, children is imparted with different forms of literacy skills to enable them to become successful readers as well as writers as they grow into their teens and young adults' stage. Examples of the six early literacy skills required for success include vocabulary, print motivation, print awareness, narrative skills, letter knowledge, as well as phonological awareness (Trochim, 2006). As such, by gaining these literacy skills at an early age, these children also gain media literacy, which is now the ability of a child to access, analyze, evaluate as well as create media. This is where the target population of the research study, youngsters aged 18 years to 22 years come in, as they have a higher level of understanding with regard to the participatory culture of old media. Consequently, these media literate youngsters are in a position to understand the complex messages transmitted through various mass media platforms that characterize old media, such as television, radio, newspapers, magazines, books, billboards, as well as yellow pages.

In this regard, it is worth noting that information literacy is very important in facilitating the development of the participatory culture in old media. In essence,

digital literacy empowers people with a wide range of vital skills, which range from critical thinking and problem-solving abilities (Trochim, 2006). In fact, this is best approached through the inquiry based learning (IBL) model whereby students have an opportunity to ask the right questions and seek answers to these questions by finding information, forming opinions, evaluating sources as well as making the right decisions.

Media refers to a platform of communication that facilitates the transmission of information to the audience in order to inform, educate, or influence them in one way or the other. Subsequently, old media refers to the media platforms previously used in the transmission and dissemination of this information to the target audience through mass media channels such as TV, Radio, newspapers, magazines, journals, as well as yellow pages. Conversely, media literacy entails the ability of an individual to access, analyze, as well as evaluate and create media content. Therefore, just as it was outlined by Pearson, digital media literacy empowers people with the ability to search and access, evaluate, create content and transfer content through different technology-supported platforms that comprise of both the print and broadcast media (Pearson, 2017). Therefore, it is worth noting that this creates an understanding of the crucial role that media plays within a given society, not to mention taking into bringing out the essential skills required in cultivating and nurturing a participatory culture, which include inquiry and self-expression.

In order for one to consider himself or herself as being fully literate, he or she must have skills that surpass the basic skills of being able to read and write. As such, literacy skills can be considered as the additional skills required for an individual to be proficient in both reading and writing. These literacy skills include things such as awareness of the sounds of language, the relationship between letters and sounds, spelling, and comprehension as well as vocabulary. The following is an analysis through simple definitions of the skills contained within the larger concept of literacy skills.

In school education structure, media literacy or literacy as general can be listed as below.

- Awareness of sounds or phonemic awareness
- Awareness of print
- Vocabulary
- Spelling
- Reading comprehension

Awareness of sounds or phonemic awareness : This particular literacy skill refers to the ability of an individual to hear as well as play with individual sounds of language. Therefore, an individual with such capabilities is in a position to use these sounds in creating new words by using the sounds in different ways. Phonemic awareness is a process that occurs during the natural course of childhood development as the children learn new words and phrases from the world around them. In fact, most of these words and phrases are acquired intuitively by children who listen to others around them speaking, such as their parents, siblings, neighbors, relatives, or friends. Consequently, it is imperative to note that there are various sounds that make up a word aside from the vowels and the consonants that appear to be domineering. These include the digraphs, the onsets, and the rimes, each helping an individual child in to develop literacy skills in his or her own way.

Awareness of print: This particular literacy skill refers to the awareness of an individual of the print and reading material within his or her surroundings. Conversely, it is advisable for parents and guardians to start encouraging print awareness among individual children by exposing them to different kinds of reading materials including books, papers as well as journals. Naturally, most of the print awareness among children begins in their home environment during their everyday activities in their respective households. Reading is essential to children as it enables them to become aware of their environment, in addition to introducing them

to letters of the alphabet. Furthermore, children can also develop print awareness through other forms of print away from home, such as environmental print characterized by words found on road sings, buildings, and packing boxes, as well as moving vehicles among many others. The earlier the children develop some form of print awareness before entering their first grade at school, the better their chances in improving their literacy skills in reading and writing.

Vocabulary: Vocabulary refers to the collection of all the words that an individual knows and he or she can easily use them in a constructive conversation. Typically, most children that learn how to read do so through to kinds of vocabularies. According to Adams (2010), these are the active vocabulary and the passive vocabulary. An active vocabulary refers to the words or phrases that an individual uses regularly in his or her speech or writing. Therefore, the words belonging to this category of active vocabulary are those which an individual is capable of defining as well as using them in their appropriate contexts. On the other hand, a passive vocabulary refers to the words that an individual is aware off but is not fully aware of their meaning as well as appropriate contexts for application in speech and writing. In fact, the perceived meaning of these words and phrases to the individual was through picking up and interpreting their meanings through the contexts as well as usage by others around him or her (Adams, 2010). Therefore, these words are rarely used by an individual for communication purposes, be it in writing or in speech.

Spelling: In order for an individual to use words properly, he or she must know their meanings. The best way to know the meanings of words and phrases is by learning the correct spelling of the words, as different words have some form of correlation in sounds and pronunciation, such as synonyms. Therefore, in order to differentiate one synonym from the other, it is best to know the correct spelling of the word. The simplest definition spelling is the arrangement of letters in order to form a word or a phrase. Consequently, understanding the spelling of words is imperative in enabling children understand the concepts behind irregular spellings, thereby

enabling them to learn much earlier how to read and write. The reason for this assertion is because spelling enables children to encounter new words and phrases to facilitate their learning process.

Reading comprehension: Reading comprehension refers to the ability of an individual to read and understand the meaning of what he or she is reading about. For instance, a child with reading comprehension is in a position to read a passage and deduce the meaning or what is being discussed in the passage. Nonetheless, it is worth noting that reading comprehension stems beyond the mere ability to read words, but also includes the ability of an individual to draw inferences, as well as identify patterns and clues present in a particular text. For example, a child reading about a person who decides to wear a heavy jacket in the evening can infer that the person is expecting a very cold weather through the night, and therefore, the individual needs the heavy jacket to keep warm.

2.4.1. BOTTOM LINE OF LITERACY

The speed at which a child develops these literacy skills is largely depended on a number of external factors including the support the child gets from his or her parents, speech impediments, learning disabilities, hearing complications as well as vision impairments. Therefore, it is advisable for parents and guardians to always watch out for these signs from an early stage, especially signs showcasing that the child is experiencing difficulties in grasping some of the basic concepts in literacy skills discussed above, including spelling, phonemics and awareness of print. This will enable the parents of guardians to provide the children with such difficulties the right support necessary in overcoming their literacy challenges, including seeking professional assistance from teachers and other professionals.

CHAPTER 3
MEASURING LITERACY SKILLS

3.1. LITERACY SKILLS AND SCALES IN THE WORLD

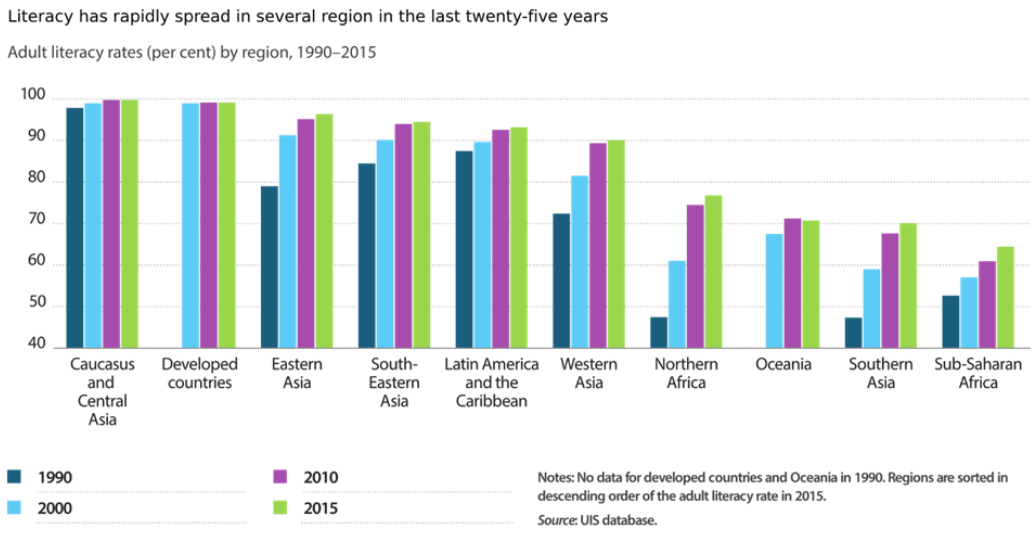
In order to understand and evaluate the participatory culture of old media by the youth, it is imperative to determine their level of literacy skills. As such, the above analysis of the different sets of skills that an individual requires to be considered as fully literate expose us to the nature of literacy analysis that must be undertaken. In this regard, the focus of the analysis will concentrate on the global level of literacy, paying particular attention to the literacy skills level at the world level, the processes and procedures followed in these evaluations, or the measurement tests taken, in addition to discerning the results of literacy skills measurement for the developed countries, the developing countries, and the under developed countries.

On a global perspective, it is worth noting that the literacy skills level is wanting considering the high numbers of people that could be considered as illiterate, given the measurement scales of literacy. With the inception of formal education across most countries in the world, it was a common assumption that most children would learn to read and write from an early age during their childhood. However, this has not been the case in most countries, with even the developed countries like the US facing serious challenges in their education sector following the low enrollment of children in elementary schools. In fact, even the country's different forms of policy approaches aimed at improving the level of literacy are not very fruitful, such as the No Child Left Behind education policy enacted by the Bush administration to ensure that every American child gets access to quality education.

In this regard, a general scan of the global literacy levels would expose a significant gap in literacy, especially among the adults and young adults. The reason for this

assertion is the high numbers of school dropouts, as well as those who never enroll themselves in any school. On average, less than 15% of the global population is literate, in the sense that they can read and write proficiently. On the contrary, a large percentage of the worlds' population cannot read and write properly. This is considering the fact that most of these people never got an opportunity to join formal educational centers, and the few that got this opportunity, never managed to make any good use of it due to financial challenges, forcing them to drop out of schools. However, the scales tip more towards the developing countries which have a higher level of illiteracy compared to the developed as well as the developing countries.

Figure 3.1: Global Literacy Levels



(UIS Database)

3.1.1. Measuring Literacy Skills Across The Globe

Literacy assessment entails evaluating the ability of individuals to read and write, in addition to other multidimensional capabilities such as performing, listening, observing, and speaking as well as listening. In order to perform an effective

literacy assessment, it is imperative to consider the above factors, in addition to other external factors that affect the active development of literacy skills, such as economic factors, societal factors, as well as cultural factors, some of which constrain literacy development. For instance, cultural factors in the Arab world, especially the Middle East and North African (MENA) countries constrain girls from pursuing formal education because of their perceived roles as home makers rather than breadwinners. As a result, only boys are given an opportunity to join school at an early age while girls are groomed on how to become good wives and caring mothers from an early age in life. Therefore, cultural factors such as these are among the leading causes contributing to the high level of illiteracy in the world.

The process of literacy assessments therefore takes form of different processes and procedures to ensure it provides an all-inclusive result. In this regard, the literary assessment processes adopted assist in analyzing the literacy skills of an individual in terms of reading, writing, listening, speaking, viewing, as well as performing. There are five main approaches that can be used in undertaking a proper literacy assessment, which includes formal assessments, informal assessments, formative assessments, summative assessments, as well as literacy screenings.

Formal assessments refer to the use of standardized procedures of literacy assessments, which include the administration of tests as well as an assessment of the scores. State test is an example of a formal assessment of literacy. It focuses on assessing and eventually determining the proficiency of a student one or multiple literacy domains, which may include listening, reading and/or writing (Pearson, 2017). As such, there are oral tests to assess the reading and listening skills of the students, written tests to assess the reading skills of the student. In this regard, the process of administering these state tests upholds the concept of standardization, in which case, all the students are given the same types of tests according to their grades, regardless of their individual literacy skills. Furthermore, these tests are enforced on a timed basis, unless for cases of disabilities where there are certain accommodations, in addition to being subjected to the same level of marking,

scoring grades, as well as reporting procedures. It is also worth noting that the adoption of standardization is instrumental in eliminating any form of external factors affecting the scores of the students unintentionally.

The informal assessments are somewhat flexible compared to the formal assessments considering the fact that these tests are usually adjusted in one way or the other to accommodate the needs of the students, as well as the contexts of a particular assessment. While the assessment of formal literacy skills involves evaluating one's ability to read and write, assessment in informal literacy is quite wide since it involves evaluating one's ability to speak, listen, view and perform (Mastery Connect, 2017) Similarly, informal assessments also make use of student inventories in determining the attitudes of the students about reading, in addition to using reading inventories such as the Qualitative Reading Inventory-5 in assessing the reading skills of the students. This technique focuses on analyzing the students' ability to read passages, word lists, as well as answering comprehension questions.

Formative assessments are tests that are designed principally to improve students' ability to learn and understand (Garrison & Ehringhaus, 2016). This type of assessment is widely used in the classroom setting in which the instructor (teacher) determines how well students are able to pronounce and write letters as taught during the lesson (Mastery Connect, 2017). As students, who are found to have difficulty in pronouncing some letters are given tests that do not have the contentious letters in them to allow them do the pronunciation properly with necessarily having to guess on the "difficult" pronunciations (Mastery Connect, 2017). On the other hand, students with high proficiency in pronunciation of letters are given more texts with the same letters to enable them practice more in order to perfect on their pronunciation skills (Garrison & Ehringhaus, 2016). In general, the adoption of formative letter-sound assessment in the classroom setting is meant to enable the instructors to determine what they ought to teach in order to achieve the desired outcome, as opposed to simply assessing students' knowhow and/or proficiency in already taught academic concepts (Mastery Connect, 2017).

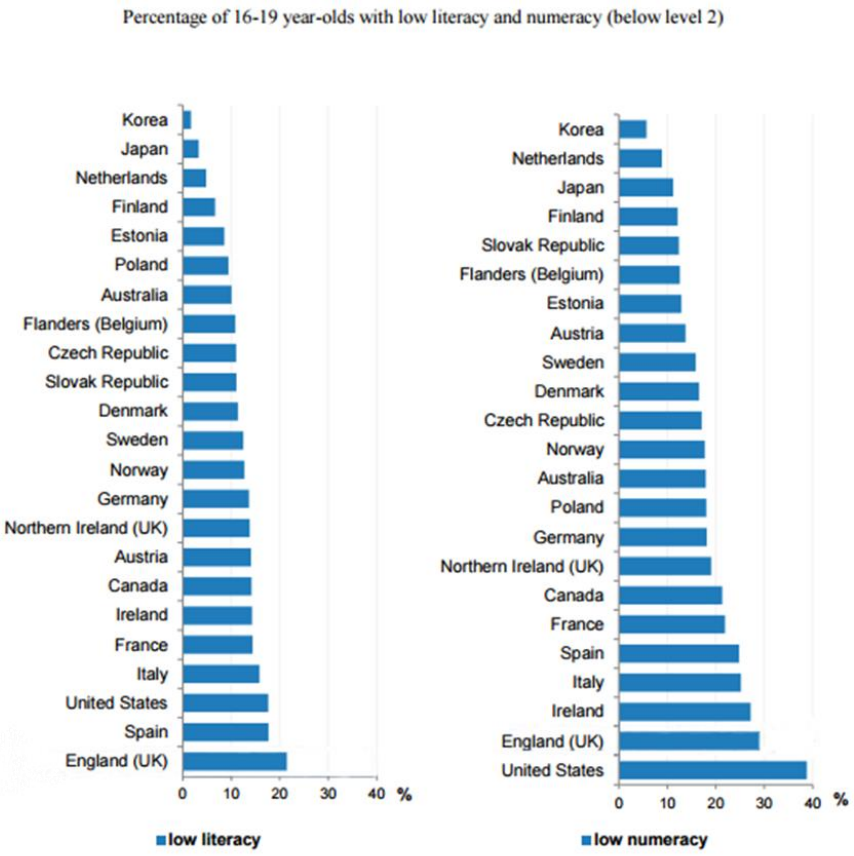
Therefore, this can be considered as a Student Centered Approach aimed at improving the students' weaknesses in specific areas.

Summative assessments, as used in the classroom setting, involves determining whether or not the learners have met the minimum of proficiency in the academic concept taught in class (Garrison & Ehringhaus, 2016). Based on this definition, it is justifiable to assert that that a majority (if not all) state assessments are classified under summative assessments. This is so because; these tests are designed mainly to determine whether or not the learners have attained the required (minimum) levels of proficiency in the tested academic concepts (Garrison & Ehringhaus, 2016). This level of proficiency is usually determined by a set of defined standards set at state or country level.

Furthermore, unit tests are justifiably classified under summative tests. This is because they are used to assess the students' ability to meet specific literacy objectives that may including reading, viewing, writing, speaking and listening (Garrison & Ehringhaus, 2016). Similarly, a spelling test is both formative and summative in the sense that it also fulfills the goal of summative assessments, which is to summarize the extent to which the students surpass a given level of proficiency at the end point of a particular instruction, such as at the end of a school year.

Literacy screenings is another form of literacy assessment, in which case, they mirror the characteristics of medical screenings, taking into consideration features such as hearing checks, vision checks, and pressure checks among others. As such, literacy screenings typically entail identification of potential literacy problems among the learners that may not be recognized easily during the daily interactions of the students and their teachers. There are a number of literacy screeners used to measure literacy levels across the globe, which include PALS as well as STAR reading (Garrison & Ehringhaus, 2016).

Figure 3.2: Literacy and numeracy levels



Note: Adults who obtained their highest qualification outside the host country: those with foreign qualifications and 1st generation migrants, who obtained their highest qualification prior to entering the host country, are excluded.

Source: OECD calculations based on the Survey of Adult Skills (PIAAC) (2012) (database).

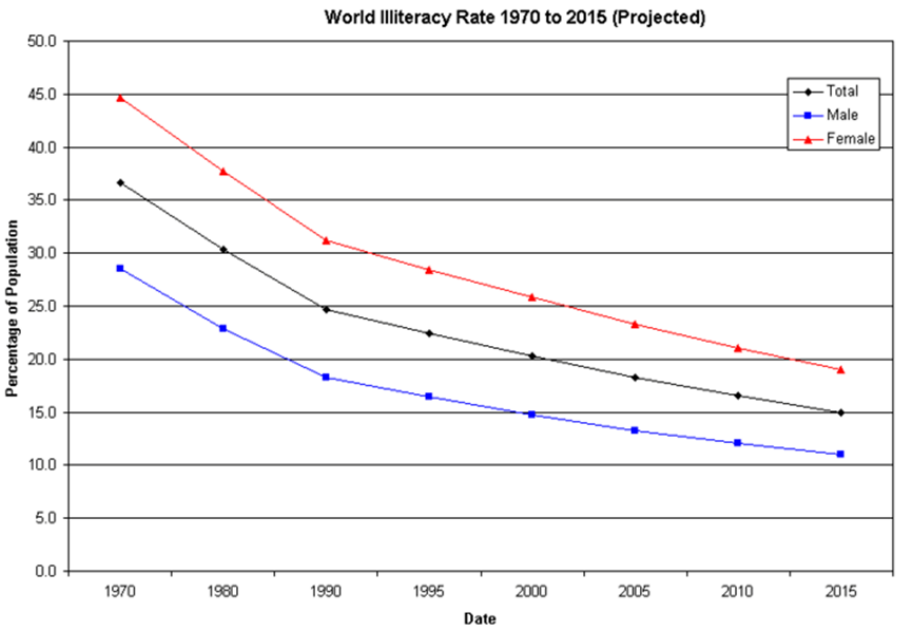
(OECD)

3.1.2. Results Obtained From Measurement Of Literacy Skills Globally

The results obtained from the analysis of the level of literacy skills across the globe infer to the fact already mentioned above, which is the fact that there is great need for the education stakeholders to institute appropriate measures to improve the level of literacy across the world. This assertion is informed by the fact that there is a low level of literacy in the world, with nearly 15% of the adult population globally being considered as illiterate. As such, these adults cannot read or write properly. Some

of them cannot even spell out their names, or write their names on paper (Ahn, 2013). The analysis also established that most people were lacking in proficient reading and writing skills, despite their impressive command in other forms of literacy such as speech, listening, performing, as well as viewing. Consequently, this becomes a significant impeding factor to the harnessing and development of the participatory culture in era of the old media.

Figure 3.3: World Illiteracy Rates



(UIS Database)

For instance, most people knew how to speak coherently, in addition to understanding the meanings of each words and phrases, yet they could not openly spell out the words used in each vocabulary. On the other hand, most people had great viewership skills in addition to being superb listeners, but they were not able to read and write. It is noteworthy that these people developed their listening, viewership, as well as performance and speech skills through active participation in the conversations and activities within their surroundings (Bergsma & Carney,

2008). For instance, by hearing his or her parent or sibling use a particular word to refer to a specific object, item, something or someone, the child developed knowledge. However, most of these people were not able to read and write because they never attended any formal schooling.

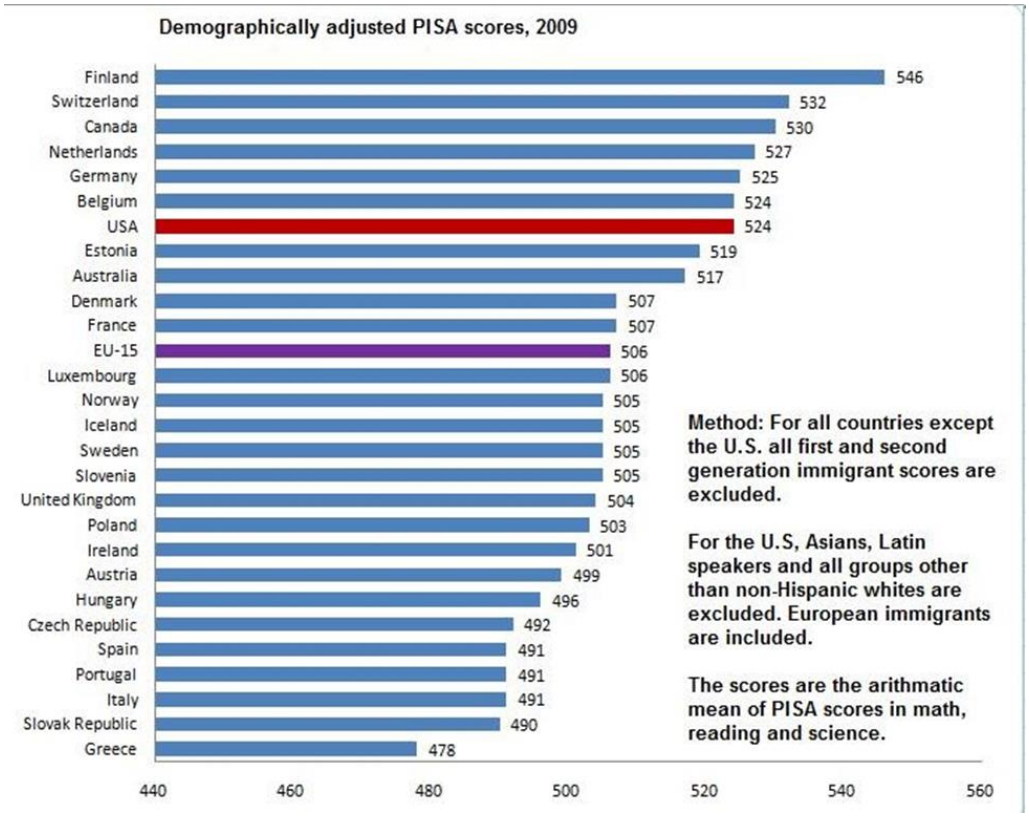
Before the inception of formal education, most people used to learn through apprenticeship, which entails working under a master or a guru for a given period of time while learning his or her art and skills. As such, the master would train his or her apprentice through practical skills by guiding him or her on how best to perform his or her trade. In this regard, the apprentice would become a master of his own in due time (Brown, 1991). Common cases of master and apprentice are prominent in the eastern culture, such as the case of martial arts masters, traditional medicine masters, as well as blacksmiths and carpentry. In this case, the students never learnt how to read and write, only how to speak, observe, and perform. This is the main reason why it could be considered that the level of illiteracy in the world is shocking considering the high numbers of people who do not know how to read and write, yet they are skill knowledgeable. It is also noteworthy that this form of education is still prevalent across most countries in the world irrespective of the inception of formal education.

Formal education came about a few decades ago, mainly a development from the western culture, which entailed enrollment of children into learning institutions such as schools, colleges and universities. In this regard, the basic approach of training in literacy skills within this formal education context entailed learning how to read and write. Therefore, this was the very first step that children were taken through immediately they enrolled in their respective elementary schools, learning how to read and write (Renee Hobbs, 2007). Consequently, it is noteworthy that the level of literacy from this perspective is much higher in developed countries like the US, Canada, the UK, Russia, Japan, France, and Germany among many others because of their emphasis on education. Furthermore, the development of formal education centers in most of these developed countries began much earlier, some

as early as the 17th century, whereby the elites were given priority for enrollment in these formal educational centers.

Furthermore, another reason why developed countries have a higher literacy level in terms of reading and writing skills is because of the fact that most of these countries operate on a universal educational system (Renee Hobbs, 2010). This is an education system where the government funds all education activities in such a way that students study free of charge from the lowest level to the highest level of academic qualification, such as from elementary level to doctorate level. As such, there is no excuse for any parent to fail to take his or her child to school, which in turn elevates the general level of literacy skills in the country, as these two are the basics, while the others are anchored on them one way or the other.

Figure 3.4: PISA Scores



(UIS Database)

On the other hand, developing countries and the under-developed countries have a poor level of literacy because of the low level of enrollment in formal education. This can be attributable to the fact that formal education reached most of these countries very late. In fact, most of the third world countries learnt about formal education through missionaries that traversed their lands, as well as through colonialists that conquered and ruled over their lands during much of the 19th century (Considine, Horton, & Moorman, 2009). Furthermore, due to racial segregation, most of the locals in these countries were not able to access formal education until their countries attained their independence from their colonialists. This was still not a major reprieve in these developing and underdeveloped countries as the number of educational institutions was not adequate to match the demand of its students, not to mention the numbers of educational trainers.

As a result, most the prospective learners in these developing and underdeveloped countries were left out, in addition to the fact that most of these countries do not provide universal education as parents have to sponsor their children through all levels of education. As such, poverty is another contributing factor to the heightened level of illiteracy in most developing and underdeveloped countries across the globe (Koltay, 2011). This is because the low-income families lack the necessary financial capital required in meeting the financial obligations arising from the educational needs of their children. In most cases, most parents in the developing and the underdeveloped countries educate their children up to primary school level, or K 12 level of the American education system whereby their children drop out of school afterwards due to lack of school few. Very few join secondary schools or high schools, and an even lesser number joins institutions of higher learning such as colleges and universities.

In this regard, the level of literary in these developing and underdeveloped countries is very low. The lucky few who manage to overcome financial barriers to success academically are those that come from middle class families or high-class families who have adequate wealth to sponsor their children through the education (Stibbe,

2009). Others have to sacrifice their little wealth in order to sponsor their kids through schools, so that later they can uplift their families from poverty. Nonetheless, this is not always the case, as much as there is a high number of illiterate people in these developing and underdeveloped countries, there is also a high number of qualified grandaunts that are unemployed. This is especially considering the fact that there are very few employment opportunities in the country, largely informed by the poor economic conditions within these countries. Furthermore, the poor education systems followed by these countries emphasize on an educational curriculum that churns out job seekers as opposed to job creators.

As such, most of the rich people within these developing countries, such as the big shots in government and other political cycles, including politicians, diplomats and other high-ranking government officials, usually take their students to foreign countries. They prefer that their children learn a foreign curriculum as opposed to the local curriculum in order to promote their chances of getting good jobs in the future. In the same regard, these rich people also take their children in international schools within the country as opposed to the public and private schools operating under the national curriculum (Renee Hobbs & Jensen, 2009). Conversely, this also contributes to the poor level of literacy in these countries, especially considering the fact that the income gaps in these developing and underdeveloped countries is very high. As such, the ratio of the rich to the poor is probably 1 to 1 million, as doctored once by a famous author those most African countries are made of ten thousand millionaires against ten million paupers, most of who survive under less than a dollar per day.

Conversely, the participation culture in these developing and underdeveloped countries across the world for old media platforms is very low or poor considering the low levels of literacy in these countries. As a result, only the intellectuals in these countries contribute to the discussions and other communications passed across through the existing old media platforms, including magazines, newspapers, journals as well as yellow pages. In the same regard, very few of the people in these

countries also fail to consume the information provided by various media platforms within the country (Kupersmidt, Scull, & Austin, 2010). Consequently, the best way to improve the level of participation of the audience in most of these developing and under developed countries is to improve the literacy levels of their citizens, first through the promotion of the adoption of formal education, and secondly through the provision of universal education services across their countries. This is especially in consideration of the fact that the promotion of formal education is not adequate unless the users can afford the educational services provided in their countries.

3.1.3. Analyzing The Media Literacy Skills

In this regard, media literacy cultivates the participatory culture within a country in such a way that majority of the people are able to contribute to the existing media platforms through their media literacy.

Access in media literacy mainly refers to the ability of an individual to access the existing media files and documents within his or her reach. In this regard, it is not enough to simply produce media content if at all the target audience does not have full access of the material it contains (Itō, 2010). Therefore, access to media means that an individual is in a position to have in his or her hands the various old media platforms within his or her locality, such as accessing the local newspaper, business journal or magazine, as well as yellow pages. Without accessing these media platforms it is impossible for the country to cultivate a participatory culture.

Analysis in media literacy refers to the ability of the individual to analyze the content in most media platforms. As discussed above, there are different media platforms that old media uses to communicate, educate, or inform its audience, which include magazines, newspapers, journals, yellow pages, as well as other mass

media platforms. In this case, it is necessary for the users to have analytic skills that enable them to analyze all the information presented in these old media platforms (Mackey & Jacobson, 2011). Some of the common analysis techniques used in this category include trend analysis, content analysis, policy analysis, theme analysis, as well as pedagogical analysis of the information presented by these media platforms.

Evaluation is a media literacy skill that enables the users to make sense of what they read or encounter in these old media platforms. This is especially considering the fact that each material in these media platforms plays a critical role on the target audience, such as informing them, educating them, or entertaining them (Ito et al., 2008). However, this cannot be achieved in the event the user cannot evaluate the information contained in these media platforms. As such, the construct of evaluation relates to a variety of aspects including the ability to discern context, language use, as well as purpose of a particular material contained in these old media platforms.

Creation is a form of media literacy whereby an individual creates media content for use by other people. In this regard, one is able to write material that can be used to inform, educate, or entertain other users of old media platforms (Michael, 2005). As such, the country should develop educational systems that enable people to promote their ability to create media content, and as a result, significantly improve the participatory culture in the country.

Consequently, it is evident from the above analysis of media literacy involves much more than simply the ability to read and write. As such, it also involves the ability of an individual to access existing media platforms, analyzing the content carried in these media platforms, as well as evaluating them to make sense of what the media content contains, and afterwards be able to create media content that others can use (Renée Hobbs, 1998). Conversely, youths and adults that have some form

of media literacy can easily understand the complex messages as well as coded information that various old media platforms pass across, including TV and Radio, newspapers, magazines, books as well as periodicals. This is an extension of the century old fallacy that media literacy simply relates to the ability of an individual to read and write and comprehend information.

In this regard, it is worth noting that media literacy enables individuals, including the children, youths, as well as adults to develop their critical thinking skills, to have a deeper understanding as to how media message shape the culture and society both in the olden times as well as in the recent times as well as facilitate the identification of target marketing strategies. In the same regard, media literacy also enables individuals to recognize what the media maker wants them to believe or do, judging from the perspective that media helps to inform, entertain and educate its target audience (Kellner, 1998). Similarly, uses of these media platforms are also in a position to identify the various techniques used by the reporters or contributors of individual media platforms, such as the persuasion skills used, the writing skills used, as well as the language approach used.

3.2. LITERACY SKILLS IN TURKEY

The geographical location of Turkey is very strategic in the sense that it is at the crossroads of both the European continent, as well as the Middle Eastern counties. As such, most people usually confuse Turkey as being one of the 28 member countries of the European Union (EU), and in fact, talks are underway to officially introduce Turkey into the EU community. Nonetheless, its proximity to the Middle East brings about a number of geopolitical pressures that need appropriate consideration before such an important decision can be made (Altinay, 2004). Turkey is however well poised to reclaim its historic status as a significant global power, being the 18th largest economy across the globe, coupled with a relatively young and growing population of about 78.7 million people. Furthermore, Turkey

is predominantly Muslim, boasting of being one of the world's most powerful Islamic nations in the world. Its strategic location and economic power provides the country with significant advantages that would easily steer it into becoming the most dominant regional economy within the Middle East region, being a passageway from Middle East to Europe and Asia, or from Asia and Europe to Middle East respectively.

3.2.1. Education System In Turkey, Base And History

Much as it can be argued that media literacy extends far beyond the mere ability of an individual to read and write, it is worth noting that media literacy revolves around these to primary skills of literature. It is not possible for one to recognize a particular media platform if he or she does not know how to read, and as such, accessibility to the media platform remains doomed (Nohl, Akkoyunlu-Wigley, & Wigley, 2008). Similarly, it would be impossible for the user to analyze or evaluate the media content he or she has access to if he or she does not know how to read or write. In the same regard, creation of new media content is obviously impossible if the users cannot write properly. How can one communicate in writing if he or she does not have the literacy skills of writing? As such, this is the dilemma that grossly affects the growth and development of the participatory culture within Turkey as a country. In this regard, the country has in place an elaborate educational system that promotes the acquisition of essential media literacy skills, including the ability to read and write, which will in turn enable an individual to access, analyze, as well as create media content.

The government controls the Turkish education system in the country, just as with the case in most countries across the world. As such, there is a government ministry designate to handle educational matters in the country, namely, the Ministry of National Education. The ministry enables every Turkish citizen to access their

constitutional right to education by overseeing the creation and enforcement of a strategic educational system. As such, every child in the country has a right to access education, whereby the government facilitates this through supportive legislative policies (Verschoyle, 1950). This is achieved by making education compulsory for all children in the country taking primary school education. Most of the children in this category range from ages 6 to 14 years, mostly attending public schools or state schools which offer universal education free of charge. As a result, primary schools in Turkey have the highest participation rate in the world of 98%. Those going to private schools have to sponsor themselves to school. Similarly, the academic cycle in the country followed by the Turkish education system begins from mid-September or early October to May the following year or early June, with a two week winter break in February and log holidays after closure of schools in May or June until the next academic year.

It is noteworthy that some schools in the country may have an additional year for language study for their students, on top of the provisional 4 years high school education. This is primarily because the Turkish education system uses their national language, Turkish, in teaching and educating students. Therefore, those who want to learn English language must take the additional year of studies specifically for this objective. As such, high school education is also compulsory in the sense that the government owns most of the high schools in the country, which also provide universal education to all Turkish children. Higher education relates to studying in institutions of higher learning including universities and colleges (Ozden, 2007). The Turkish educational system provides that students have to undertake a 4 years degree course at the university, or a 2 years vocational course at the Higher Vocational Schools. Just like in secondary school education, some of the institutions of higher learning in the country also have a provisional one year for language studies, although this is mostly optional.

Aside from the college degree, students can also pursue a master's degree which lasts for two years, and doctorate degree or a PhD which lasts for 2 to 5 years

(Tansel & Bircan, 2006). However, this information primarily applies to the educational institutions that provide post secondary education under the supervision of the Higher Educational Council (YOK). Judging from the number of grandaunts that come out of these institutions of higher learning on an annual basis, it is appropriate to assert that the Turkish population is literate. In fact, the different types of schools in the country is what promotes this high level of literacy, coupled with the universal educational system enforced by the government targeting at ensuring that every Turkish citizen has access to quality education.

There are six types of high schools in the country. These include the public, vocational, Anatolian, super, science, and private high schools. The public high schools enroll any student to complete successfully the 8 years education course to study freely in any of the government sponsored high schools. Grandaunts from these public high schools are awarded Lise Diplomas. The vocational high schools are tailored for those who do not complete successfully the either year course of primary education, whereby grandaunts proceed to higher vocational schools (Tezci, 2009). The Anatolian high school focuses on English education whereby students study English for one year followed by three years of regular high school education, combined with some extra hours for English. In fact, these schools teach some subjects, such as Mathematics and science classes in English, while some other Anatolian schools teach their students on French or German.

Super high schools are similarly to normal high schools, with the only differentiating factor being the fact that students in super high schools have to study English language an extra year on top of the provisional four years of high school education. However, they are different from Anatolian high schools in the sense that they use Turkish language for teaching mathematics and science classes and have limited hours for English classes. Science high schools are special public high schools for students who show case an exceptional aptitude in science studies (E. Cakiroglu & Cakiroglu, 2003). Science high schools have a very high level of competition because they train students to specialize in a particular subject or field

at an early age, subsequently preparing the student to pursue the same or similar course at the university. As such, this acts as a grounding foundation for the students for a successful future career or profession in science and science related fields, such as medicine, engineering or technology. Private high schools are run by private education stakeholders and have a tendency of charging high amounts of tuition fees for the students, in addition to being very competitive.

3.2.2. Analysis of Literacy Skills For The Turkish Youth

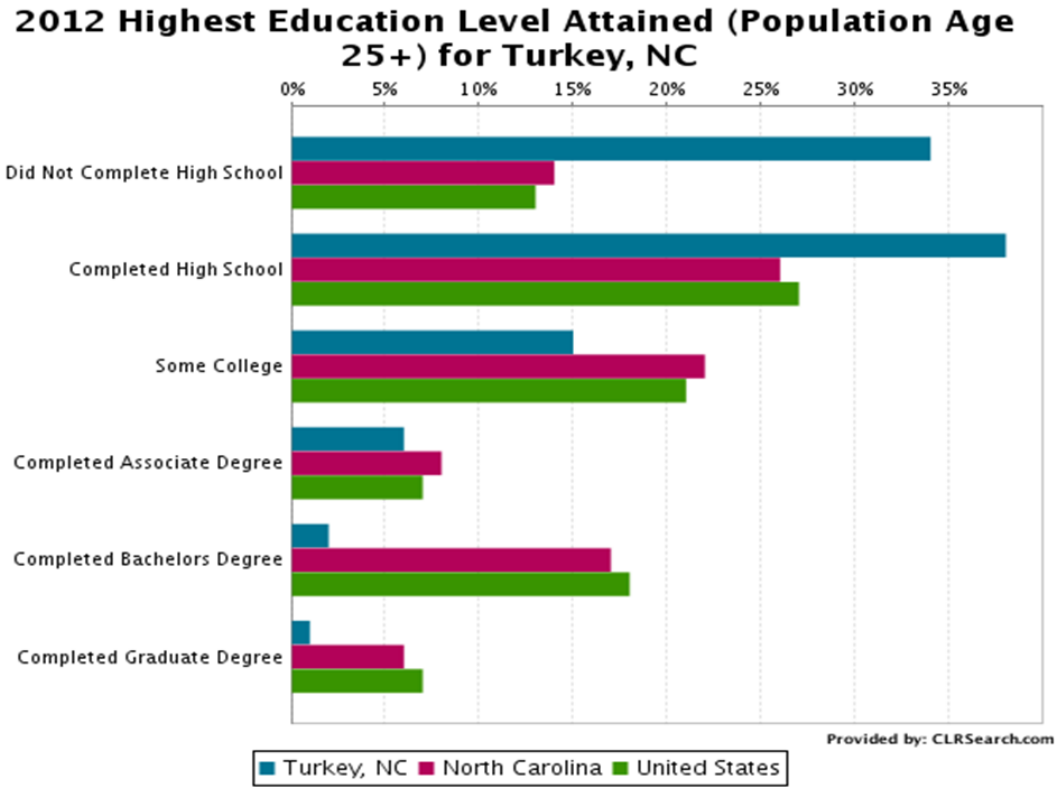
The focus of this research study is on the youth population within the country. As such, the analysis primarily focuses on the youths aged between 18 years and 22 years of age. From this age bracket, it is imperative to note that the study analyses the media literacy of high school graduates (20 years to 22 years old students). This is particularly important as it has a tendency to provide last 4-5 years high school education system and its results on digital skills.

Going by the fact that Turkey provides universal education for all students in the country, evidenced by the free education for all students in public schools, it is appropriate to assert that Turkey has a high level of literacy among its youth population (Altun, 2006). This is considering the fact that there is a 98% participation level for all primary schools in the country, meaning that majority of the students pursuing primary school education are in public Turkish schools. Furthermore, the automatic enrollment of all successful Turkish grandaunts from primary schools to high schools and vocational high schools of their choice further promotes their level of literacy. These students also have an automatic enrollment for Turkish public universities and vocational institutions.

Therefore, it is worth noting that the young generation in Turkey has a high level of literacy in the sense that majority of those aged between 18 and 22 years of age

have some formal education. This is considering the fact that education is compulsory to all Turkish children. As such, parents who fail to take their children to school risk facing litigation from the government because of denying their children not only their basic rights, but also their constitutional right to education. Furthermore, the fact that Turkish institutions of learning use different languages in teaching their students is another important aspect that improves the level of literacy in the country. In most cases, the instructional language used for teaching students in most Turkish learning institutions is the Turkish national language (Özolu, Gür, & Gümüs, 2016). Nonetheless, it is worth noting that some institutions also make use of international languages in teaching different courses as well as subjects to their students. These international languages commonly used especially by institutions of higher learning include German, French and English.

Figure 3.5: Education levels in Turkey



(CLRSearch.com)

In this regard, it is worth noting that the Turkish youth have a higher prevalence in the participatory culture in the old media platforms existent in the country, such as newspapers, magazines as well as journals among many others. The reason for this assertion stems from the fact that the Turkish educational system emphasizes in language acquisition and adoption for all learners at all levels of the educational system (Sen, 2017). Furthermore, the fact that the country provides universal education to all children in the country, in addition to making education compulsory plays a significant role in increasing the literacy levels of the youths in the country. Apart from making education compulsory and free, the government also moved to increase the number of learning institutions in the country in such a way that the public schools in the country far outnumber the private schools in the country. In the same regard, these public schools focus on providing top quality education to the students in such a way that parents see no need to enroll their children to private schools or universities.

For instance, of the there are 42 more public universities in the country compared to the 62 private universities. This is in addition to the 8 higher vocational institutions in the country, which makes the overall number of institutions of higher education in the country as 174, among other international institutions. Therefore, these schools are instrumental in promoting the literacy levels of the youth population in the country, especially for the bright students, assuming that a majority of them quality through primary school education and manage to join high schools and eventually universities (Habibi, 2017). As for those who fail to pass their primary school education, the education system in the country has in place a contingency approach in the name of the vocational schools, which take into account a significant number of the primary school drop outs as well as the high school drop outs. Generally, it is appropriate to assert that the Turkish population has a higher level of literacy, in terms of being able to read and write, as well as media literacy, in terms of being able to access, analyze, evaluate as well as create data.

In fact, it is noteworthy that the youth population in the country plays a critical role in creating media content for the country's old media platforms by providing an informed opinion or an informed analysis of particular issues and developments in the country. This is especially because majority of the youth population is learned, having gone through the country's formal education system successfully (O. Cakiroglu & Melekoglu, 2014). In the same regard, most of the youth population are still students, and as such, have access to a wide pool of knowledge which enables them to give an informed opinion of various articles and journals presented in old media platforms, as well as conducting a critical analysis and evaluation of the media structures. As a result, there is a significant growth in the level of the participatory culture in the country.

CHAPTER 4
NEW MEDIA LITERACY SKILLS

4.1. INTRODUCTION

New media literacy skills relate to the increased prevalence and growth of the participatory culture as well as the convergence cultures. In most cases, it signifies the shifting focus of literacy from that of an individual being able to express himself or herself to that of a community being actively involved in the creation and consumption of various forms of media content. It is worth noting that digital media literacy skills integrate social skills, of which are developed as well as nurtured through specific collaboration. Nixon argues that these skills are effective in the creation of a foundation upon which students can use to gain important skills and knowledge from traditional literacy skills (Nixon, 2003). Of particular importance is the role played by these skills in the promotion of critical and analytical skills, including the technical skills, analytical skills, as well as the critical skills that students learn from the classroom.

The following section evaluates the eleven new media literacy skills developed by Henry Jenkins, particularly what would be considered as digital skills used for the creation as well as consumption of new media content. Examples of these digital skills are to include play, performance, negotiation, networking, as well as appropriation among many others (Tornero & Varis, 2010). In this regard, it is worth noting that these digital literacy skills are instrumental in promoting the prevalence as well as the expansion of the participatory and convergence cultures within the modern-day society. The reason for this is because of the widespread prevalence of the internet which enables people to easily connect with one another, as well access different forms of new media content from any part of the world

4.2. PLAY

Play refers to the capacity of an individual to experiment with his or her immediate surroundings for the purposes of problem solving. As such, this enables the individuals to draw solutions to their everyday problems from within their environments. Mind professionals argue that play is the most effective way in shaping the relationships that children build with their bodies, tools, communities, immediate environment of surroundings, as well as knowledge. In fact, most children learn new things through their playing activities (J. VanHoorn et al., 2015). A perfect example is where the children learn what the society expects of them as adults through role play. Therefore, as children advance in age, play is usually very critical in motivating other forms of learning that enables them to overcome life challenges and other emerging issues.

As such, playful activity usually motivates three different kinds of learning. In the first place, specific play activities demand certain skills and practices for one to engage in successfully and have fun. For instance, in a game of chess, one must be knowledgeable about matrices, whereby the quick-thinking skills of the child are what enable him or her to win the game. Secondly, games usually motivate and share the individuals capacity to acquire other forms of knowledge, which might be incorporated in the game to enable the player to win. In the case of chess, knowledge about each piece in the game, and the power it has is instrumental in determining the outcome of the game (Buckingham, 2013). Thirdly, play also enables the leaders to develop a sense of themselves, such as the meaning of expertise, or knowing about a particular thing well enough to be able to talk about it openly, even with strangers.

In this regard, it is appropriate to assert that play is instrumental in promoting the processes of learning among individuals, especially considering the fact that during play, the mind develops an attitude that is quite conducive for learning. Therefore,

as children have fun in their play activities, they can as well learn new ideas and gain new knowledge in the process. In addition, play also facilitates the shifting emphasis from playing for fun to playing for engagement or learning, in the sense that the players can master skills during the games, skills that can be used in solving issues in life (Tisdell, 2008). For instance, the skills on formation and matrices can enable a child to win wars in the future when he applies the same skills as an army general.

Conversely, it is imperative for adults to encourage the children to play different types of games, not simply for the purposes of having fun, but also as a tool to facilitate learning of other different kinds of content. This, in turn, makes play a valuable mode of learning as well as problem solving in the sense that it lowers the emotional stakes of failing, hence enable one not to give up after one or two attempts. This is unlike the case in modern learning or academics whereby failure in exams may discourage a child completely, in such a way that he or she may completely give up in life (Ohler, 2013). On the contrary, learning through games is continuous as a child will be attracted to the games for the fun of it, and even if he or she fails severally during the game, he or she will still continue playing and will master the rules of the game with time. Eventually, the child will also become a pro in the game.

In fact, playing follows something akin to the scientific process, whereby players make their own discoveries and then use the discoveries they have made in learning new contexts. For instance, the first rule of playing is learning the rules of the game. The second step of the game is to identify the core conditions that will facilitate a player to win the game, which is similar to finding solutions to overcome a challenge or a problem (Renee Hobbs, 2010). As such, in other games that have a high level of sophistication such as meta-gaming, players are in a position to do something more, to frame new possibilities, as well as experiment with new properties of the world. Therefore, the context of playing can be considered as a

mode of active engagement in which an individual is encouraged to experiment or to take risks.

As such, one learns through gaming that solving problems is just as important as finding the right answers. Similarly, gaming also enables one to clearly define his or her goals roles, which in turn encourage strong identifications as well as emotional investments, whereby players learn two other skills that are equally important, which are performance and simulation. Therefore, it is encouraged for educators to tap into play as an effective skill in learning by encouraging free-form experimentation as well as open ended speculation (Renee Hobbs, 2004). For instance, history teachers can ask their students to consider alternative historical scenarios or outcomes, such as what would have happened had Germany emerged victorious during the Second World War, and how about if the Europeans did not colonize Africa?

In the latter construct, students can speculate possible outcomes such as Africa remaining in the stone age while the rest of the world progressed to the light age, as these colonialists are the ones that brought about development in their countries, such as setting up infrastructures such as roads, railways, airports, sea ports, satellite communication, and introducing economic activities such as cash crop farming as well as mining of minerals and precious stones. Therefore, it is evident that games including digital ones provide players with the potential of learning through different forms of direct experience as outlined by Gee (2007). A perfect example of this is where physics teachers used the game Supercharged to allow students understand the core principles of electromagnetism. Therefore, play can also play a critical role in promoting media literary as well as the growth of both participatory and convergence cultures within the modern-day society.

4.3. SIMULATION

Simulation as a digital skill refers to the ability of an individual to interpret as well as construct dynamic models in such a way that these models are representative of the real processes notable in the real life scenarios. In this regard, it is appropriate to note that new media provides media content users with powerful digital platforms through which they can represent as well as manipulate information. In this regard, these new forms of simulation play a crucial role in expanding the cognitive capacity of individuals. In addition, it is noteworthy that simulation empowers individuals to conform large information sources, not to mention experimenting configurations of data that would otherwise be considered as complex in nature. This also enables the users to form hypotheses quickly drawing from the developments noted in the modern day world (Annetta, 2008). Furthermore, through simulation, users are also in a position to put their various hypotheses to test by evaluating the impact of various variables as drawn from the real world. Therefore, it is noteworthy that the rise of system-based thinking models is instrumental in the development of digital simulations.

Educators argue that students are in a position to learn higher knowledge capacities by observing directly the developments within their surroundings, in addition to experimenting on the emerging developments. This provides a faster means of developing the inception of knowledge by a specific learner in a much broader way compared to how he or she would learn when reading from a book or simply listening to a lecture in the classroom. Therefore, simulations enable users to improve on their knowledge and skills by taking the learners through different experiments, introducing them to new things, and engaging them in issues that would be considered more of a real world setting as opposed to the theoretical framework of information provided by lectures and textbooks (De Freitas & Oliver, 2006). This is especially because simulations offer a far more compelling representation of knowledge which fosters deeper engagement and wider

discoveries, as well as experiencing that the knowledge they have learnt through simulations as their personal discoveries.

In essence, simulations primarily expose the characters involved to new perspectives of observing the world, in a more or less powerful manner, thereby encouraging the users in engaging one another in specific modelling processes. This is the same way in which modern science operates (Freitas, 2006). However, it is necessary for students to learn how to interpret the information learnt through these simulations as simulations mainly provide users with probabilities as opposed to the exact answer. Therefore, using these probabilities can enable an individual to make better and informed decisions. Nonetheless, it is worth noting that simulations are only good when the underlying models used are also good. Bad simulation models lead to wrong probabilities, and probably wrong answers to the related questions and problems being addressed. In a world where simulations are always competing, there is need to learn critical assessment of provided simulations in order to assess the credibility as well as the reliability of different models of simulations.

However, the processes of designing a simulation are completely different from that of reading simulations (J. P. Gee, 2007a). In fact, the young people can learn how to work with simulations through their different games, such as video games. In addition, it is advisable for learning institutions to emphasize on these different forms of knowledge, which subsequently enable the learners to improve their critical literacy skill, such their skills in reading and writing. As a result, they become effective in designing the different simulations as well as tools used for modelling.

Therefore, the best ways for students to learn about manipulation as well as the interpretation of existing simulations, in addition to constructing their personal dynamic models relating to real world processes education stakeholders should

institute new ways of introducing simulations within the classroom setting (Caperton, 2012). For instance, teachers educating learning on business reports can instruct their students to place imaginary investments in shares of a particular blue chip company, then monitor the business reports and disclosures relating to the company in order to keep track of the performance in their holdings, such as any important corporate event or development that may contribute to the rise or fall in the share price of the company due to changes in investor confidence in the company. Conversely, what is very clear is that simulation activities like these are important in introducing individuals to logics that the real world usually applies through the application of actual data sets. While the students are working on imaginary simulation, investors in the real world are working with real data sets to track the performance of their respect investments within the stock market.

Therefore, from the above analysis, it is worth noting that simulations are instrumental in promoting the acquisition of important knowledge and skills that one can apply in the real world. This is especially with regard to understanding how to use simulations as a conduit of solving the emerging problems and challenges arising in the real world. Similarly, the knowledge and skills acquired through simulations can equally be applied to the evaluation and analysis of media content, in such a way that it enhances the prevalence and growth of both participatory as well as convergence cultures within the society (Prensky, 2001). As such, simulations enable people to be in a position to predict certain future developments and outcomes through trend analysis.

Subsequently, this increases the ability of an individual to be an active creator of media content, as well as practice responsible reporting and presentation of informed new media content. On the other hand, this also enables media consumers to derive the hidden knowledge in specific media content that they come across, and as such, use the information of knowledge obtained in the process to improve on their private lives, such as academically or professionally (Klopfer & Yoon, 2004). Furthermore, simulations also enhance the problem solving skills of students

in such a way that they can use their knowledge of probabilities gained through simulations to find quick solutions to everyday challenges, thereby inspiring growth and development in their personal capacities as individuals, as well as in the general society, such as economically and politically.

4.4. PERFORMANCE

Performance as a digital skill is the capability of a person or a group of people to adopt to several alternative identities in such a way that they end up discovering their new personalities or end up experiencing a special level of improvement. In essence, the concept of performance relates to the fact that role play enables an individual to gain a significant amount of both knowledge as well as information regarding the topic. In this regard, when a child takes part in a role play performance, such as an acting cast whereby she assumes the role of one or more of the characters in the play, it is worth noting that this facilitates better and quicker learning for the child. The reason for this assertion is because the more involved the child is in a particular role play, the more the child learns of the specific features and characteristics that make up the role. As such, by embodying the role, the child not only becomes knowledgeable and informed regarding the backgrounds and cultures pertaining the role that he or she assumed, but also learned regarding the ways and practices of other communities across the globe, which in essence, remains as learning.

Therefore, it is worth noting that role play is quite popular among the contemporary youths. This is especially considering the fact that role play enables the characters assume a whole new set of identities, aside from their original set of identities. Conversely, it is evident from this analogy that role play, or performance, is an instrumental concept of learning and acquiring digital skills among the youth population. The more an individual is competent is role play, the more he or she is

competent in digital skills, and as such, can easily contribute in the creation, analysis, evaluation as well as review of new media content.

According to Jenkins (2003), performance is a crucial way to promote learning among the students, especially with regard to the fact that it enables the students to adopt the fictive identities of their role plays as well as thinking through possible scenarios from their perspectives. These identities may be assumed within both the physical world as well as within the virtual world. In this regard, the best performance of a child be it real of virtual is an instrumental conduit for both professional as well as literary development, as the child learns new skills and practices that pertain the characters in the role play that they are acting.

As such, teachers in a range of subjects can make use of performance as a crucial approach in gaining of new knowledge and understanding through the deployment of what would be referred to as epistemic games. In these cases, the players learn different ways of acting, interacting, as well as interpretation skills that are instrumental in promoting their participation within the professional community. Essentially, when a player performs a given role in a play, he or she ends up thinking or acting in the way that the person he or she impersonates does. For instance, if the character being acted is a profession, then the performance of the player should be in such a way that it brings out the professional attributes of the character. In this regard, the player has to think and act as the professional in order to curve out the right image and presentation that the audience require of him or her as a professional character. Take for instance a case whereby the player is acting like a doctor, he or she must acquaint himself or herself with medical procedures as well as medical jargons in order to bring out the professional outlook of a doctor.

4.5. APPROPRIATION

Under digital literacy skills, appropriation is capability of a person to sample or remix meaningfully any piece of media content. In fact, journalists have used the term Napster generation in referring to as well as describing the young people that have come of age in today's era of participatory cultures. In fact, a recent study conducted in the US confirmed that nearly one quarter of all the teens in America have at one point or the other sampled or remised the existing media content, including music, film clips, as well as images (Jenkins et al., 2007). Appropriation therefore relates to the different processes that allow students to access new forms of knowledge by tearing apart cultures.

This illuminates the fact that art is more or an artistic engagement as opposed to simply being a development from old cultural materials. In essence, the artists build on the work of other artists, or draw inspiration to create their own pieces of art from other artists, not to mention appropriating as well as transforming the other works of art into their own personal artistic pieces. Consequently, artists can easily achieve this objective by tapping into a given cultural tradition. On the other hand, artists can also achieve this through the deployment of conventions, most of which stand out as a mark for a particular genre. Many cases involve an apprenticeship period of the artists to orient them with the different styles and techniques in existence.

Conversely, the higher the level of appropriation held by a given individual, the higher his or her abilities at producing media content that has a significant effect on the society. This is especially considering the fact that in the modern world setting, the adoption of participatory cultures is highly widespread, a fact that is necessitated by the interactive nature of the digital media platforms. As such, it is easier for individuals to get their hands-on other information that has been prepared and presented by other artists or creator of media content, in this case reporters.

Thereafter, individuals can study the individual cases relating to the information, styles, as well as content that these media creators or artists assume, then use the information in creating their own pieces of media content. As a result, this subsequently improves the prevalence of both participatory as well as convergence cultures in the modern-day society.

As such, appropriation is a critical digital skill that enables people to not only exercise their knowledge and experience, but also to improve on their level of performance as well as participation within the modern-day settings and structures. For instance, in a society where the transfer and sharing of media content is done primarily through digital media platforms, such as the internet, appropriation skills are instrumental in promoting the individual's knowledge in participation as well as engagement in the creation of new media content (Steinkuehler & King, 2009). For instance, by following a blog page of a popular blogger or subscribing to the YouTube channel of a renowned internet celebrity, a teenager learns critical skills in media content creation and publication. Thereafter, the teenager can easily create his or her own blog, or even become an internet celebrity through the creation and publication of specific news and information that is informative and engaging of the general public.

4.6. MULTITASKING

This is a digital skill referring to a person's ability to scan his or her environment in such a way that he or she can easily shift focus depending on the arising needs and demands, taking into consideration salient details through a platform that would otherwise be considered as ad hoc in nature (Wilson, Gochyyev, & Scalise, 2016). This is particularly with regard to the fact that the multitasking skill enables users to engage in more than one activity at the same time. In essence, this simply means that the higher the capability of an individual to multitask, the higher his or her capacity to create new media content arises (Wilson et al., 2016). Therefore, the

concept of multitasking is significant in the sense that it facilitates transformations in the way an individual perceives the world. Furthermore, there is significant improvement in the way the young people engage in other activities while undertaking a main chore, subject to the new media platforms that are primarily digital in nature. In most cases, the teenagers cannot sustain their attention on a particular item or issue over a prolonged period of time.

As such, it is worth noting that attention is undoubtedly an important cognitive ability that most individuals must have in order to promote their participation as well as convergence cultures given the new media platforms. The processing of all information through our brains is normally held temporarily through the short-term memory. However, it is imperative to note that the short-term memory of most individuals has a very limited capacity (Meyers, Erickson, & Small, 2013). However, it is wrong to perceive both multi-tasking skill as well as attention as oppositional forces (Lotherington, 2011). On one hand, attention seeks to prevent an overload of information by controlling what type of information enters the short-term memory of an individual. As such, people who are considered as successful in the field of multi-tasking will very easily seek to reduce the demands of the short-term memory through mapping where different information is externally stored within their immediate environment.

Currently, most of the young people are good at multi-tasking, a fact largely attributable to the growing prevalence of new media in the modern-day society. A common form of multi-tasking evident among the youths is the rowing of social media networks while listening to music. Furthermore, multi-tasking is also used in the presentation of different media platforms, such as the case of television stations airing news on live TV while still presenting other completely different pieces of news as a scrawl at the bottom of the TV screen. As such, the audience can listen to or watch the news while reading the information presented at the bottom of the TV screens to further enhance their knowledge and access to new information.

Furthermore, this also facilitates a proper understanding the existing relationship between the visuals that one encounters.

4.7. DISTRIBUTED COGNITION

Distributed cognition as a digital literacy skill refers to the promotion of an individual's ability to engage oneself in meaningful interactions using the wide range of tool as well as knowledge platforms at his or her disposal. As a result, this subsequently expands the mental capacities of the concerned individuals. This is in relation to the fact that the proper acquisition of mental skills and capabilities is what would improve significantly the capability of an individual to take part in contributing to the existing media platforms. As such, the concept of distributed cognition challenges the existing traditional view regarding intelligence as an attribute of individuals (Gui & Argentin, 2011). On the contrary, it is acclaimed that the perspective of distributed cognition largely relates to the fact that intelligence is distributed across the brain, the body, as well as the world. Therefore, intelligence enables individuals to loop through an extended technological as well as an environment that is very social cultural.

A significant number of the scholar consider intelligence as being distributed in the essence that the resources that shape and enable things and events to take place have distributed configurations, relating to people, situations, as well as environments. In other words, what this means is that intelligence is more of an accomplishment as opposed to being a possession. As such, a person will exercise his or her intelligence by performing various tasks and activities successfully, what would probably not happen in the event the individual lacked any significant form of intelligence (O. E. Hatlevik, Guðmundsdóttir, & Loi, 2015). Therefore, it is wrong to assume that one can actually possess intelligence, such as being of a sharp mind by the mere sense of distribution. The primary focus of distributed cognition is the fact that it employs different reasoning platforms, especially those that would not

be considered in the absence of artifacts. This is different from the case where there is expansion of augumentive capacities of human beings.

A number of devices are instrumental in promoting the adoption of the externalized memory platforms, including the creation of databases. For instance, distributed cognition may also refer to the use of other devices with the capacity of externalizing processes, such as the spell checker and grammar checkers. Therefore, implementation of these capacities of technologies in our daily activities and operations will significantly improve the distribution of cognition. In fact, gamers may be acquiring some of the distributed cognition skills through their individual participation in squadron-based video games. According to Gee (2007a), it is necessary for one to form a mental map of the characters of the player and the non-players in a video game, when playing a video game, especially in relation to determining what these characters are doing in their respective plays. In this regard, the non-player characters refer to characters that are controlled by the artificial intelligence (A.I) of the game. Appropriate planning therefore requires players to orient themselves with the individual knowledge and expertise at participant level in order to discern on what they are likely to do.

Conversely, it is evident from this approach that the use of distributed cognition as a learning approach is not only effective but also instrumental in promoting the acquisition of digital skills necessary to promote the convergence and participatory cultures of individuals within a given societal setting. Of particular importance is the fact that distributed cognition enables educators to facilitate learning through engaging the use of applications in establishing the different tools as well as information technologies used in learning purposes. As such, the prevalence of new technologies also brings the new cognitive possibilities. Therefore, it is imperative for educators to create new activities with every introduction of new technologies within the classroom setting (Eshet-Alkalai & Chajut, 2009). For instance, if a student uses a calculator to add 3 + 3, it is the capacities of the calculator that are being used to solve the problem, and as such, by off-loading the calculations onto

a calculator, a student is in a position to solve mathematical equations of an even higher complexity or requiring a higher level of intelligence.

4.8. COLLECTIVE INTELLIGENCE

As a digital literacy skill, collective intelligence enables people to pool their knowledge together to compare and contrast notes for the purposes of achieving a common goal (Reynolds, 2016). As such, learner gets to exploit the potential arising from networked communications by participating in processes known as collective intelligence. It is evident that like-minded persons have the tendency of gathering on the existing online platforms in such a way that embrace the common enterprises that are provided within a given structure. Most of these platforms entail accessing and processing information in a beneficial manner that both creators and consumers of media content would easily identify with (Reynolds, 2016). Therefore, this is a world where everyone has a piece of information, but in essence, no one has knowledge of everything. As such, there is need to tap into the pool of information and knowledge that a particular group of people knows or has in possession of in order to improve their individual performance and output.

In fact, there are structures in place geared at facilitating the experimentation as to how individual work within specific fields of knowledge cultures, as well as understanding what they are capable of accomplishing when they pool their knowledge and skills together. Furthermore, the existing institutions also facilitate the sustenance of social production of knowledge. Conversely, collective intelligence stands out as an alternative source of power that allows individuals and communities from the grass root levels to respond in an effective manner, especially when government institutions arise to promote both national as well as communal interests. Presently, there are efforts being injected by governments and corporates to facilitate the harnessing of collective intelligence in order to promote both growth and development in the society.

As such, this is considering as the major driving force behind the adoption of Web 2.0 in the modern-day world. Similarly, children as well as adults are also acquiring the skills that they require in operating within knowledge communities through their active interaction with popular cultures (Ng, 2012). This is similar to the case relating to the fact that play is among the most instrumental conduits of acquiring new knowledge and information, which is later used to or applied in completing other tasks with a more serious or higher cognition capacities. A good example is that involving different Pokémon, each equipped with crucial skills as well as details relating to the various species of Pokémon, which in turn add up to collective intelligence. As such, the knowledge framework extends in every new occasion in such a way that whenever two or more youths engage one another in a Pokémon game, they gain something new as provided for under the concept of collective intelligence.

In this regard, it is worth noting that collective knowledge is an instrumental digital skill as it enables most of the users to gain new knowledge through the knowledge that others possess within their communities or environments (Eshet-Alkalai, 2004). For example, scientists that specialize in specific fields of learning or research can make use of this platform of collective intelligence to train new minds for them to be in a position to take after their jobs when the time is right. A good approach would be engaging the schoolteachers in science related schools and classes such as medical schools to collect as well as analyse real data in the same area of study, which in turn increases the adoption of new knowledge and information. Therefore, by sharing this construct with the junior teachers, the scientists create a pool of knowledge among the young learners, which in turn becomes enough in facilitating further research and development in their specific field of science specialty.

4.9. JUDGMENT

Another crucial digital skill that the youth should learn in order to improve their chances in being actively engaged in the participatory as well as convergence cultures of their respective societies is judgement. This is especially relating to the fact that for information to be considered as both credible as well as valid, it is instrumental that the source from where the information was acquired be a trusted one (Knobe & Lankshear, 2008). Otherwise, one would end up peddling rumours and other forms of baseless propaganda with little or no credible background. The construct of judgment arises from the need to ensure that the collective intelligence contributions made by different players within the society are not only credible but also substantive. This is therefore a sign that the processes undertaken in this case involve many errors, in most cases involving issues of misinformation (Katz, 2007). With the emergence of misinformation, there could be confusion and possible chaos, especially if the information used is not credible or incites the masses to act up against one another. Nonetheless, most societies fail to treat such misinformation with credence, as when it emerges, it is worked over, then either refined or dismissed before the emergence of a new consensus.

The modern-day society prides in teaching people on the different ways to think about knowledge, as well as discern their approach to intelligence. A common perception arising in the modern-day world is the fact that knowledge emerges as a product of collective intelligence as opposed to being a process. Therefore, judgment skills enable an individual to learn how to discern the existing information sources in order to be in a position to establish the credibility of each source of media. As mentioned above, some sources of information may not be credible, and as such, the information contained in these media contents, is not only misleading but also very wrong (Calvani, Cartelli, Fini, & Ranieri, 2008). As such, by exercising proper judgment skills, an individual learns how best to evaluate the

different sources of information that he or she comes across, thereby avoiding cases of misinformation when they come across misleading tabloids and media contents.

Wikipedia is considered as one of the key technologies of the online collective intelligence communities. The reason for this assertion is that wikis provide a significant source of information to users from all classes, especially considering the fact that most of this information is drawn from different sources. In fact, wikis are the single most comprehensive source of information within the online technological platforms, especially considering the fact that it contains information drawn from all fields, subjects, professions, backgrounds as well as countries, among many others. Giles (2005) argues that such collective intelligence communities play an instrumental role in promoting learning among the communities that they serve, by facilitating an increased ability for users to access the news and information that they require to make everyday decisions.

Nonetheless, it is imperative for consumers of this information to develop a critical perspective to analyzing each content of information that they come across. This is because an assumption that because certain information was published by a trusted sources then the information is true can be very wrong (Eshet, 2012). For instance, not all the information posted in Wikipedia is entirely true. Therefore, users have to correlate the sources of information and the timing in which the information is presented to make the correct judgments regarding the information at hand.

4.10. TRANSMEDIA NAVIGATION

This particular type of digital literacy skills entails empowering people with the capabilities to identify as well as follow the developments within the society, such as following the flow of a new story, or digging up the history of an old story, whereby they are in a position to incorporate all the new information gained through

this approach using multiple modality platforms. This comes in the backdrop of the growing prevalence of both participatory as well as convergence cultures within the modern-day society, all attributable to the growing adaption of new media platforms across different communities as well as societies across the world. In fact, it is worth noting that in today's modern era of convergence, the consumers have become the hunters and gatherers of information. As such, they pull together different pieces of information from multiple sources in order to allow them to form a new synthesis, a concept referred to as transmedia navigation (Jenkins, 2006). For instance, storytellers usually exploit the potential of transmedia navigation when telling stories by pulling together information from different sources so as to piece together a single entertaining narrative for the eagerly receptive audience.

Similarly, advertises also exploit the concept of transmedia navigation to discuss different branding perspectives as drawn from the multiple touch points of consumers' perceptions. Similarly, different networks may also work towards the exploitation of the intellectual property rights in their possession through a wide range of different channels. This allows the users to exploit diverging perceptions of media, which brings into focus one important thing, which is the fact that characters, information, stories as well as worlds are drawn across divergent modes of representation. Transmedia navigation therefore provides a platform through which the users can share and relate their stories from different platforms, providing the basic level that facilitates the correlation of stories as told through various media platforms. According to Jenkins (Jenkins, 2004b), Pokémon is something that one has to do as opposed to something that an individual simply reads, watches, or consumes from a given source of media content.

For instance, being that there are hundreds of Pokémon in the market, it might not be possible for a single user to be in possession of matching knowledge of all these Pokémon game settings. Furthermore, there is no single text that provides information or basic training regarding the usage of Pokémon. Therefore, the best way to promote the growth and expansion of knowledge in this particular area is as

a result of transmedia navigation. In essence, new media literacy involves the ability of an individual to think across different forms of media, irrespective of the level of understanding that they derive from each media such as the simple recognition level, the narrative logic level, as well as the rhetoric level. The level of simple recognition entails identifying the same type of content as it translates across the different modes of representation.

The narrative logic level entails understanding the connections between the stories communicated through different media platforms (Covello, 2010). The rhetoric level of understanding relates to learning how to express an idea within a single medium or across the media spectrum. Therefore, transmedia navigation primarily refers to the manner in which stories and arguments are analysed and processed, considering the prevailing developments as they arise within an emerging convergence culture construct. This also allows users to express their opinions and ideologies in a manner that would enable proper exploitation of the existing opportunities and affordances in the market represented by the new landscape of media platforms, primarily the new forms of media. Simply put, transmedia navigation involves the ability of users to read as well as write across the different available forms of expression.

4.11. NETWORKING

Networking refers to the ability of an individual to search for information, synthesize the information acquired, as well as disseminate it across different platforms and audiences. As such, the new media platforms have made it easier for individuals to exercise and harness their networking skills (Black, 2009). The modern-day world operates in such a manner that facilitates the collective production of knowledge which also supports the creation of communication platforms upon different platforms of the media. It is evident that the capacity to network emerges as being one of the core social skills as well as a mark of cultural

competency. In fact, there is a significant change in these structures to facilitate creation of resourceful students, not to mention a shift in measuring the dimensions of resourcefulness. Initially, resourcefulness was considered as the being in possession of a wide palette of information. As such, one could easily select which set of resources to use in accessing specific information. On the contrary, a resourceful student is one who is in a position to navigate successfully through an already abundant as well as a continuously changing world of information, facilitated by the widespread prevalence of digital media platforms.

In an academic setting, all students want to succeed in their academics by excelling in their examinations. Therefore, the increasing need for achieving academic success can be fulfilled when the student tap into the numerous search systems that allow them to access information needed in enlightening their brains (Black, 2005). Examples of some of the popular sites used by students to source this information across online platforms include Google.com, Amazon.com, Ebay.com, Epinions.com, Last.fm, Del.icio.us, Answers.google.com, and Citeulike.org among many others. It is worth noting that each of these sites provides the user with specific knowledge that is considered instrumental in widening their personal scopes of knowledge. In addition, these platforms also enable the users to access specific information and media content required in furthering their quest to advance their knowledge, such as the access to new books and other reading materials by students.

Google.com is the leading search engine in the world, now considered the ubiquitous Google search engine (Aviram & Eshet-Alkalai, 2006). In fact, the Google algorithm conducts a strategic analysis on the existing links of related sites and websites to allow for the sharing and paring of information that would be considered interrelated or relevant to specific topics. Amazon.com suggests to students the books that they may like or want to read based on their individual preferences as well as those of other similar users. Ebay.com creates a complex reputation system between different users in such a way that it facilitates the

establishment of trust for a particular user (Raish & Rimland, 2016). Epinions.com is an SEO that enables new customers to determine the reliability of a product or service based on the shared experiences or opinions given by other customers. Last-fm is a radio station that provides users with personalized radio services selected in relation to the preferences that other users found interesting or entertaining. Conversely, it is clear from these approaches that networking is instrumental in promoting the sharing as well as the acquisition of new knowledge.

Conversely, it is notable that most of the sites mentioned above rely heavily on networking to suggest the possible sites that a user may find useful in his or her quest to acquire new information. Therefore, it evidences the necessity for people to create effective as well as sustainable networking platforms that would enable them to succeed in the future, especially for the case of students (Knobe & Lankshear, 2008). Similarly, these networking skills can also be applied in the production and sharing of media content, thereby increasing the level of activity of the youth population in the respective participatory as well as convergence cultures of their communities. Furthermore, this also allows for easier sharing of information from one source to another, not to mention publication of the information to make it available on mass demand, such as through the publication of a blog post, or a post to one of the leading social media platforms like Twitter.

4.12. NEGOTIATION

Negotiation as a digital skill empowers groups of people to from one community to the next, taking into consideration the diverse settings within the society, and as a result, learn how to discern, respect, and accommodate the diverging views and practices within the society. Furthermore, negotiation also entails grasping of the existing norms as well as adhering to the alternative norms (Su & Kuo, 2010). Of particular importance is the fact that fluid communication within the modern-day setting is instrumental in bringing new groups of people or communities closer to

one another. The absence of this approach would lead to people living their entire lives in segregation. In fact, the fluid communication present in the new media environment is instrumental in bringing together groups that would otherwise have lived segregated lives. Therefore, it is worth noting that culture flow very easily, and with ease, from one community to the next (Alkali & Amichai-Hamburger, 2004).

It is also worth noting that people have a wide range of different online platforms to choose from when selecting the right platform to address conflicting values. It is also imperative to note that everything that is facilitated through negotiation processes take into consideration the prevailing cultural differences (W. J. Potter, 2010). This is especially considering the substantive role played by culture in the provocation of ideologies and specific cultural practices that identify specific communities. Negotiating therefore enables individuals from different cultural backgrounds to interact with one another with ease, without conflicting or discriminating upon one another. As a result, this may also increase the growth in the prevalence of the convergence and participatory cultures of individuals from different communities (Aviram & Eshet-Alkalai, 2006). This is especially considering that some communities conduct ethnic profiling by placing one race ahead or above the other, whereby prejudicial tendencies as well as racial biases exude the interactions as well as social encounters of different people. The growth of the online community has also been effective in promoting the adaptivity in the different negotiation skills that individuals may possess (W. Potter, 2004). In most encounters, users engage one another on different online platforms including Facebook and Twitter, and as such, can interact easily irrespective of geographical distance such as Turkey, China and the US or UK.

In fact, it is worth noting that the literacy skills that individuals acquired within the 21st century are those that enable the participation of new communities emerging within the networked society (Alkali & Amichai-Hamburger, 2004). The most common platform of networking widely adopted across various communities

globally is the social media platform. The platforms are what enable learners to exploit information appliances, in addition to other existing social networks as well as simulation tools availed by the various digital media platforms in the market. In the same regard, this also facilitates proper exchange and sharing of information from one community to the next with the help of the many digital media platforms in existence (Miller & Bartlett, 2012). Of specific importance is the use of these new media platforms to facilitate better and faster communication among people from different places on the planet. Furthermore, access to critical knowledge also promotes easier and smooth negotiations.

CHAPTER 5
SUB-COMPETENCIES OF NEW MEDIA LITERACY SKILLS

5.1. INTRODUCTION

The following section is an analysis of the sub-competencies of the new media literacy skills as discussed in the above section. This is especially considering the fact that the eleven digital literacy skills discussed above need to be developed at a personal level to enable each learner to execute them effectively (Martínez-Abad, Torrijos-Fincias, Gamazo, & Conde, 2018). In this particular case study involving the Turkish youths aged 18 to 22 years, it is imperative to note that the effective execution of these digital literacy skills will be very instrumental in promoting the growth of their participatory as well as convergence cultures with regard to new media platforms.

Initially, the grasping of new media competencies largely reflects on the key competencies of media literacy, which in turn enable an individual to be both a media content creator as well as a media content consumer. In essence, these key competencies of new media literacy skills include access, analyzing and evaluating, creating, reflecting, as well as acting. Access relates to a user finding and using skilfully the tools of media as well as technology, in addition to sharing the information considered appropriate and relevant with others (Marty et al., 2013). Analysing and evaluation relates to the appropriate comprehension of the messages in each piece of media content, in addition to applying the skill of critical thinking to analyse the key features of the media content, including quality of the message, the credibility of the informer, the veracity of the media content, as well as the point of view of the media content creator. Furthermore, this analysis also takes into consideration the potential consequences as well as effects of a particular message to the target audience (Mishra & Kereluik, 2011).

Creation of media content relates to the composition as well as the generation of media content by taking into task the creativity as well as confidence of the media content creators. In this regard, the creation of each piece of media content must take into perspective the self-confidence of the media content creator in terms of self-expression with awareness of the target and potential audience, the purpose of the message, as well as the techniques necessary for composition (Tyner, 2014). Reflection relates to the application of social responsibility as well as ethical principles to the individual identities as well as lived experiences of both the media content creators as well as media content consumers. Other aspects considered in this reflection include the communication behaviour as well as the conduct of the concerned parties (Martin & Madigan, 2013).

Acting relates to working either individually or as a group in the sharing of new knowledge acquired through various digital media platforms in solving the day to day challenges, including family issues, workplace challenges, as well as community challenges (W. J. Potter, 2016). Acting also relates to the individualised levels of participation as a member of the community at a local level or the regional level, or in some cases, at the international levels. Now that we are aware of the essential competencies that individuals and the community at large must have in order to be active participants in the creation, consumption as well as sharing of media content, it is imperative to evaluate the specific sub competencies relating to each of the new media literacy skill discussed above. In analysing the sub competencies of these new media literacy skills, the focus will centre on the sub needs of each skill, as well as demystifying all the questions that must be asked in order to define a skill as a whole.

5.2. PLAY

Play, as discussed above, is one of the best ways through which an individual can learn how to create as well as consume media content. Subsequently, this makes the

individual an expert in the new media literacy skills. Furthermore, this is one of the main digital skills required for one to be an active participant in the participatory culture, as well as the convergence cultures (W. J. Potter, 2010). Therefore, in order to possess this skill as well as use it effectively in the production as well as consumption of new media content, it is essential for one to analyse the sub competencies involved in this particular new media literacy skill. This largely relates to the questions that one has to ask and individual player both as a media content creator as well as a media content consumer.

The first question is how does one get engaged into a game to become an active player of the game? As mentioned above, playing is one of the best ways for individuals to acquire the much needed media literacy skills for becoming effective contributors as well as consumers of media content. Therefore, when asking how an individual gets engaged into a game, the focus here is on the rules of the game, and as such, subsequently define the ones eligible for a game and the ones that are not eligible (Ilomäki, Paavola, Lakkala, & Kantosalo, 2016). The second question to ask in this case relates to how one is motivated into playing the games after engaging in them. Not everyone is always eager to play the games as some may be forced into the games by coincidence or coercion. Therefore, it is necessary to define the motivational skills necessary in this case to enable the individuals continue being engaged in the games as players.

Other questions relate to the degree of risks that individuals take during these games, as well as the degree of intensive problem solving that individuals require in their games (Problem Solving and Liking/Motivation). These primarily relates to the level of intensiveness of the games that would have a significant effect on the digital media skills of the players (Jones-kavalier & Flannigan, 2006). In essence, the games are both a learning platform as well as a platform for one to have fun and enjoy the games (Learning and Trial/Error). Therefore, the need here is to balance how much of the game entails learning and how much of the game entails having fun. The more fun there is in a game, the more an individual will be engaged in the

game, and as such, subsequently increase the problem solving as well as associated risk analyses in the game (Risk Taking). Furthermore, this particular digital literacy skill also defines the degree of liking in these games that fosters learning within an individual. Also design competencies should be thought important subsets of play (Design Competency)

The Play Skill in this work is consisted of 7 sub-competencies and related questions as below.

Table 5.1: The Play Skills

Liking/Motivation	I like playing digital and computerized games.
Trial/Error	When I have a new device, I try every feature of it.
Risk Taking	I take risks when I play digital and computerized games.
Competency	I find myself competent on digital games
Learning	I like challenging myself when I play.
Problem Solving	I like difficult games and challenge myself.
Design	I design games.
Design Competency	I think myself competent on designing digital games

5.3. SIMULATION

Simulations are also one of the most effective ways for an individual to learn and acquire the necessary digital media skills required in the modern day participatory as well as convergence cultures. This is especially with regarding to the fact that majority of these simulations give the individuals a real-life experience as to what they should expect in the real world (Kim & Choi, 2018). For instance, students using simulations of the stock market exchange to learn how to trade in stocks get a feeling of the real world regarding to the way investors in the financial markets review and evaluate the movements of stocks using simulations in order to make an

informed investment decision regarding their uptake of a particular variant of stocks.

In this case, the focus questions relate to how an individual gets involved in a particular simulation, such as the example mentioned above relating to the simulations in the stock market exchange (Participation). The reason for this assertion is because there must be appropriate structures in place to enable an individual to get into a simulation, not to mention keeping the individual engaged (Competency) during the entire simulation without necessarily pulling out in the course of the simulation (Renganathan & Kral, 2018). Another question arising in this case is the degree of intensity of these simulations that one needs to engage in order to make the simulation activity more or less a real-life transformation (Necessity), and subsequently an effective learning platform (Learning Method and Design).

The Simulation Skill in this work is consisted of 5 sub-competencies as below

Table 5.2: The Simulation Skills

Participation	I think that everything should be done via simulation before tried in real life.
Competency	I find myself competent on designing simulations
Learning Method	I think games and programs such as using a plane / vehicle or saving someone are useful.
Design	I design simulations.
Necessity	I think that simulations are necessary training methods for risky events and are vital for things like recovery from earthquakes.

5.4. PERFORMANCE

The digital skill of performance and that of play go hand in hand. The reason for this assertion arises from the fact that when people play, they have to assume specific roles of the characters in the game. Therefore, for them to win the game, they have to embody the character of the players, and as such, become one with the persons they are representing or pretending to be in the play (Adaptation). Subsequently, this is what brings in the concept of performance in the plays as it enables one to understand the specific features and characteristics (Knowledge) that define his or her role in the play (Haubrich, Reinfried & Schleicher, 2008). Take for instance when children are playing one of the many Shakespearean plays (Competency), the children have to not only understand the concept of the play, but also the theme, the times, as well as the specific characteristics that make each actor in the script unique in his own way (Resources) .

For instance, in the Shakespearian play 'The Merchant of Venice', some of the leading characters include Shylock, Portia, Solanio, Antonio, and Lorenzo among many others. Take for instance that a child is playing the part of Shylock in the play, the child must learn the specific personalities that make up the character of Shylock, such as stinginess, greediness, as well as being an unscrupulous trader (Ilomäki, Kantosalo, & Lakkala, 2011). As such, this helps an individual to learn through performance and subsequently acquire the necessary digital skills required to be actively involved in the participatory as well as convergence cultures of their respective communities.

In this case, the focus questions will centre on how individuals get engaged in a specific performance, the nature of each performance that would assist an individual to pick one or more digital literacy skills that are required in becoming an active participant in the participatory cultures of their specific communities (Identities and Variety). Furthermore, the focus here will be on demystifying the

level of intensity of each performance in such a way that the performer becomes a whole new person, hence learning a whole new lot of skills and experience regarding the particular performance that he or she is engaged in (He, Zhu, & Questier, 2018). For instance, if an individual is engaged in a performance as a schoolteacher or as a doctor, he or she must learn the specific personalities that define each character and as such, subsequently enable him or her perform the act effectively. In the above case, one has to learn how to think and act like a doctor or a schoolteacher in order to be successful in performing a script involving them.

The Performance Skill in this work is consisted of 6 sub-competencies and its questions as below

Table 5.3: The Performance Skills

Identities	I use different identities to experience new understandings. (Role playing, etc.)
Knowledge	I know what Avatar, Anime and Digital Identity mean.
Adaptation	I create different identities on different games.
Variety	When I have a digital character or avatar, I can change my behavior by considering my needs.
Competency	I am competent on acting and playing a role.
Resources	I know how I need to change my roles in digital life.

5.5. APPROPRIATION

In essence, the digital skill of appropriation relates to the capability of an individual to remix the existing media content in order to form a new piece of media content. As such, this relates to the fact that in some cases, the media content presented to the eager consumers is not entirely new but rather an improvement of the old media content. This is especially the case in arts and other inventions (So & Lee, 2014). What really happens is that the inventors do not necessarily come up with new inventions and materials, but simply improve on what is currently existing,

modifying it and structuring it in such a way that it becomes more potent and significantly applicable to the modern-day settings (Utilization).

In this case, for instance, a movie director as a creator of entertainment media content can use the theme and plot of an old movie or play done in the 18th or 19th centuries and transform it in such a way that it becomes relevant and applicable to the audience in the 21st century through the application of the skill of appropriation (O. Hatlevik, Throndsen, Loi, & Guðmundsdóttir, 2018). In the same regard, it is worth noting that the movie director has to specifically tune every feature of the play in the movie to apply to his current audience, albeit maintaining the originality of the script by adopting the medieval setup.

Conversely, the questions asked in this case relate to the specific nature of a particular piece of media content that would improve the appropriation skills of a media content creator, or the intensity of a particular script that would significantly affect the learning curve of the participants in an appropriation exercise (Lorenzo & Dziuban, 2006). Subsequently, it is worth noting that the more intense the appropriation is the more difficult it becomes for one to easily transform, manipulate, or improve (Imagination) on the media content, and as such, requiring expert skills to do so (Creativity). This in turn significantly improves the appropriation skills of a particular media content creator as it forces him or her to think outside the box (Perspective) in order to come up with the most effective way of appropriating the old media content and making it relevant and consumable to the current audience (Participation) that makes up the consumer market of the media content.

The Appropriation Skill in this work is consisted of 5 sub-competencies and questions as below

Table 5.4: The Appropriation Skills

Utilization	On digital platforms, I use the work of others to create my work such as music, video or games.
Creativity	In the digital world, I create new content, such as algorithms, media, or the like.
Participation	I get comments from other users on my digital platforms.
Perspective	I try to add value to others' works
Imagination	I can imagine the connections and the draft plan of the elements that I will use in my digital actions.

5.6. MULTITASKING

In essence, the digital skill of multitasking relates to the ability of an individual to perform more than on task at the same time (Variety). Therefore, when analysing the sub competencies of this particular media literacy skill, the focus (Attention and Resources) relates in the features of a particular multitasking assignment that would significantly transform the learning platform of the participants, not to mention significantly improving their respective participatory as well as convergence cultures (Kavulya, 2007). The reason for this assertion is because the multitasking construct of media literacy enables individuals to bring out their best performance as creators as well as consumers of media content, and as such, play an instrumental role in shaping the world through creation and sharing of media content.

Therefore, in order to make multi-tasking an effective conduit in the acquisition of digital media content, the focus here will shift on the specific activities that an individual will have to do in order to successfully multitask. In this case, the big question will be what are the specific activities or events that an individual can successfully multitask in order to produce credible, reliable, as well as informative media content (Hatlevik & Christophersen, 2013). In the same regard, the focus will be also on the number of activities that an individual can multitask at one go in

order to be considered a guru or a pro in the area, and subsequently promote the learning curve of the affected individuals.

By learning the level of coordination of an individual in a particular task of multitasking, it is possible to discern just how much concentration an individual has to employ in a specific task in order to make it worthwhile (Gretter & Yadav, 2018). Therefore, another question to ask while cultivating the sub competencies of this particular digital literacy skill is what are the specific types of tasks that an individual who is multi-tasking has to involve himself or herself in so that he or she can significantly improve the outcome of their multi-tasking assignment, not to mention gaining significant knowledge and expertise from undertaking the task (Participation and Perspective)

The Multitasking Skill in this work is consisted of 5 sub-competencies and questions as below

Table 5.5: The Multitasking Skills

Variety	I can work on different jobs at the same time. (Working by listening to music, learning by playing, doing two or three things spontaneously.)
Attention	I focus on what I do without distraction. (For an homework or job work)
Resources	When I focus on a job, I don't miss other things that are important to my life.
Perspective	I can see the mutual benefits of focusing on different things and their connections.
Participation	I am competent to see what is implied and meant when I am listening.

5.7. DISTRIBUTED COGNITION

The construct of distributed cognition relates to the ability of an individual to exercise his or her individual level of intelligence with regard to the creation as well as the consumption of media content. The reason for this assertion is because one requires a particular level of intelligence to create media content. Similarly, one also requires a significant level of intelligence in order to consume media content. Therefore, this level of intelligence is what relates to distributed cognition (Gyamfi, 2005). As such, individuals acquire digital literacy skills through distributed cognition by putting to task their individual intelligence to come up with special media content that will not only inform, but also educate as well as entertain the consumers of media content.

Therefore, when analysing the sub competencies involved under distributed cognition, one of the big questions is what are the levels of intelligence that one requires in order to become a good creator as well as consumer of media content (Openness and Knowledge)? Another question arising from the analysis of this particular digital literacy skill, is to what degree must an individual engage his or her intelligence in order to significantly contribute in the creation as well as the consumption of media content (Fernandez-Villavicencio, 2010). This is especially with regard to the emerging concepts of new media including both the participatory as well as the convergence cultures, which requires individuals to be actively involved in the creation, consumption, as well as sharing of new media content in such a way that it significantly affects the perception of the audience to the new media content (Belief and Resource).

Of particular importance in this case is how intelligence will affect or dictate the manner in which each individual will apply digital cognition in the creation and consumption of media content. Furthermore, it is worth noting that the best approach to undertake this analysis is to analyse the specific types of media content

that the affected individuals engage in, thereby determining how much of their intelligence must come into play (Eysenbach, 2007). Similarly, the focus will also centre on the media content created as well as consumed by these individuals, which will definitely put to task the nature of their digital literacy skill of distributed cognition (Participation).

The Distributed Cognition Skill in this work is consisted of 5 sub-competencies and questions as below

Table 5.6: The Distributed Cognition Skills

Openness	I use different tools to get quality results. (Google Translation for translation, spelling checker for writing, Wikipedia for homework, planning digital calendar, Evernote for remembering)
Belief	I am competent to use technological tools to empower my personal knowledge and skills.
Knowledge	To solve the problems that I faced I use other's comments and contributions on forums
Resource	I can produce useful and fast results to use artificial intelligence (siri, bixby etc.) on my cellphone or computer.
Participation	I recommend technological tools to help my friends solve their problems.

5.8. COLLECTIVE INTELLIGENCE

This particular digital literacy skill requires the concerned parties to observe a number of provisions in order to facilitate the effective contribution of the digital literacy skill towards the adoption and development of participatory and convergence cultures in their respective cultures (Network and Resources). Of particular importance in this case is the analysis of how collective intelligence affects or influences the performance of individuals in the platform of participatory as well as convergence cultures. One particular area that is of concern is the fact

that, as a digital literacy skill, collective intelligence enables individuals to pool together their knowledge and skills in order to compare and contrast what each other knows, and subsequently apply this knowledge in the analysis and review of their common goals and objectives (Cortés, 2018). Therefore, this digital skill enables the learners to exploit the potential that comes from networked communications through their active participation in the collective intelligence processes.

Therefore, the sub competencies to be observed in this case relate to the level of intelligence and information that each member in a pool of collective intelligent people possesses (Warschauer, 2009). As mentioned above, this skill particularly centres on pooling together what people know to use it for a common goal (Utilization). As such, the usefulness of the information acquired once these people are pooled together to provide what they know will be directly involved to the individual levels of their understanding, experience, as well as skills in this area of analysis (Liking and Participation). For instance, a pool of knowledge comprising mainly of intellectuals will be very instrumental in providing a high quantity of knowledge necessary in improving the community at large (Dowell, 2018). On the other hand, a pool of knowledge drawn primarily from non-intelligent persons will have little or no relevant information to provide to the masses, let alone supporting the community in moving forwards, or in achieving its goals and objectives as a group. Conversely, the big question in this case is that is the level of intellectual capacity of the individuals that make up a pool of collective intelligence?

The Collective Intelligence Skill in this work is consisted of 5 sub-competencies and questions as below:

Table 5.7: The Collective Intelligence Skills

1	Utilization	When working on a topic, I consult my social media network or experts for analysis.
2	Network	I serve as an information provider for some forums, fanzines or similar digital platforms. (Wikipedia, Forum Dictionaries, etc.)
3	Resources	I am competent to use other's skill and knowledge
4	Liking	I prefer to be part of a team to get useful and efficient results.
5	Participation	I become a member of my specific groups on social media.

5.9. JUDGMENT

This particular digital skill relates to the ability of an individual to discern whether or not the information contained in a particular piece of media content is credible or not. Therefore, the analysis in this case centres on the critical analysis skills of each individual, which in turn empower him or her with the much needed judgmental skills (Belief and Trade Off). The reason for this assertion is that the source of particular media content is very instrumental in determining the credibility, validity, as well as reliability of a particular piece of media content (Claro et al., 2012). Therefore, if the source of media content is questionable, then it is highly unlikely that the media content published by the source is trustworthy (Resource). On the other hand, a source of media content that is considered to be trustworthy and to have earned the confidence of the masses would most definitely be accurate, in addition to being sublimely appropriate for both evaluation as well as analysis. This skills can also cover the participation of the person's efforts to verify and correct what is available (Contribution and Participation).

Therefore, in analysing the digital literacy skills of judgment, the questions that come to mind include what are the critical analysis skills of an individual? The reason for this assertion is because the critical analysis skills of an individual are

what determine his or her ability to discern whether or not the media content that he or she is consuming is credible or comes from a credible and reliable media creator. Since this is more or less an individual thing, as it is not possible for the authorities to create a platform that regulates the media content that users get access to, especially in this case involving new media platforms whereby people access information from different platforms including the internet, social media cites, cellular devices, as well as emails and other personalized accounts (Covello, 2010). Therefore, it is virtually impossible for skilled and experienced moderators to observe, monitor as well as regulate the media content that reach the final consumers in the new media era. As such, the best way to overcome this challenge is through the harnessing of individual judgment skills through critical analysis and evaluation of each piece of media content to discern its credibility, validity, as well as reliability.

The Judgement Skill in this work is consisted of 5 sub-competencies and questions as below

Table 5.8: The Judgement Skills

1	Belief	I check the accuracy of the information even if I know it right.
2	Trade Off	I care more about the accuracy of the news than its speed.
3	Contribution	I contribute to the accuracy of the news on social media by my actions and comments.
4	Resource	When I want to learn something, I get information from different sources.
5	Participation	I do not share or disseminate any information before verifying its reality from different sources.

5.10. TRANSMEDIA NAVIGATION

Transmedia navigation enables individuals to follow the developments of media content within the society (Navigation). A perfect example of this is following the flow of a new story such as the emergence of a new vigilante super hero in the community that is protecting the community from the rising wave of crimes perpetrated by evil villains. Another case of effective transmedia navigation would involve the digging up of the history of an old story, such as a case involving serial killers within a remote community (Buckingham, Banaji, Carr, Cranmer, & Willett, 2005). Transmedia navigation is particularly important in the sense that it enables users to engage one another on different platforms that would subsequently affect the respective perceptions of the final consumers of the media content (Liking and Story Transition). One particular real-life application of the concept of transmedia navigation is the manner in which the marketers use the skill of linguistic manipulation to promote a wide range of branding perspectives in order to reach out to as well as entice the final consumers of their products and services.

Conversely, the sub competencies involved in this case include how an individual performs transmedia navigation, in this case focusing on the specific skills that each person requires to effectively undertake transmedia navigation. Similarly, the focus also covers the investigative skills of an individual, as these are what enable the person to follow a trail of information that would subsequently materialize in some tangible media content (Creativity and Participation). As such, this applies to both current news as well as old news that an individual may be involved in investigating (Buckingham, 2013). Of particular importance, however, is the manner in which the investigator follows the clues in each trail in order to be in a position to piece together the information obtained and apply it to specific feature of media content.

Another question arising in this digital literacy skill is the manner involves the specific types of stories or media content that one needs to follow when applying

transmedia navigation (Care, Griffin, & Wilson, 2018). As such, the analysis in this case evaluates the degree of complexity of each media content or mysteries of a particular piece of media content that one needs to follow in order to establish an effective trail, thereby producing both credible, but also valid and reliable media content.

The Transmedia Navigation Skill in this work is consisted of 5 sub-competencies and questions as below

Table 5.9: The Transmedia Navigation Skills

1	Navigation	I read the books of the movies I have watched.
2	Story Transition	I would like to have different versions of the things I like because the versions of the same thing can be different from each other, such as movies, books and applications.
3	Liking	I like to follow heroes on every social media app. like Facebook, Twitter and Instagram.
4	Creativity	If I love something in the media, I create a different kind of content about it. (Writing a song about a game, editing a video for a book, vlogging)
5	Participation	I take part in forums to criticize different media types on the same work. (Games, videos, movies, music, etc.)

5.11. NETWORKING

According to Black (2009), networking relates to the digital skill that empowers individuals with the capability of searching for new information, synthesizing the information, as well as disseminating the information across different platforms of new media (Resource). In this regard, it is worth noting that new media platforms have brought about a significant transformation in the nature of networking, which has made it easier for people to access both information as well as media content. For instance, under Google.com, uses the networking concept to pull together websites with familiar information whenever a user types a particular keyword

(Bawden, 2001). This makes it easier for the user to search for information over the internet by providing them with various websites that may have information similar to the one they are searching for (Liking and Participation). In essence, this makes it much easier for a user to access the information that is needed from any online platform that Google.com has access to.

Therefore, in this particular case, the sub competencies involved relate to the ability of an individual to form the right keyword to use in searching for information from the Google search engine, and on any other platform that may be operating through a networked platform. In essence, what the user has to do is to key in the right keyword that would provide them with all the information that they require from a particular site by not only providing the website with the correct information, but also providing the other websites with information that is similar to the one contained in that particular site (Bauer & Mohseni Ahooei, 2018). Therefore, there is need for one to have the right skills in determining the keyword to use whenever he or she is searching for information from the networked platforms (Creativity). This would also enable the user to have access to a wide range of information from the provided sources as opposed to simply relying on what he or she knows and believe alone (Belief).

The Networking Skill in this work is consisted of 5 sub-competencies and questions as below.

Table 5.10: The Networking Skills

1	Resource	I think the comments of others are important for making the right choices.
2	Creativity	I try to build systems to get more comments and feedback from others.
3	Liking	I share my thoughts on Facebook, Twitter, Instagram and other social media channels.
4	Belief	I believe that diversity and differences make a society richer.
5	Participation	I do write comments and feedbacks about books, movies, travels and restaurants on social media and on related websites.

5.12. NEGOTIATION

This particular digital skill essentially involves the ability of an individual to interact with people from another culture or background that is different from their own without necessarily discriminating or prejudicing against one another (Perspective). The focus in this case is to bring about correlation and cohabitation of communities and societies from different backgrounds and platforms (Arke & Primack, 2009). As such, the sub competencies analysed in this case relate to the social skills of a person that enable him or her to acquire expert negotiation skills.

For instance, one would ask the question, what are the social skills required to motivate faster adoption of negotiation skills among users of media content. This will also relate to organizations as they too want to have a cordial relationship with their esteemed customers. As such, socialization skills such as outgoing, openness, cheerfulness as well as indulgences among many others is instrumental in promoting a cohesive and consolidated community irrespective of the cultural, religious, racial, ethnic, color, as well as social class differences that may be used to divide groups of people into separate divisions (Ananiadou & Claro, 2009). In most cases, the absence of negotiation skills would result in both prejudice as well

as discrimination and bias, or sometimes escalate into violence, especially in cases where a superior class of people consider all the other groups of minorities as unworthy and inferior compared to them (Diversity and Liking).

Therefore, apart from the social skills, it is also imperative for concerned stakeholders, such as corporations to learn customer relationship management (CRM) skills that would help in creating and maintain strong strategic alliances and relationships that last for a long period of time. Another issue arising relates to the degree of involvement of users in these socializing exercises that would ultimately affect their learning curve in acquiring negotiation as a digital skill (Brown, 2013). Furthermore, in acquiring the skill, one also has to learn the different perspectives that affect the outcome of his or her socialization activities, such as friendliness, concern, empathy, kindness, love, as well as fulfilment among many others (Belief and Trade Off).

The Negotiation Skill in this work is consisted of 5 sub-competencies and questions as below

Table 5.11: The Negotiation Skills

1	Perspectives	I can quickly see the point of view of others in order to solve problems I have with them.
2	Diversity	I consider it to be a learning opportunity to be with people who think differently from me.
3	Liking	I am competent on talking to people who don't think like me.
4	Belief	For a good relationship and persuasive power, I believe listening is more important than speaking.
5	Trade Off	I care more the accuracy of any information than being right on a subject.

CHAPTER 6
RESEARCH METHODOLOGY

6.1. INTRODUCTION AND RESEARCH DESIGN

The purpose of this research paper was to conduct a scaling project or a quantifying project with the view of assessing the digital skills in participatory culture. Participatory culture relates to the manner in which people contribute to the creation and consumption of media content within their respective localities. In this particular case, the research study focused on Turkey. As this quantifying project seeks to demystify the level of digital skills on the participatory culture of Turkish youngsters the research design is applied in a case study whereby the researcher concentrated on analyzing the digital skills that the Turkish youngsters possessed and how these digital skills enlightened them with media literacy skills, subsequently improving the prevalence of the study population in the participatory culture of their country.

6.2. RESEARCH METHOD

In this regard, the research method used was the qualitative research analysis, which focused on establishing the subskills of media literacy skills as competencies. In this case, the research first sought to demystify of literacy skills by evaluating the skills as a whole. A scale a developed based on the literature research, content evaluation and expert opinions.

The focus in this analysis was to determine how could be measured new media literacy skills. The reason for this approach is largely guided by the fact the level of participatory skills in both old media as well as new media is largely attributable to

the ability of the media content creators and the media content consumers to read and write proficiently regardless of the media type (Altun, 2006).

The next focus was on the level of media literacy, whereby the research analyzed the ability of the users to utilize based on self-reporting results. These also established the impact of digital skills in promoting the level of media literacy in the country, and subsequently promote the prevalence of both convergence as well as participatory cultures in the country. the analysis of the digital skills in the country used the eleven digital skills outlined by Henry Jenkins in order to determine how much of the skills were present in the country, especially among the target population, and what impact did the possession of these digital skills have with regard to the promotion of the participatory culture among the Turkish youths aged 18 years to 22 years of age (Alkali & Amichai-Hamburger, 2004). The choice of the qualitative and quantitative research methods was therefore instrumental in enabling the researchers obtain the ordinal primary data necessary for analyzing the premise of this research study.

In this work all digital skills examined and divided into sub-competencies. After literature scan, these sub-competencies are turned into questionnaire and scale questions. Scale questions are sent to the area experts namely Prof. Dr. Arzu Kihtir (Istanbul University – Communication), Prof. Dr. Turker Baş (Management Psychology), Ass. Prof Dr. Oğuz Demir (Economy) and Ass. Prof. Dr. Tulin Acar Otbicer (Measurement and Evaluation in Education). Questionnaire questions are updated, adapted, corrected and revised based on their opinions and recommendations. Translation of questionnaires' questions are verified by Yeşim Erberksoy (English Literature) and Aaron Miller (A Native Speaker).

6.3. DATA COLLECTION METHOD

The researcher adopted the survey tools as the most effective method of data collecting during this research study, whereby of the three techniques contained in the survey tools, the questionnaire approach was prioritized because of its many attributes, in preference of the interview technique as well as the observation method. The choice of this approach was guided by the fact that it was cheaper and much easier to administer a questionnaire research compared to interviews and observations (VanHoorn, Nourot, Scales, & Alward, 2014). Furthermore, questionnaires also enabled the researchers to get firsthand facts regarding the level of media literacy in the country, as well as the impact of digital skills in promoting the prevalence of the participatory culture within the Turkish community. This is especially considering the large study population primarily focused on the youngsters in the country aged between 16 and 22 years of age.

The Turkish and English questionnaires in the appendix details the questions asked to participants in the Turkish community with the sole aim of measuring the new media literacy digital skills. In this case, the study population was the youngsters within the Turkish community aged between 18 and 22 years of age. In most cases, the participants were university students or new high school graduates as well as newly employed people. Selected age bracket was purposefully determined as they were to show the last four- or five-years college graduates and consequently the education level on digital skills. The questionnaire analysis took into consideration the eleven digital skills as they played a critical role in determining their individual levels of digital skills (Wilson, Scalise, & Gochyyev, 2018). Furthermore, the questions asked were closed ended in order to facilitate standard collection of data from the participants, which subsequently supported the analysis as well as scaling of the digital skills in Turkey, with a special concentration on the youngsters aged 18 to 22 years who made up the study population.

6.4. DATA ANALYSIS

The data analysis method used in this research study was the qualitative method of data analysis, Confirmatory Factor Analysis (CFA), Robust Unweighted Least Squares, Mann Whitney U, Kruskal Wallis and Kolmogorov-Smirnov Tests and descriptive statistics were used in analyzing and compiling the research data into substantial information that could be used to scale the prevalence of digital skills within the Turkish community. Furthermore, the choice of the data analysis method was especially instrumental as it enabled the researchers to conduct an in-depth analysis of the ordinal data collected during the research study. In essence, the researchers relied on primary data to analyze the premise of the research study.

Five-point Likert scale with eleven factors and 58 items was administered to a sample of 354 and the factorial structure of the scale was tested with Confirmatory Factor Analysis (CFA). As a result of not satisfying the multiple normality assumption between the items, parameter estimation was made by using asymptotic covariance matrix by Robust Unweighted Least Squares (ULS) method.

Percentage frequency statistics regarding the demographic characteristics of the participants aged 18-22 years are shown in findings pages.

It was observed that the subscale scores of the Digital Competence subscales of the participants between the ages of 18-22 did not comply with the normal distribution. For this reason, nonparametric tests were used to compare the subscale scores of the participants between the ages of 18-22 with respect to gender, high school type, secondary school type and city variables.

Mann Whitney U and Kruskal Wallis tests were used to test whether there was a significant difference between the levels of Digital Competence of the participants between the ages of 18 and 22 according to their gender and school type

6.5. ETHICAL CONCERNS

The use of live participants for the research required them to observe ethical principles of confidentiality or anonymity of the research participants as well as free will. All the participants had a opted an agreement showing that they willingly joined the questionnaires. In addition, the researchers observed the confidentiality principle by not disclosing the identities of the participants.

Table 6.1: Scale Questions As A Whole

1	Play: the capacity to experiment with one's surroundings as a form of problemsolving		
	1	Liking/Motivation	I like playing digital and computerized games.
	2	Trial/Error	When I have a new device, I try every feature of it.
	3	Risk Taking	I take risks when I play digital and computerized games.
	4	Competency	I find myself competent on digital games
	5	Learning	I like challenging myself when I play.
	5	Problem Solving	I like difficult games and challenge myself.
	6	Design	I design games.
	7	Design Competency	I think myself competent on designing digital games
2	Simulation — the ability to interpret and construct dynamic models of real world processes		
	1	Participation	I think that everything should be done via simulation before tried in real life.
	2	Competency	I find myself competent on designing simulations
	3	Learning Method	I think games and programs such as using a plane / vehicle or saving someone are useful.
	4	Design	I design simulations.
	5	Necesity	I think that simulations are necessary training methods for risky events and are vital for things like recovery from earthquakes.

3	Performance — the ability to adopt alternative identities for the purpose of improvisation and discovery (Avatar, Projected Identities)		
	1	Identities	I use different identities to experience new understandings. (Role playing, etc.)
	2	Knowledge	I know what Avatar, Anime and Digital Identity mean.
	3	Adaptation	I create different identities on different games.
	4	Variety	When I have a digital character or avatar, I can change my behavior by considering my needs.
	5	Competency	I am competent on acting and playing a role.
	6	Resources	I know how I need to change my roles in digital life.
4	Appropriation — the ability to meaningfully sample and remix media content		
	1	Utilization	On digital platforms, I use the work of others to create my work such as music, video or games.
	2	Creativity	In the digital world, I create new content, such as algorithms, media, or the like.
	3	Participation	I get comments from other users on my digital platforms.
	4	Perspective	I try to add value to others' works
	5	Imagination	I can imagine the connections and the draft plan of the elements that I will use in my digital actions.
5	Multitasking — the ability to scan one's environment and shift focus as needed to salient details		
	1	Variety	I can work on different jobs at the same time. (Working by listening to music, learning by playing, doing two or three things spontaneously.)
	2	Attention	I focus on what I do without distraction. (For an homework or job work)
	3	Resources	When I focus on a job, I don't miss other things that are important to my life.
	4	Perspective	I can see the mutual benefits of focusing on different things and their connections.
	5	Participation	I am competent to see what is implied and meant when I am listening.
6	Distributed Cognition — the ability to interact meaningfully with tools that expand mental capacities		
	1	Openness	I use different tools to get quality results. (Google Translation for translation, spelling checker for writing, Wikipedia for homework, planning digital calendar, Evernote for remembering)
	2	Belief	I am competent to use technological tools to empower my personal knowledge and skills.
	3	Knowledge	To solve the problems that I faced I use other's comments and contributions on forums
	4	Resource	I can produce useful and fast results to use artificial intelligence (siri, bixby etc.) on my cellphone or computer.
	5	Participation	I recommend technological tools to help my friends solve their problems.

7	Collective Intelligence — the ability to pool knowledge and compare notes with others toward a common goal		
	1	Utilization	When working on a topic, I consult my social media network or experts for analysis.
	2	Network	I serve as an information provider for some forums, fanzines or similar digital platforms. (Wikipedia, Forum Dictionaries, etc.)
	3	Resources	I am competent to use other's skill and knowledge
	4	Liking	I prefer to be part of a team to get useful and efficient results.
	5	Participation	I become a member of my specific groups on social media.
8	Judgment — the ability to evaluate the reliability and credibility of different information sources		
	1	Belief	I check the accuracy of the information even if I know it right.
	2	Trade Off	I care more about the accuracy of the news than its speed.
	3	Contribution	I contribute to the accuracy of the news on social media by my actions and comments.
	4	Resource	When I want to learn something, I get information from different sources.
	5	Participation	I do not share or disseminate any information before verifying its reality from different sources.
9	Transmedia Navigation — the ability to follow the flow of stories and information across multiple modalities		
	1	Navigation	I read the books of the movies I have watched.
	2	Story Transition	I would like to have different versions of the things I like because the versions of the same thing can be different from each other, such as movies, books and applications.
	3	Liking	I like to follow heroes on every social media app. like Facebook, Twitter and Instagram.
	4	Creativity	If I love something in the media, I create a different kind of content about it. (Writing a song about a game, editing a video for a book, video vlogging göster in a video show)
	5	Participation	I take part in forums to criticize different media types on the same work. (Games, videos, movies, music, etc.)

10	Networking — the ability to search for, synthesize, and disseminate information		
	1	Resource	I think the comments of others are important for making the right choices.
	2	Creativity	I try to build systems to get more comments and feedback from others.
	3	Liking	I share my thoughts on Facebook, Twitter, Instagram and other social media channels.
	4	Belief	I believe that diversity and differences make a society richer.
	5	Participation	I do write comments and feedbacks about books, movies, travels and restaurants on social media and on related websites.
11	Negotiation — the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.		
	1	Perspectives	I can quickly see the point of view of others in order to solve problems I have with them.
	2	Diversity	I consider it to be a learning opportunity to be with people who think differently from me.
	3	Liking	I am competent on talking to people who don't think like me.
	4	Belief	For a good relationship and persuasive power, I believe listening is more important than speaking.
	5	Trade Off	I care more the accuracy of any information than being right on a subject.

CHAPTER 7
FINDINGS

7.1. VALIDITY TEST OF THE SCALE WITH CONFIRMATORY FACTOR ANALYSIS

Five-point Likert scale with eleven factors and 58 items was administered to a sample of 354 and the factorial structure of the scale was tested with Confirmatory Factor Analysis (CFA). As a result of not satisfying the multiple normality assumption between the items, parameter estimation was made by using asymptotic covariance matrix by Robust Unweighted Least Squares (ULS) method. The t values for the significance level of the relationship between each item and the implicit variable were examined and the path graph is shown in Appendix 1. Since the t-value of the 40th item was not found to be significant, this item was removed and a second CFA test was performed on the remaining 57 items. In the second stage, the relationship between the items related to each dimension was found to be significant ($p < 0.05$). The results of the factor loadings of the 57-item scale are given in Table X; the road graph is shown in Appendix 2.

Table 7.1: The results of the factor loadings

Sub-Dimensions	#	Lamda-Factor Loadings
Play	M1	0.75
	M2	0.57
	M3	0.72
	M4	0.73
	M5	0.79
	M6	0.48
	M7	0.63
Simulation	M8	0.44
	M9	0.60
	M10	0.51
	M11	0.53
	M12	0.27
Performance	M13	0.48

	M14	0.51
	M15	0.59
	M16	0.54
	M17	0.39
	M18	0.57
Appropriation	M19	0.49
	M20	0.61
	M21	0.43
	M22	0.45
	M23	0.62
Multitasking	M24	0.61
	M25	0.31
	M26	0.50
	M27	0.62
	M28	0.47
Distributed Cognition	M29	0.51
	M30	0.60
	M31	0.61
	M32	0.62
	M33	0.62
Collective Intelligence	M34	0.46
	M35	0.44
	M36	0.50
	M37	0.27
	M38	0.37
Judgment	M39	0.40
	M41	0.64
	M42	0.41
	M43	0.28
Transmedia Navigation	M44	0.38
	M45	0.51
	M46	0.50
	M47	0.61
	M48	0.62
Networking	M49	0.33
	M50	0.52
	M51	0.36
	M52	0.23
	M53	0.54
Negotiation	M54	0.60
	M55	0.58
	M56	0.63
	M57	0.31
	M58	0.38

Factor load values ranged between 0.23 and 0.79. It can be said that factor load values are acceptable for this scale which has 11 sub-dimensions with an average of 5 items. The fit indices are used to assess whether the observed data corresponds to the eleven-dimensional model. In this study, the model-data fit indexes of the eleven-dimensional 57-item scale are shown in Table X.

Table 7.2: Compliance Goodness Index for Factor Structure of Scale Items

Goodness Compliance Index	Acceptable Limit *	Value
X^2/sd	<5 mid level <3 good level	2191,67/1484 = 1,48
GFI	>0.90	0,94
CFI	>0.90	0,93
NFI	>0.90	0,87
NNFI	>0.90	0,92
RFI	>0.85	0,86
S-RMR	< 0.08	0,069
RMSEA	< 0.08	0,054

*Sources: (Kline, 2011); (Baumgartner & Homburg, 1996); (Bentler, 1980)

Similarity ratio according to Table X chi-square statistics X2 (11484) = 2191.67 P <0.01; The ratio of chi-square statistics to degree of freedom (X2 / sd) = 1.48; root mean square approximation error (RMSEA) = 0.054; standardized root mean square residue (S-RMR) = 0.069; comparative fit index (CFI) = 0.93; goodness of fit index (GFI) = 0.94; normed fit index (NFI) = 0.87; The relative fit index (RFI) = 0.86. The fit indices were found to be acceptable. Therefore, the factorial structure of the eleven-dimensional scale consisting of 57 items was found to be valid.

The reliability of the scale was examined in a sample size of 654 people. Reliability analysis was performed with Cronbach Alpha coefficient. The Cronbach's alpha coefficient of the 57-item scale was 0.927. The reliability coefficient varies between 0 and +1. If the reliability coefficient is close to 1, it means that the reliability is high and the internal consistency between the items is high and it is desired.

Cronbach's alpha reliability coefficients of the subscales and item-total correlations, which are also known as item validity coefficients of scale items, are shown in Table X.

Table 7.3: Item validity coefficients of scale items

	Item Total Correlation	Alpha coefficient if item is deleted	Cronbach Alpha Reliability Coefficient	Number of Items	Sub-dimension
1- I like playing digital and computerized games.	,718	,785	,832	7	Play
2- When I have a new device, I try every feature of it.	,354	,843			
3- I take risks when I play digital and computerized games.	,683	,792			
4- I like challenging myself when I play.	,706	,787			
5- I like difficult games and challenge myself.	,754	,779			
6- I design games.	,389	,837			
7- I think myself competent on designing digital games	,478	,825			
8- I think that everything should be done via simulation before tried in real life.	,355	,510	,577	5	Simulation
9- I find myself competent on designing simulations	,431	,466			
10- I think games and programs such as using a plane / vehicle or saving someone are useful.	,334	,526			
11- I design simulations.	,360	,519			
12- I think that simulations are necessary training methods for risky events and are vital for things like recovery from earthquakes.	,226	,578			
13- I use different identities to experience new understandings. (Role playing, etc.)	,451	,636	,688	6	Performance
14- I know what Avatar, Anime and Digital Identity mean.	,341	,678			
15- I create different identities on different games.	,453	,638			

16- When I have a digital character or avatar, I can change my behavior by considering my needs.	,496	,622			
17- I am competent on acting and playing a role.	,395	,654			
18- I know how I need to change my roles in digital life.	,396	,654			
19- On digital platforms, I use the work of others to create my work such as music, video or games.	,393	,588	,640	5	Appropriation
20- In the digital world, I create new content, such as algorithms, media, or the like.	,476	,554			
21- I get comments from other users on my digital platforms.	,290	,636			
22- I try to add value to others' works	,385	,592			
23- I can imagine the connections and the draft plan of the elements that I will use in my digital actions.	,441	,563			
24- I can work on different jobs at the same time. (Working by listening to music, learning by playing, doing two or three things spontaneously.)	,344	,616	,639	5	Multi-tasking
25- I focus on what I do without distraction. (For an homework or job work)	,372	,595			
26- When I focus on a job, I don't miss other things that are important to my life.	,448	,556			
27- I can see the mutual benefits of focusing on different things and their connections.	,471	,548			
28- I am competent to see what is implied and meant when I am listening.	,342	,609			
29- I use different tools to get quality results. (Google Translation for translation, spelling checker for writing, Wikipedia for homework, planning digital calendar, Evernote for remembering)	,498	,682	,731	5	Distributed Cognition
30- I am competent to use technological tools to empower my personal knowledge and skills.	,573	,656			
31- To solve the problems that I faced I use other’s comments and contributions on forums	,511	,677			
32- I can produce useful and fast results to use artificial intelligence (siri, bixby etc.) on my cellphone or computer.	,428	,714			
33- I recommend technological tools to help my friends solve their problems.	,463	,695			

34- When working on a topic, I consult my social media network or experts for analysis.	,358	,376	,496	5	Collective Intelligence
35- I serve as an information provider for some forums, fanzines or similar digital platforms. (Wikipedia, Forum Dictionaries, etc.)	,155	,514			
36- I am competent to use other's skill and knowledge	,361	,392			
37- I prefer to be part of a team to get useful and efficient results.	,228	,466			
38- I become a member of my specific groups on social media.	,270	,441			
39- I check the accuracy of the information even if I know it right.	,385	,356	,510	4	Judgement
41- I contribute to the accuracy of the news on social media by my actions and comments.	,228	,519			
42- When I want to learn something, I get information from different sources.	,330	,442			
43- I do not share or disseminate any information before verifying its reality from different sources.	,311	,429			
44- I read the books of the movies I have watched.	,391	,614	,657	5	Transmedia Navigation
45- I would like to have different versions of the things I like because the versions of the same thing can be different from each other, such as movies, books and applications.	,472	,577			
46- I like to follow heroes on every social media app. like Facebook, Twitter and Instagram.	,357	,634			
47- If I love something in the media, I create a different kind of content about it. (Writing a song about a game, editing a video for a book, vlogging)	,399	,611			
48- I take part in forums to criticize different media types on the same work. (Games, videos, movies, music, etc.)	,441	,590			
49- I think the comments of others are important for making the right choices.	,219	,461	,488	5	Networking
50- I try to build systems to get more comments and feedback from others.	,275	,425			
51- I share my thoughts on Facebook, Twitter, Instagram and other social media channels.	,304	,403			
52- I believe that diversity and differences make a society richer.	,137	,498			

53- I do write comments and feedbacks about books, movies, travels and restaurants on social media and on related websites.	,377	,347			
54- I can quickly see the point of view of others in order to solve problems I have with them.	,411	,569	,634	5	Negotiation
55- I consider it to be a learning opportunity to be with people who think differently from me.	,411	,568			
56- I am competent on talking to people who don't think like me.	,436	,555			
57- For a good relationship and persuasive power, I believe listening is more important than speaking.	,321	,610			
58- I care more the accuracy of any information than being right on a subject.	,359	,593			

In the sub-dimension of the PLAY, item validity coefficients of 7 items ranged between 0.354 and 0.754, and item total correlations of all items were found to be higher than 0.20. The Cronbach's alpha internal consistency coefficient of the 7-item subscale was 0.882.

In the SIMULATION sub-dimension, item validity coefficients of 5 items ranged between 0.226 and 0.431, and item total correlations of all items were found to be higher than 0.20. The Cronbach's alpha internal consistency coefficient of the 5-item sub-dimension was found to be 0.577 and a relatively moderate internal consistency. No item was removed from the simulation dimension, as both the number of substances and the subtraction did not significantly increase the Alpha coefficient.

In the PERFORMANCE sub-dimension, item validity coefficients of 6 items ranged between 0.341 and 0.496 and item total correlations of all items were found to be higher than 0.20. The Cronbach Alpha internal consistency coefficient of the six-item sub-dimension was found to be 0.688. No item was removed from the performance sub-dimension due to the fact that both the number of substances and the subtraction of the substance did not significantly increase the Alpha coefficient.

In the sub-dimension of APPROPRIATION, item validity coefficients of 5 items ranged between 0.290 and 0.476, and item total correlations of all items were found to be higher than 0.20. The Cronbach Alpha internal consistency coefficient of the 5-item sub-dimension was found to be 0.640. Since both the number of substances and the reduction of the substance did not significantly increase the Alpha coefficient, no items were removed from the ownership sub-dimension.

In the MULTITASKING sub-dimension, item validity coefficients of 5 items ranged between 0.342 and 0.471 and item total correlations of all items were found to be higher than 0.20. The Cronbach's alpha internal consistency coefficient of the 5-item sub-dimension was found to be 0.639. No substance was removed from the multitasking sub-dimension because both the number of items and the subtraction did not significantly increase the Alpha coefficient.

In the sub-dimension of DISTRIBUTED COGNITION, it was observed that item validity coefficients of 5 items ranged between 0.428 and 0.573 and item total correlations of all items were higher than 0.20. The Cronbach Alpha internal consistency coefficient of the 5-item sub-dimension was found to be high.

In the sub-dimension of COLLECTIVE INTELLIGENCE, item validity coefficients of 5 items ranged between 0,155 and 0,361, and the Cronbach Alpha internal consistency coefficient of this 5-item dimension was found to be 0.496. The 35th item total correlation was found to be less than 0.20. When this item is removed, the reliability coefficient in terms of internal consistency increases to 0.514. Therefore, the 35th item was removed in the sub-dimension of collective intelligence.

In the sub-dimension of the JUDGEMENT, item validity coefficients of 4 items ranged from 0.228 to 0.385 and item total correlations of all items were found to be higher than 0.20. The Cronbach Alpha internal consistency coefficient of the 4-item

sub-dimension was found to be 0.510. No item was removed from the Trial sub-dimension, as both the number of substances and the subtraction did not significantly increase the Alpha coefficient.

It was observed that item validity coefficients of 5 items ranged between 0.357 and 0.472 in TRANSMEDIA NAVIGATION sub-dimension and item total correlations of all items were higher than 0.20. The Cronbach's alpha internal consistency coefficient of the 5-item sub-dimension was found to be 0.657. No material was removed from the Transmedian navigation sub-dimension because both the number of items and the subtraction did not significantly increase the Alpha coefficient.

In the sub-dimension of NETWORKING, item validity coefficients of 5 items ranged from 0.137 to 0.377, and the Cronbach Alpha internal consistency coefficient of this 5 items was found to be 0.488. The total item correlation of item 52 was found to be less than 0.20. When this item is omitted, the reliability coefficient in terms of internal consistency increases relatively to 0.498. For this reason, 52nd item was omitted in the Networking sub-dimension.

In the sub-dimension of NEGOTIATION, item validity coefficients of 5 items ranged between 0,321 and 0,436 and item total correlations of all items were higher than 0.20. The Cronbach Alpha internal consistency coefficient of the 5-item sub-dimension was found to be 0.634. No item was removed from the negotiation sub-dimension as both the number of items and the subtraction did not significantly increase the Alpha coefficient.

As a result of the pilot application, items 40, 35 and 52 were removed from the scale according to the results obtained from two different sample sizes. The final form of the scale was obtained with 55 items and 11 sub-dimensions. The Cronbach's alpha coefficient of the 55-item scale was 0.926, and a high internal consistency was obtained. When the reliability coefficients between sub-dimensions were evaluated,

it was observed that Cronbach's alpha coefficients ranged between 0.498 and 0.832. Due to the linear correlation between the number of items and the reliability coefficient, the fact that the reliability coefficient was low in some sub-dimensions was associated with the low number of items. In addition, although the validity coefficients of the items were higher than 0.20, although the reliability coefficients were lower than 0.70, the reliability of the subscales was considered acceptable.

Figure 7.1: Road graph for the t-values of the 58-item scale

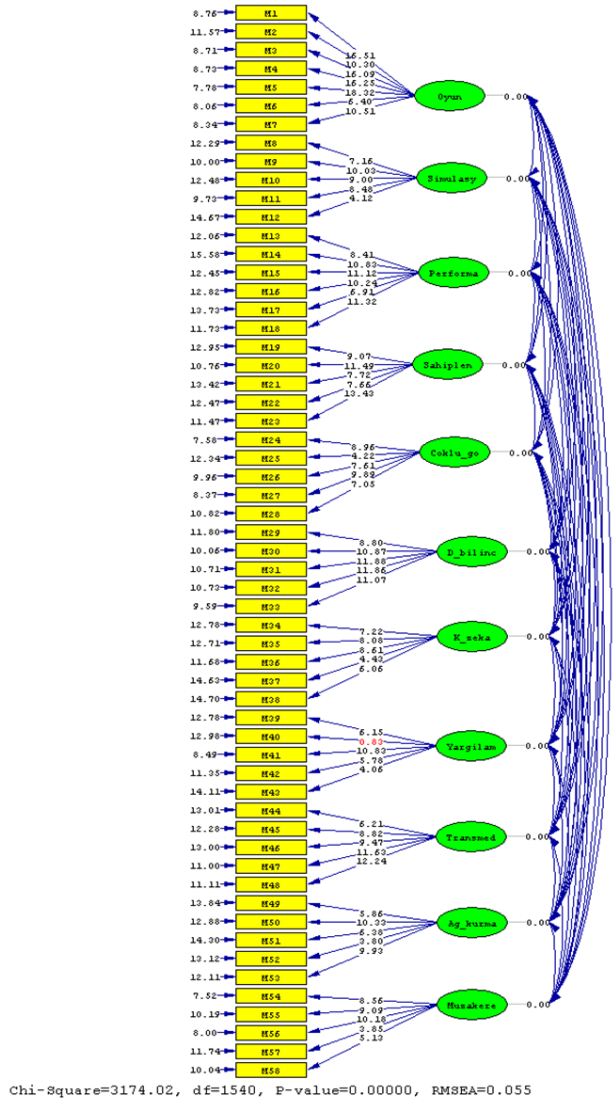
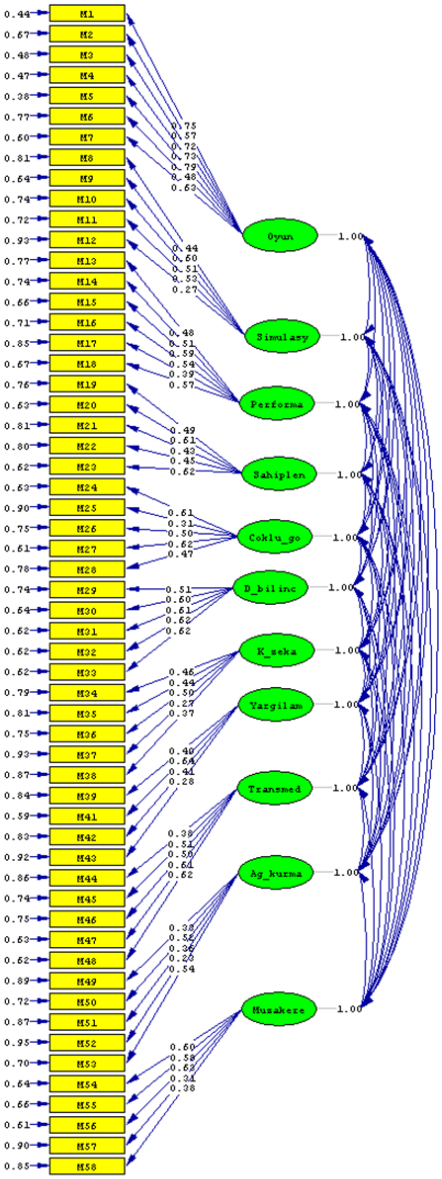


Figure 7.2: Road graph of the factor load values of the 57-item scale



CHAPTER 8
TURKEY CASE FINDINGS

8.1. FREQUENCY STATISTICS

Percentage frequency statistics regarding the demographic characteristics of the participants aged 18-22 years are shown in table.

Table 8.1: Frequency statistics regarding the demographic characteristics

		Number of People	%
Gender	Woman	378	76,1%
	Man	119	23,9%
Personal Income (TL)	No income	389	78,3%
	Less than 2020 TL	73	14,7%
	2021 TL – 3110 TL	29	5,8%
	3111 TL – 6750 TL	6	1,2%
Education	Primary School	1	,2%
	Mid-school	9	1,8%
	College	201	40,4%
	University	285	57,3%
	Graduate	1	,2%
Graduated High School Status	State School	433	87,1%
	Private School	49	9,9%
	Open Lycea	11	2,2%
	Not/Not Yet College Graduate	4	,8%
Graduated High School Type	Lycea (Standard, Private, College, Anatolian Lycea, Science Lycea, Military Lycea, Night Lycea Program)	273	54,9%
	Ocuppational and Technical Lycea (Health, Teacher, Justice, Agriculture, Finance, Art, Industry, Hotel, Military Preparation	134	27,0%
	Religion Lyceas	78	15,7%
	Other	12	2,4%
Do You Live in a Big City	Yes	400	80,6%
	No	96	19,4%

8.2. WHAT IS THE DIGITAL SKILLS LEVEL OF THE PARTICIPANTS BETWEEN THE AGES OF 18-22?

Descriptive statistics regarding the Digital Competence levels of the participants aged 18-22 are given in below table.

Table 8.2: Descriptive statistics regarding the Digital Competence levels

	Mean	Std. Deviation	Capacity level	Kolmogorov-Smirnov Test	
				Test Statistic	Sig.
Play: the capacity to experiment with one's surroundings as a form of problem solving	2,80	0,83	Mid	,048	,008
Simulation: the ability to interpret and construct dynamic models of real-world processes	2,56	0,77	Low	,077	,000
Performance: the ability to adopt alternative identities for the purpose of improvisation and discovery (Avatar, Projected Identities)	3,00	0,82	Mid	,066	,000
Appropriation: the ability to meaningfully sample and remix media content	2,61	0,81	Mid	,064	,000[d]
Multitasking: the ability to scan one's environment and shift focus as needed to salient details	3,62	0,69	High	,086	,000
Distributed Cognition: the ability to interact meaningfully with tools that expand mental capacities	3,44	0,70	High	,072	,000
Collective Intelligence: the ability to pool knowledge and compare notes with others toward a common goal	3,31	0,75	Mid	,081	,000
Judgment: the ability to evaluate the reliability and credibility of different information sources	3,60	0,69	High	,100	,000
Transmedia Navigation: the ability to follow the flow of stories and information across multiple modalities	3,03	0,83	Mid	,061	,000
Networking: the ability to search for, synthesize, and disseminate information	2,91	0,77	Mid	,075	,000
Negotiation: the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.	3,94	0,66	High	,109	,000

It was observed that the subscale scores of the Digital Skills of the participants between the ages of 18-22 did not comply with the normal distribution. For this reason, nonparametric tests were used to compare the subscale scores of the participants between the ages of 18-22 with respect to gender, high school type, secondary school type and city variables.

Participants between the ages of 18-22 had the highest Negotiation capacities (3.94) regarding digital competence. The lowest qualification was found for Simulation (2.56). Item scores are scored as 5, always 1. Scale scores, item scores were collected and the total score was divided by the number of items and the scores were evaluated to vary between 1-5. Thus, the subscale total score of each participant was scaled between 1 and 5. The average of the subscale total scores of the participants was very low; 1.81-2.60 is low; Between 2.61 and 3.40; Capacity levels were interpreted as high between 3.41-4.20 and very high between 4.21-5.00.

8.3. DO THE DIGITAL SKILLS LEVELS OF THE PARTICIPANTS AGED 18-22 DIFFER ACCORDING TO THEIR GENDER?

The Mann Whitney U test was used to test whether there was a significant difference between the Digital Skills Levels of the participants between the ages of 18 and 22 according to their gender and the results are shown in the table.

Table 8.3: Digital Skills Levels according to their gender

		N	Mean	Std. Deviation	U	Sig.
Play	Woman	378	2,67	0,80	13818,000	,000*
	Man	119	3,23	0,76		
Simulation	Woman	378	2,46	0,74	15744,500	,000*
	Man	119	2,88	0,80		
Performance	Woman	378	2,93	0,83	18168,000	,002*
	Man	119	3,21	0,75		
Appropriation	Woman	378	2,52	0,79	16532,000	,000*
	Man	119	2,91	0,80		
Multitasking	Woman	378	3,61	0,71	22227,000	,846
	Man	119	3,65	0,62		
Distributed Cognition	Woman	378	3,41	0,71	20923,500	,249
	Man	119	3,52	0,66		
Collective Intelligence	Woman	378	3,29	0,75	20547,000	,153
	Man	119	3,40	0,73		
Judgment	Woman	378	3,61	0,68	21000,000	,272
	Man	119	3,54	0,71		
Transmedia Navigation	Woman	378	3,05	0,85	21135,000	,320
	Man	119	2,96	0,77		
Networking	Woman	378	2,89	0,79	20420,500	,128
	Man	119	2,99	0,73		
Negotiation	Woman	378	3,96	0,65	21304,500	,383
	Man	119	3,88	0,71		

There was a significant difference between the digital competence levels of Play, Simulation, Performance and Appropriation between the ages of 18-22 ($p < 0.05$). These differences are in favor of men. However, there was no significant difference between the levels of Digital Skills of Multitasking, Distributed Cognition, Collective Intelligence, Judgment, Transmedia Navigation, Networking and Negotiation between the ages of 18-22 ($p > 0.05$).

8.4. DO THE DIGITAL SKILLS LEVELS OF THE PARTICIPANTS AGED 18-22 DIFFER ACCORDING TO THE TYPE OF HIGH SCHOOL THEY GRADUATE?

The Mann Whitney U test was used to test whether there was a significant difference between the levels of Digital Skills of the participants between the ages of 18 and 22 according to the type of high school they graduated from and the results are shown in the table.

Table 8.4: Digital Skills according to the type of high school they graduated

		N	Mean	Std. Deviation	U	Sig.
Play	Public School	433	2,79	0,82	8851,000	,057
	Private School	49	3,02	0,82		
Simulation	Public School	433	2,56	0,78	8739,000	,042*
	Private School	49	2,75	0,65		
Performance	Public School	433	2,98	0,82	9441,500	,206
	Private School	49	3,12	0,78		
Appropriation	Public School	433	2,61	0,81	10102,500	,583
	Private School	49	2,68	0,83		
Multitasking	Public School	433	3,63	0,69	9374,500	,180
	Private School	49	3,50	0,65		
Distributed Cognition	Public School	433	3,42	0,70	9834,500	,400
	Private School	49	3,50	0,76		
Collective Intelligence	Public School	433	3,33	0,74	10461,500	,873

	Private School	49	3,31	0,75		
Judgment	Public School	433	3,61	0,68	9257,500	,141
	Private School	49	3,46	0,74		
Transmedia Navigation	Public School	433	3,02	0,84	10469,000	,880
	Private School	49	3,05	0,82		
Networking	Public School	433	2,91	0,77	10367,500	,793
	Private School	49	2,88	0,82		
Negotiation	Public School	433	3,96	0,65	8786,500	,048*
	Private School	49	3,76	0,69		

There was a significant difference between the levels of Digital Skills related to Simulation and Negotiation according to the type of high school graduates between the ages of 18-22 ($p < 0.05$). In terms of simulation, the subscale scores of the students who graduated from private schools were high. In terms of negotiation, the subscale scores of graduates of public schools were high.

However, there was no significant difference between the levels of Digital Skills related to Play, Performance, Appropriation Multitasking, Distributed Cognition, Collective Intelligence, Judgment, Transmedia Navigation and Networking according to the type of high school graduates aged 18-22 ($p > 0.05$).

8.5. DO THE DIGITAL SKILL LEVELS OF THE PARTICIPANTS AGED 18-22 DIFFER ACCORDING TO THE TYPE OF HIGH SCHOOL THEY GRADUATE?

Kruskal Wallis test was used to test whether there is a significant difference between the Digital Competence Levels of the participants between the ages of 18

and 22 according to the type of high school they graduated and the results are shown in the table.

Table 8.5: Digital Competence Levels according to the type of high school they graduated

		N	Mean	Std. Deviation	Chi-Square	Sig.	Anlamlı fark
Play	Lycea	273	2,87	0,80	13,700	,003*	* RHS ile Lycea *RHS ile VTHS
	Vocational and Technical High Schools	134	2,88	0,82			
	Religious High Schools	78	2,49	0,85			
	Diğer	12	2,60	0,94			
Simulation	Lycea	273	2,65	0,74	15,650	,001*	* RHS ile Lycea *Other and Lycea
	Vocational and Technical High Schools	134	2,53	0,81			
	Religious High Schools	78	2,36	0,73			
	Diğer	12	2,12	0,87			
Performance	Lycea	273	3,09	0,78	10,778	,013*	*RHS and Lycea *RHS and VTHS
	Vocational and Technical High Schools	134	2,98	0,86			
	Religious High Schools	78	2,73	0,87			
	Diğer	12	2,96	0,75			
Appropriation	Lycea	273	2,73	0,77	18,407	,000*	* RHS and Lycea *RHS and VTHS
	Vocational and Technical	134	2,56	0,80			

	High Schools						*RHS and VTHS
	Religious High Schools	78	2,30	0,85			
	Diğer	12	2,43	0,91			
Multitasking	Lycea	273	3,61	0,69	3,233	,357	Not present
	Vocational and Technical High Schools	134	3,65	0,71			
	Religious High Schools	78	3,63	0,67			
	Other	12	3,30	0,67			
Distributed Cognition	Lycea	273	3,50	0,69	8,676	,034*	*RHS and Lycea
	Vocational and Technical High Schools	134	3,40	0,66			
	Religious High Schools	78	3,27	0,79			
	Other	12	3,47	0,51			
Collective Intelligence	Lycea	273	3,33	0,72	1,867	,601	Not Present
	Vocational and Technical High Schools	134	3,32	0,77			
	Religious High Schools	78	3,25	0,79			
	Other	12	3,40	0,88			
Judgment	Lycea	273	3,61	0,69	1,602	,659	Not Present
	Vocational and Technical High Schools	134	3,54	0,66			
	Religious High Schools	78	3,64	0,74			

	Other	12	3,67	0,65			
Transmedia Navigation	Lycea	273	3,06	0,80	2,916	,405	Not Present
	Vocational and Technical High Schools	134	3,04	0,87			
	Religious High Schools	78	2,91	0,90			
	Other	12	2,90	0,85			
Networking	Lycea	273	2,99	0,73	9,161	,027*	*RHS and Lycea *Lycea and VTHS
	Vocational and Technical High Schools	134	2,83	0,74			
	Religious High Schools	78	2,75	0,96			
	Other	12	2,96	0,65			
Negotiation	Lycea	273	3,90	0,69	7,602	,055	Not Present
	Vocational and Technical High Schools	134	3,95	0,64			
	Religious High Schools	78	4,11	0,58			
	Other	12	3,60	0,65			

*p<0.05

There was a significant difference between the levels of Digital Skills related to Play, Simulation, Performance, Appropriation, Distributed Cognition and Networking according to the type of high school they graduated (p <0.05). School types with differences were obtained from multiple comparisons (pos hoc) tests and indicated in the significant difference column of the table.

However, there was no significant difference between the levels of Digital Skills of Multitasking, Collective Intelligence, Judgment, Transmedia Navigation and

Negotiation according to the type of high school students graduated between the ages of 18-22 (p> 0.05).

8.6. DO THE DIGITAL SKILL LEVELS OF THE PARTICIPANTS BETWEEN THE AGES OF 18-22 DIFFER ACCORDING TO THE ADMINISTRATIVE SIZE OF THE CITY THEY LIVE IN?

The Mann Whitney U test was used to test whether there is a significant difference between the Digital Skill Levels of the participants between the ages of 18 and 22 according to the administrative size of the city they live in and the results are shown in the table.

Table 8.6: Digital Skill Levels according to the administrative size

Do you live in a Big City?		N	Mean	Std. Dev	U	Sig.
Play	Yes	400	2,87	0,82	13890,000	,000*
	No	96	2,51	0,80		
Simulation	Yes	400	2,57	0,77	17998,000	,339
	No	96	2,51	0,79		
Performance	Yes	400	3,02	0,83	17049,000	,087
	No	96	2,91	0,78		
Appropriation	Yes	400	2,62	0,81	18267,500	,458
	No	96	2,57	0,80		
Multitasking	Yes	400	3,63	0,69	18084,000	,374
	No	96	3,57	0,69		
Distributed Cognition	Yes	400	3,46	0,71	17583,000	,198
	No	96	3,37	0,66		
Collective Intelligence	Yes	400	3,32	0,75	19060,000	,911
	No	96	3,31	0,75		
Judgment	Yes	400	3,59	0,70	18986,500	,865
	No	96	3,61	0,63		
Transmedia Navigation	Yes	400	3,03	0,83	19084,500	,927
	No	96	3,04	0,87		
Networking	Yes	400	2,91	0,77	18618,000	,643
	No	96	2,93	0,78		
Negotiation	Yes	400	3,93	0,67	18873,000	,794
	No	96	3,96	0,65		

*p<0.05

There was a significant difference between the levels of Digital Skills related to play according to the administrative size of the city where the participants were between 18-22 ($p < 0.05$). Play scale scores of the participants living in metropolitan cities were higher.

However, there was no significant difference between the levels of Digital Competence related to Simulation, Negotiation, Performance, Appropriation Multitasking, Distributed Cognition, Collective Intelligence, Judgment, Transmedia Navigation and Networking according to participants living in metropolitan cities aged 18-22 ($p > 0.05$).

8.7. DO THE DIGITAL SKILL LEVELS OF THE PARTICIPANTS DIFFER ACCORDING TO THEIR AGE GROUPS?

Kruskal Wallis test was used to test whether there is a significant difference between the Digital Competence Levels of the participants according to their age groups and the results are shown in the table.

Table 8.7: Digital Competence Levels according to their age groups

		N	Mean	Std. Deviation	Chi-Square	Sig.	Significant Difference
Play	15 - 17	330	2,88	0,81	187,863	,000*	*15-17 and 30-35 *15-17 and 36-45 *15-17 and 46+ *18-22 and 30-35 *18-22 and 36-45 *18-22 and 46+ *23-29 and 30-35 *23-29 and 36-45 *23-29 and 46+ *30-35 and 36-45 *30-35 and 46+
	18 - 22	497	2,80	0,83			
	23 - 29	220	2,75	0,88			
	30 - 35	205	2,54	0,88			
	36 - 45	356	2,21	0,79			
	46 +	189	2,20	0,75			

Simulation	15 - 17	330	2,64	0,76	9,181	,102	Not Present
	18 - 22	497	2,56	0,77			
	23 - 29	220	2,67	0,76			
	30 - 35	205	2,70	0,76			
	36 - 45	356	2,60	0,72			
	46 +	189	2,52	0,66			
Performance	15 - 17	330	3,17	0,81	132,528	,000*	*15-17 and 18-22 *15-17 and 23-29 *15-17 and 30-35 *15-17 and 36-45 *15-17 and 46+ *18-22 and 30-35 *18-22 and 36-45 *18-22 and 46+ *23-29 and 36-45 *23-29 and 46+ *30-35 and 36-45 *30-35 and 46+
	18 - 22	497	3,00	0,82			
	23 - 29	220	2,94	0,81			
	30 - 35	205	2,84	0,81			
	36 - 45	356	2,61	0,77			
	46 +	189	2,50	0,77			
Appropriation	15 - 17	330	2,73	0,84	72,386	,000*	*15-17 and 18-22 *15-17 and 36-45 *15-17 and 46+ *18-22 and 36-45 *18-22 and 46+ *23-29 and 36-45 *23-29 and 46+ *30-35 and 36-45 *30-35 and 46+
	18 - 22	497	2,61	0,81			
	23 - 29	220	2,65	0,84			
	30 - 35	205	2,62	0,78			
	36 - 45	356	2,38	0,78			
	46 +	189	2,21	0,73			
Multitasking	15 - 17	330	3,72	0,71	21,713	,001*	*15-17 and 18-22 *18-22 and 23-29 *18-22 and 30-35 *18-22 and 36-45 *18-22 and 46+
	18 - 22	497	3,62	0,69			
	23 - 29	220	3,73	0,64			
	30 - 35	205	3,76	0,70			
	36 - 45	356	3,79	0,65			
	46 +	189	3,83	0,66			

Distributed Cognition	15 - 17	330	3,53	0,73	25,507	,000*	*15-17 and 36-45 *15-17 and 46+ *18-22 and 46+ *23-29 and 46+ *30-35 and 36-45 *30-35 and 46+
	18 - 22	497	3,44	0,70			
	23 - 29	220	3,46	0,73			
	30 - 35	205	3,49	0,76			
	36 - 45	356	3,35	0,74			
	46 +	189	3,22	0,81			
Collective Intelligence	15 - 17	330	3,37	0,79	51,868	,000*	*15-17 and 30-35 *15-17 and 36-45 *18-22 and 30-35 *18-22 and 36-45 *18-22 and 46+ *23-29 and 30-35 *23-29 and 36-45 *36-45 and 46+
	18 - 22	497	3,31	0,75			
	23 - 29	220	3,39	0,77			
	30 - 35	205	3,63	0,69			
	36 - 45	356	3,62	0,68			
	46 +	189	3,49	0,75			
Judgment	15 - 17	330	3,63	0,73	3,991	,551	Not Present
	18 - 22	497	3,60	0,69			
	23 - 29	220	3,59	0,72			
	30 - 35	205	3,67	0,73			
	36 - 45	356	3,66	0,68			
	46 +	189	3,59	0,74			
Transmedia Navigation	15 - 17	330	3,33	0,80	224,272	,000*	*15-17 and 18-22 *15-17 and 23-29 *15-17 and 30-35 *15-17 and 36-45 *15-17 and 46+ *18-22 and 23-29 *18-22 and 30-35 *18-22 and 36-45 *18-22 and 46+ *23-29 and 36-45 *23-29 and 46+ *30-35 and 36-45
	18 - 22	497	3,03	0,83			
	23 - 29	220	2,79	0,84			
	30 - 35	205	2,83	0,77			
	36 - 45	356	2,59	0,73			
	46 +	189	2,41	0,73			

							*30-35 and 46+
Networking	15 - 17	330	3,01	0,83	13,190	,022*	*15-17 and 36-45 *15-17 and 46+ *18-22 and 46+ *23-29 and 46+
	18 - 22	497	2,91	0,77			
	23 - 29	220	2,94	0,77			
	30 - 35	205	2,91	0,76			
	36 - 45	356	2,88	0,76			
	46 +	189	2,77	0,78			
Negotiation	15 - 17	330	3,93	0,71	26,663	,000*	*15-17 and 30-35 *15-17 and 36-45 *15-17 and 46+ *18-22 and 30-35 *18-22 and 36-45 *18-22 and 46+ *23-29 and 36-45
	18 - 22	497	3,94	0,66			
	23 - 29	220	3,97	0,64			
	30 - 35	205	4,08	0,62			
	36 - 45	356	4,14	0,59			
	46 +	189	4,06	0,63			

*p<0.05

There was no significant difference between the Digital Skill levels of the participants according to age groups for Simulation and Judgement (p> 0.05). However, there was a significant difference between the levels of Digital Skills related to Play, Negotiation, Performance, Appropriation Multitasking, Distributed Cognition, Collective Intelligence, Transmedia Navigation and Networking (p <0.05). The age groups with differences were obtained from multiple comparisons (pos hoc) tests and indicated in the significant difference column of the table.

CHAPTER 9
RESULTS AND EVALUATION

This paper is a scaling and a quantifying project purposing to assess the digital skills of participatory culture. In this case, the focus was on Turkey, whereby the research study aimed to create a tool to determine the level of digital skills of youngsters aged between 18 years to 22 years of age. The main intention was to create a tool to measure digital skills and to understand if there is any difference between genders, and Private-Public Schools to comprehend whether there is a access inequality. The age group mentioned is probably highschool graduates of the last four years.

- So, the first problem could be stated as whether can a scale could be created to measure digital skills?
- Second question set was according to access opportunity problem Turkey case was to answer below hypothesis.
- Private High Schools graduates have a higher level of digital skills comparing to Public High School Graduates. (Age Bracket 18-22)
- Boys have a higher level of digital skills compared to Girls. (Age Bracket 18 – 22)

This research claims that the digital skills level can be measured. This measurement could also be a necessity as the future seems more related to digital media and its tools (Jenkins et al., 2007) Content and the formation of media literacy seems changing by the time, according to Jenkins (2007) it is not a replacement but more of a synthesis of two different system going hand by hand. The old media and the new media need those digital skills and their added value to an individual and to a society. Changing and growing cultures as participatory and convergence may shape the near future. Fitting into it seems challenging and needs highly adaptable citizens.

According to James Paul Gee (2013): "It is a question about what would constitute a proper education for a person who wants to be a producer and not just a consumer, a participant and not just a spectator, an agent and not a victim in a world full of ideology, risk, fear, and uncertainty. What sort of education could—" help? So, the question seems important for educators, policy makers and academicians. What sort of skills should be in front of us? How we should see students so called future citizens: a source, an invention, a discovery or a factoryworker? Google's Executive Chairman Eric Schmidt and Jared Cohen (2013) stating that every person in the world needs a better understanding technology and digital world.

This research can be a base for further scaling and measurement researches. Confirmatory Factory Analysis showed significant relation between scale items and digital skills. Factor load values seemed acceptable for 11 dimensions. The reliability of the scale was high and the internal consistency between the items is high and it is desired.

Utilization of the scale in Turkey needs evaluation and discussion with more researches. Evaluations are performed based on gender, residence area, school founding type and school type. In terms of gender, we may see some problems regarding access opportunity to technology. There is a significant difference between the digital competence levels of Play, Simulation, Performance and Appropriation between the ages of 18-22. These differences are in favor of men. In terms of digital skills there is not any dimension that women have the advantage comparing to men.

In terms of residential area significant difference was only on PLAY skill set in favor of metropolitan residents. It may be possible this is due to technology access of metropolitan residents.

Also, school funding type showed an area that needs to be researched more. Between Public and Private Schools, there were two different skill set showed significant difference. Private schools showed a higher result on Simulation and Public Schools showed a higher scale on negotiation. These two areas need more research and verification.

To different areas could be researched more, one is the digital skills of disabled people and the people who has no digital access. Researches and works should be concentrated on how can digital skills be developed offline.

This research has limitations. Scaling based on self-reporting may create a gap between realty and perceived. Participants may respond with wrong answers with what they thought right about themselves. Whereas a private school graduate could think himself not goon on negotiation, a public-school graduate may perceive himself/herself very good on negotiation. All questionnaires ere filled on social media and this creates another problem as the graduates who have no access to internet could not find any chance to fill in and register with their information.

This research subject has the potential us to clarify and to understand more needed skills in the future and try to mitigate potential barriers in terms of access to technology and digital skills. Especially disadvantaged groups of access could be motivated and facilitated to a digitally literate citizenship.

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APPENDICES

DIGITAL SKILLS SCALE FOR ADULTS

This scale aims to measure digital skills for adults in Turkey. I'd like to thank you to help and contributions.

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PART 1: DEMOGRAPHIC FEATURES

1. Gender	Female Male
2. Age	15 – 20 21 – 25 26 – 35 36 – 45 46 +
3. Personal Income (TL)	No income Less than 2020 TL 2021 TL – 3110 TL 3111 TL – 6750 TL 6751 TL – 10.000 TL More than 10.000 TL
4. Education	Primary School Middle School High School Undergraduate Graduate
5. Currently A Student?	Yes No
6. City	

PART 2: DIGITAL SKILLS

PLAY (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and select the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I like playing digital and computerized games.					
	When I have a new device, I try every feature of it.					
	I take risks when I play digital and computerized games.					
	I find myself competent on digital games					
	I like challenging myself when I play.					
	I design digital or/and computerized games.					
	I think myself competent on designing digital games					

SIMULATION (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and choose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I think that everything should be done via simulation before tried in real life.					
	I find myself competent on designing simulations					
	I think games and programs such as using a plane / vehicle or saving someone are useful.					
	I design simulations.					
	I think that simulations are necessary training methods for risky events and are vital for things like recovery from earthquakes.					

PERFORMANCE (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I use different identities to experience new understandings. (Role playing, etc.)					
	I know what Avatar, Anime and Digital Identity mean.					
	I create different identities on different games.					
	When I have a digital character or avatar, I can change my behavior by considering my needs.					
	I am competent on acting and playing a role.					
	I know how I need to change my roles in digital life.					

APPROPRIATENESS (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with the X mark.	Never	Seldom	Sometimes	Frequently	Always
	On digital platforms, I use the work of others to create my work such as music, video or games.					
	In the digital world, I create new content, such as algorithms, media, or the like.					
	I get comments from other users on my digital platforms.					
	I try to add value to others' works					

	I can imagine the connections and the draft plan of the elements that I will use in my digital actions.					

MULTITASKING (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with the X mark.	Never	Seldom	Sometimes	Frequently	Always
	I can work on different jobs at the same time. (Working by listening to music, learning by playing, doing two or three things spontaneously.)					
	I focus on what I do without distraction. (For an homework or job work)					
	When I focus on a job, I don't miss other things that are important to my life.					
	I can see the mutual benefits of focusing on different things and their connections.					
	I am competent to see what is implied and meant when I am listening.					

DISTRIBUTED COGNITION (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option an the X.	Never	Seldom	Sometimes	Frequently	Always
	I use different tools to get quality results. (Google Translation for translation, spelling checker for writing, Wikipedia for homework, planning digital calendar, Evernote for remembering)					
	I am competent to use technological tools to empower my personal knowledge and skills.					
	To solve the problems that I faced I use other's comments and contributions on forums					
	I can produce useful and fast results to use artificial intelligence (siri, bixby etc.) on my cellphone or computer.					
	I recommend technological tools to help my friends solve their problems.					

COLLECTIVE INTELLIGENCE (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	When working on a topic, I consult my social media network or experts for analysis.					
	I serve as an information provider for some forums, fanzines or similar digital platforms. (Wikipedia, Forum Dictionaries, etc.)					

	I am competent to use other's skill and knowledge					
	I prefer to be part of a team to get useful and efficient results.					
	I become a member of my specific groups on social media.					

JUDGEMENT (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I check the accuracy of the information even if I know it right.					
	I care more about the accuracy of the news than its speed.					
	I contribute to the accuracy of the news on social media by my actions and comments.					
	When I want to learn something, I get information from different sources.					
	I do not share or disseminate any information before verifying its reality from different sources.					

TRANSMEDIA NAVIGATION (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I read the books of the movies I have watched.					
	I would like to have different versions of the things I like because the versions of the same thing can be different from each other, such as movies, books and applications.					
	I like to follow heroes on every social media app. like Facebook, Twitter and Instagram.					
	If I love something in the media, I create a different kind of content about it. (Writing a song about a game, editing a video for a book, video vlogging göster in a video show)					
	I take part in forums to criticize different media types on the same work. (Games, videos, movies, music, etc.)					

NETWORKING (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I think the comments of others are important for making the right choices.					
	I try to build systems to get more comments and feedback from others.					
	I share my thoughts on Facebook, Twitter, Instagram and other social media channels.					

	I believe that diversity and differences make a society richer.					
	I do write comments and feedbacks about books, movies, travels and restaurants on social media and on related websites.					

NEGOTIATION (This statement will not be on questionnaire. The statements will be given mixed)

#	Read the following statements and chose the corresponding option with an X.	Never	Seldom	Sometimes	Frequently	Always
	I can quickly see the point of view of others in order to solve problems I have with them.					
	I consider it to be a learning opportunity to be with people who think differently from me.					
	I am competent on talking to people who don't think like me.					
	For a good relationship and persuasive power, I believe listening is more important than speaking.					
	I care more the accuracy of any information than being right on a subject.					

APPENDIX 2

SCALE QUESTIONNAIRE İN TURKISH

YETİŞKİNLERE YÖNELİK DİJİTAL YETKİNLİKLER ÖLÇEĞİ

Bu çalışma Türkiye'de eğitim alanların dijital yetkinliklerini değerlendirmek amacıyla yapılmaktadır. Bilime ve araştırmaya olan katkılarınız için şimdiden çok teşekkür ederim.

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BİRİNCİ BÖLÜM: DEMOGRAFİK ÖZELLİKLER

BİRİNCİ BÖLÜM: DEMOGRAFİK ÖZELLİKLERE İLİŞKİN BİLGİLER	
1. Cinsiyetiniz	Kadın Erkek
2. Yaşınız	15 – 20 21 – 25 26 – 35 36 – 45 46 +
3. Kişisel aylık geliriniz (Türk Lirası)	Gelirim yok 2020 TL'den az 2021 TL – 3110 TL 3111 TL – 6750 TL 6751 TL – 10.000 TL 10.000 TL'den fazla
4. Öğrenim durumunuz	İlkokul Ortaokul Lise Ön lisans/lisans Lisansüstü
5. Şu anda öğrenci misiniz?	Evet Hayır
6. Yaşadığınız şehir	

İKİNCİ BÖLÜM: DİJİTAL YETKİNLİKLER

PLAY (OYUN) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Dijital oyunları ve bilgisayarla desteklenmiş oyunları oynamaktan hoşlanırım.					
	Yeni bir cihaz aldığımda, onun her bir özelliğini denerim.					
	Dijital oyunlar ve bilgisayar oyunları oynarken risk alırım.					
	Dijital oyun ve bilgisayar destekli oyunlarda, kendime meydan okumaktan hoşlanırım.					
	Dijital oyunlarda becerikli olduğumu düşünürüm.					
	Dijital oyun ve/veya bilgisayar destekli oyunlar tasarlarım.					
	Dijital oyunları tasarlamada becerikli olduğumu düşünürüm.					

SIMULATION (SİMÜLASYON) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Gerçek hayatta bir şeyi denemeden önce o şeyin simülasyonunun kullanımının zorunlu olması gerektiğini düşünürüm.					
	Simülasyon tasarlama konusunda becerikli olduğumu düşünürüm.					
	Uçak/araç kullanmak veya birini kurtarmak gibi oyunların ve programların yararlı olduğunu düşünürüm.					
	Simülasyon tasarımları yaparım.					
	Simülasyonların kurtarma çalışmaları ve deprem gibi hayati önem taşıyan, riskli olaylar için gerekli bir eğitim yöntemi olduğunu düşünürüm.					

PERFORMANCE (PERFORMANS) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Yeni anlayışları tecrübe etmek için farklı kimliklerden yararlanırım. (*Rol yapma vb.)*					
	Avatar, Anime ve Dijital Kimlik'in ne anlama geldiğini bilirim.					
	Farklı oyunlarda farklı dijital kimlikler oluştururum.					
	Bir dijital karakterim ya da avatarım olduğunda ihtiyaçlarımı göz önünde bulundurarak davranışlarımı değiştirebilirim.					
	Oyunculuk yapma ve rolüme uygun davranma konusunda becerikliyimdir.					
	Dijital hayattaki rolümü değiştirmem gerektiğinde neye ihtiyacım olduğunu bilirim.					

APPROPRIATENESS (SAHIPLENME) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Dijital platformlarda müzik, video veya oyun gibi işlerimi yaratırken başkalarının işlerinden faydalanırım.					
	Dijital dünyada algoritma, medya veya benzerleri gibi yeni içerikler yaratırım.					
	Dijital platformlarda yaptığım paylaşımlarıma diğer kullanıcılardan yorumlar alırım.					
	Başkalarının eserlerine ekleme yapmak için çalışırım					
	Dijital eylemlerimde kullanacağım elementlerin bağlantılarını ve taslak planını zihnimde hayal edebilirim.					

MULTITASKING (ÇOKLU GÖREV) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Aynı anda farklı işler üzerinde çalışabilirim. *(Müzik dinleyerek çalışmak, oyun oynayarak öğrenmek, iki ya da üç şeyi kendiliğinden yapmak.)*					
	Ödevlerim ya da işim üzerinde çalışırken dikkatim dağılmadan yaptığım şeye odaklanabilirim.					
	Bir işe odaklandığımda üzerinde çalıştığım diğer şeyleri kaçırmam.					
	Farklı şeylere odaklanmanın birbirleri arasındaki ilişkileri görme konusunda yararlarını ve aralarındaki bağlantılarını görme konusunda becerikliyimdir.					
	İnsanlar konuşurlarken gerçekte ne kastettiklerini anlama konusunda becerikliyimdir.					

DISTRIBUTED COGNITION (DAĞITILMIŞ BİLİNÇ) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Kaliteli sonuçlar elde etmek için farklı teknolojik ve dijital araçlar kullanırım. *(Çeviri yapmak için Google Translate, yazmak için imla kontrol aracı, ev ödevi için Wikipedia, planlama için dijital ajanda, hatırlamak için Evernote…)*					
	İşimi ya da ödevimi yapabilmek için dijital araçları kullanma konusunda becerikliyimdir.					
	Problem çözmek için forumları kullanma ve diğer kullanıcıların yorumlarına bakma konusunda becerikliyimdir.					
	Cep telefonumdaki ya da bilgisayarımdaki yapay zekâ programlarını (Siri, Bixby vs) kullanarak daha hızlı ve faydalı sonuçlar üretebilirim.					
	Arkadaşlarıma problemlerini çözmeleri için teknolojik araçları tavsiye ederim.					

COLLECTIVE INTELLIGENCE (KOLLEKTIF ZEKA) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Bir konu üzerinde çalışırken çözümleme için sosyal medya ağıma ya da uzmanlara danışırım.					
	Kimi forumların, fanzinlerin veya benzeri dijital platformların bilgi sağlayıcısı olarak görev yaparım. *(Wikipedia, Ekşi Sözlük vb.)*					
	Diğerlerinden faydalanma ve bilgilerine başvurma konusunda becerikliyimdir.					
	Yararlı ve verimli sonuçlar elde etmek için bir takımın parçası olmayı tercih ederim.					
	Sosyal medyada gereksinimlerime özgü gruplara üye olurum.					

JUDGEMENT (YARGILAMA) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Doğru bildiğim bilgilerin bile doğruluğunu kontrol ederim.					
	Haberin doğru olmasını, haberin hızlı ulaştırılmasından daha çok önemserim.					
	Sosyal medya ve haberlerdeki yayınlanmış içeriklerin teyit edilmesine katkıda bulunurum.					
	Bir şey öğrenmek istediğimde, farklı kaynaklardan bilgi edinirim.					
	Hiçbir bilgiyi gerçekliğini farklı kaynaklardan doğrulamadan önce paylaşmam veya yaymam.					

TRANSMEDIA NAVIGATION (TRANSMEDYA NAVIGASYON) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	İzlediğim filmlerin kitaplarını okurum.					
	Film, kitap, uygulama gibi sürümleri birbirinden farklı olabildiği için sevdiğim şeylerin farklı sürümlerine sahip olmak isterim.					
	Sevdiğim kahramanları, oyunları Facebook, Twitter, Instagram gibi her sosyal mecrada takip etmekten hoşlanırım.					
	Medyadaki bir şeyi seversem, onunla ilgili farklı türden içerikler oluştururum. *(Bir oyun hakkında şarkı yazmak, bir kitap için video düzenlemek, bir video gösterisinde 'vlogger'lık yapmak gibi…)*					
	Aynı konudaki farklı medya türlerini eleştirmek için forumlara katılırım. *(Oyun, video, film, müzik vb.)*					

NETWORKING (AĞ KURMA) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe "X" işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Doğru seçimler yapmak için başkalarının yorumlarının önem taşıdığını düşünürüm.					
	Başkalarından daha fazla yorum ve geribildirim almak için sistemler kurmaya çalışırım.					
	Düşüncelerimi Facebook, Twitter, Instagram ve diğer sosyal medya kanallarında paylaşırım.					
	Farklılıkların ve çeşitliliğin bir toplumu daha zengin hâle getirdiğine inanırım.					
	Sosyal medyada ve web sitelerinde kitaplar, filmler, seyahatler ve restoranlar için yorum yaparak geribildirimlerde bulunurum.					

NEGOTIATION (MÜZAKERE) (Test metninde bu ifade olmayacaktır. Sorular karışık olarak verilecektir.)

Madde No	Aşağıda verilen ifadeleri okuyunuz ve size uygun gelen seçeneğe “X” işareti koyunuz.	Hiçbir zaman	Nadiren	Ara sıra	Sık sık	Her zaman
	Biriyle yaşadığım herhangi bir problemi çözmek için karşı tarafın bakış açısını çok hızlı fark ederim.					
	Farklı düşünen insanlarla birlikte olmayı bir öğrenme fırsatı olarak değerlendiririm.					
	Benim gibi düşünmeyen insanlarla konuşma konusunda becerikliyimdir.					
	İyi bir ilişki ve ikna gücü için dinlemenin konuşmaktan önemli olduğuna inanırım.					
	Haklı olmaktan çok doğruyu bulmakla ilgilenirim.					