The Attitudes towards ICT and the Internet Usage of Teachers of Secondary Education: Case in TRNC

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ABSTRACT

The research study examined the attitudes towards Information and Communication Technology (ICT) and the internet usage of the teachers of secondary education in the case of TRNC. In this research, data adopted was gathered via both quantitative and qualitative method. For collecting data via quantitative method, a questionnaire instrument is distributed to the selected 252 teachers of secondary education. In addition, interview method was also adopted during the collection of data phase, by administering a purposive interview questions to 25 teachers in order to elicit useful responses regarding to their attitudes towards ICT and internet usage. Analysis was carried out on gathered data using ANOVA, t-test, standard deviations and percentages. Significant differences were also conducted on the variable factors based on the demographic characteristics of each participant. The findings of this study showed that, majority of the respondents hold a high response on their attitudes towards ICT and also have higher responses in their level of the internet usage. Moreover, it was also observed that there is no significant difference between the male and the female respondents' attitudes toward ICT tools and level of internet usage. It is worth to mentioned that, the analyzed data showed that no significant difference exists regarding to the teachers' attitudes towards ICT and their level of internet usage whether the teachers have attended any computer classes or not, participated to a computer certificate or not, their years of experiences and the purpose of their daily computer usage.

Keywords: Information and Communication Technology, Internet usage, secondary education, teachers' attitudes

ÖZ

Araştırma çalışması, KKTC'deki ortaöğretim öğretmenlerinin " Bilgisayar ve İletişim Teknolojilerine" (BİT)'e ve internet kullanım düzeylerine yönelik tutumlarını incelemektedir. Bu araştırmada, benimsenen veriler hem nicel hem de nitel yöntemle toplanmıştır. Nicel yöntemle veri toplamak için bir anket aracı, seçilen 252 ortaöğretim öğretmenine dağıtılmıştır. Buna ek olarak, ortaöğretim öğretmenlerinin BİT ve internet kullanımına yönelik tutumları üzerinde detaylı bilgi toplayabilmek için 25 öğretmene ise mülakat soruları verilmiştir. Çalışma analizi, Anova, t-testi, standart sapma ve yüzde kullanılarak toplanan veriler üzerinde yürütülmüştür. Her katılımcının demografik özellikleri dikkate alınarak, çeşitli değişken faktörler üzerinde tutumlarına yönelik göstermiş oldukları önemli farklılıkları incelenmiştir. Bu çalışmanın bulguları, katılımcıların, BİT'e ve internet kullanım düzeylerine yönelik yüksek tepkilerinin var olduğunu göstermiştir. Ayrıca, kadın ve erkek katılımcıların BİT araçlarına ve internet kullanım seviyesine karşı tutumları arasında anlamlı bir fark olmadığı gözlenmiştir. Buna ek olarak çalışmada, öğretmenlerin BİT'e ve internet kullanım düzeylerine yönelik tutumlarında da herhangi bir bilgisayar kursuna katılıp katılmadıkları, bilgisayar kullanım sertifikalarının olup olmadığı, tecrübelerinin ve günlük bilgisayar kullanım amaçlarının, tutumları üzerinde herhangi bir önemli farklılık göstermediği gözlemlenmiştir.

Anahtar Kelimeler: Bilgi ve İletişim Teknolojileri, İnternet kullanımı, ortaöğretim, öğretmenlerinin tutumları

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Chapter 1

INTRODUCTION

Presently, the issue of teachings has attracted the attention to many scholars around the globe that are interested in teaching at a higher level of education. Many higher institution teachers make decisions that are known to be authority and corrective based training style. Most of the teachers succeed the pragmatic era of education; and this has left the high control of general educational and teaching method into their hands. This pattern has showed to be almost effective in the learner's circumstance. But, in a different and larger educational structure, it appears to be a clear squander of resources and time (Santos, 2001). In recent past, it is seen that an increasing scale of teachers are entering into teaching jobs, because of its need in the global level to improve the community at standard of living and also the demand for competence in quality performance in diverse profession (Bento et al., 2003). As changes have been observed on the amount and the quality in the teacher's population, a gradual loss of the students formal attitudes enrolled from different school environment (Soare and Almeida, 2002). The increment in labour and the need of the society has largely required a modification in professional competence and expertise of the teachers profiles. Santo (2001) in his investigations stated that the prerequisite of a teacher is of personal qualities containing brainpower, been well-informed in a specific scientific specialty, owning the willingness to progress in learning and become accommodating, talented, inspirational and self confidence; and more so, become a collaborator and team person. This evolution and novel demands in teaching from

teachers have created a large influence in the changes of the general methods and modules of teaching. Considering this change of teaching pattern, it now looks very hard to forget the potential and importance of Information and Communication Technology (ICT) (Trindade, 2002).

ICT is described as the technological appliances and resource tools that are adopted to interact, produce, distribute, save and also manage data (Sam, 2015). The present adoptions of technological tools by teachers have been at a large rate. It has deep influence on how the teacher adopts several teaching methods; by taking a unique part in delving into institutional materials of higher levels, division of important and impactful course content, discussing with students and other teachers when teaching (Jang et al., 2010). ICT is the most important trending feature of molding the world market and creating rapid modifications in the community. They have basically modified the pattern individuals learn, interact and carry out exchange of data and commerce. This growth has led to increase in newer academic needs as well as instructional techniques and strategies which present day teachers apply. Such teachers possess the right consciousness, behavior and recognize the inclusion of contemporary technologies into instructional process. Most of the modern conventional teachers are sometimes distrustful in their thought and behavior to change and this distrust may be connected a lot to the absence of consciousness regarding ICT procedure and its possible usefulness in teaching and learning purposes (Lawal, 2006). Teacher's consciousness is focused on their thoughtfulness, awareness and gratitude towards the advantages tied round ICTs in education and the teacher's preference regarding ICT usage (Oladosu, 2012).

The awareness to a procedure always lays the foundation of the usage and efficiency of a course or program. Whenever a person is conscious of the ruling procedures, he will develop the right behavior that will lead to better output. Teachers need exceptional awareness as a result of this particular needs and concern which should be handled with initiative and respect, so as to enable them to accommodate the novel technologies in the school settings (Lawal, 2006). Such awareness of the teacher can therefore be referred to as his/her perception of a ICT tool, positively or negatively; they are thoughtful analyses of the ICT tool judged upon the teachers relationship or distance from it (Panagiotis et al. 2011). Therefore, the teacher's awareness or attitudes regarding computers and other ICT tools are based on their feeling regarding the adoption of computers and other technological tools in their own instructional teaching activities. Teo (2008) states that teachers hold a strong possibility to transcend their attitude and thoughts on their students, therefore, the student's future adoption of computer and other technological tools is highly dependent on the teacher's own perception and attitude towards computer. Gilakjani and Leong (2012) further agreed that any achievement has to be seen as a result of blending technologies into teaching and learning settings. Moreover, the teacher's distrust and negative perception towards technologies must be recognized and improved into positive attitudes. They further emphasized that the consideration of the ICT programs to be adopted to either suit the teacher's interest and their student's needs; plays a huge part in the teacher's attitudes towards adopting the technological tools. Also, Teo et al., (2008) holds that the easiness of using technology and its usefulness becomes major factors of disturbing teacher's attitudes and perception regarding to computers and ICT its technological tools. Though, it is very pertinent to always note that a positive attitude displayed by the teacher does not necessarily

mean a quality adoption of ICT tools in the classroom. According to Razak and Eswaran (2010) shows some examples where a high decline of computer adoption by teachers that ordinarily possess a positive ICT attitudes. The inconsistence between a high positive mindset of ICT and its subsequent low usage in the teaching and learning settings are always due to some kinds of setbacks such as time deficiency, curriculum and managerial restrictions, shortage of computers and other technological gadgets, and shortage in material related to technological supports and usage (Razak and Eswaran, 2010). However, the hitches of blending of instructional technologies with traditional teaching style are moving from accessibility of ICT to proper adoption of ICT in the teaching and learning settings, in order to support course content and student's learnability (Pilkington, 2008).

In addition, ICT tools can be seen as an instructional resource in school environment, but Inserting computer systems into classrooms is not sufficient to influence the students study style positively (Oladosu 2012).

Oladosu (2012) states that it is very important to be able to adopt and analyze ICT reasonably and also ensure its significance for improving education, while he also emphasized that ICT also has bad effect on general system of education. A study conducted by the Organization for Economic Co-operation and Development (OECD) reveals that the huge investment on ICT in the classroom do not improve students' performance; and further discovered that constant adoption of ICT in classroom has high linkage to lower results in general and specific course objective achievements especially in reading science and mathematics (Sean, 2015). OECD also has a major frustrating result from their report which states that the socio-economic segregation between fellow teachers and fellow students is not only caused

by ICT, but largely magnified by newer ICT been implemented in schools and classroom especially. This is evident on how often teachers display the illustration of their work from the web and totally copy the information, leading to bad example to the students; this will on the other hand, encourage the students to emulate the teacher's attitude to start copying and pasting afterwards. Moreover, the data and idea from the web may not necessarily be accurate; students may also be more concerned about the social aspect of ICT and therefore tends to be carried away with the media, games and chat networks, this will influence their results negatively and also modify their behavior towards teachers in their school. Teachers and students who always interact with peers through informative technology has high tendency to be faced with timidity when discussing with peers face to face and this does not only have impact on their behavior but also on their perception, some tends to be more unruly when influenced by a negative resource (Sean, 2015). It can be observed that various teachers use many gadgets such as two phones, iPods, iPads and technology tools which can cause them not to be focused on achieving the course objective during class activities.

ICT on the other hand, has huge benefits aside the aforementioned disadvantages to education. Jang (2010) stated that the recent adoption of ICT by teachers is on a high rate; he also continued by saying that ICT has a friendly effect on the teacher's method of training, by taking up an important part in accessing larger academic resources, distributing of important and informative data, and discussing with students and teachers during classroom activities. ICT is known as a technical way to supply access to data. Utilization of ICT has altered our customary method of learning and shown the essence to re-examine education in terms of a more up-to-

date context (White, 2010). Potentials of ICT are vital to participation, collaboration and sharing in this present information community. It is adopted to find-out, construct, examine and display data, and give clarifications to challenges. ICT allows quick access to knowledge and experiences from a large variety of persons, society and background, and permits teachers to work in partnership and swap information on an extensive level (Crown, 2010). Education is the major vital and primary field for ICT applications for it helps in creating different options in pedagogy.The usefulness of ICT in pedagogy makes the instructors used to the usage and implementation of the PC and other connected application and technology. It also has to a great extent allowed for universal possession of knowledge by means of multiple intelligences, as it has provided learning through games simulation; these supports lively and participatory education via senses (Gateway, 2010). Adoption of ICT is at the moment unavoidable for teachers during classroom activities. By adopting contemporary ICTs, teachers can recover their necessary data in a short period.

In Turkish Republic of Northern Cyprus (TRNC), attempts have been adopted by Cypriot government, but the absence of proper financial support and a well informed importance of ICT in education are limiting the blend of ICT into all curriculum and syllabus of secondary education. Few studies have been carried out to show that educational technological tools would and should enhance the quality of pedagogy in TRNC. TRNC is a growing area with minimum adoption of ICT in secondary level of education; just like other growing nations, it is facing challenges related to ICT preparedness and its integration into education (Ebru, 2011). Therefore, the limits at which TRNC secondary schools provides a quality adoption of ICT tools in classrooms are widely unknown. These issues can be largely dependent on

government educational policy improvement but most importantly, burdens on the teacher's attitudes, preparedness and awareness of ICT tools for general educational purpose.

This research is carried out to investigate the teacher's perceptional attitudes and analyze factors that prevent the teacher's effort in blending ICT in their daily educational practices.

1.1 Problem Statement

Adopting ICT in education has been a trend in education years ago; nonetheless, it is still seen as a new trend in education when ICT is been blended with conventional teaching (Cherepski et al., 2000). Teacher's that turn out to be the major focus during this ICT blend, are faced with diverse challenges such as competency of use of ICT tools, availability of time for its adoption in the usual 40 minutes classroom period, new ICTs learnability and accessibility etc. TRNC Government and educational officials are investing so greatly into educational technologies at all levels of education, as new technological tools are acquired at the huge amount of dollars in numerous schools in the location; this poses a great challenge for TRNC secondary school teachers to be mentally and physically aware and ready for ICT inclusion in their daily educational practice and teachings. Therefore, the demand for the efficient adoption of ICT in teaching and learning settings is pertinent factors to enable the student succeed in their surrounding of world technological evolution.

1.2 Aims of the Study

This research investigative work concentrates on TRNC secondary school teachers' attitude towards ICT tools and usage of internet. It also focuses on the implementation of such tools and the internet for educational purposes.

1.3 Research Questions

This research study will at the end, answer the research questions stated below:

1) What are the attitudes of TRNC secondary school teachers towards the use of ICT tools and the internet?

    1.1 Is there any significance difference of ICT and internet usage in teaching?

    1.2 Is there any significance difference of ICT and internet usage in research?

    1.3 Is there any significance difference of ICT and internet usage in socialization?

    1.4 Is there any significance difference of enjoying ICT and internet in teaching?

    1.5 Is there any significance difference of ICT and internet usage in communication?

    1.6 Is there any significance difference of ICT and internet usage in information sharing?

2) Is there any significance difference in the ICT and internet usage of TRNC secondary school teachers with respect to different variables?

    2.1 Is there any significance difference of ICT and internet usage in teaching with respect to gender, department and experience level?

    2.2 Is there any significance difference of ICT and internet usage in research with respect to gender, department and experience?

    2.3 Is there any significance difference of ICT and internet usage in socialization with respect to gender, department and experience level?

    2.4 Is there any significance difference of ICT and internet in teaching with respect to gender, department and experience level?

2.5 Is there any significance difference of ICT and internet usage in communication with respect to gender, department and experience level?

2.6 Is there any significance difference of ICT and internet usage in information sharing with respect to gender, department and experience level?

3) What are the attitudes of TRNC secondary school teachers towards the use of ICT for educational purposes?
4) Is there any significance difference in the use of ICT and internet for educational purposes by TRNC secondary school teachers with respect to gender, department and experience level?
5) Is there any significance difference between the internet usage and the use of ICT for educational purposes by TRNC secondary school teachers?

1.4 Significance of the Study

Since the demand for ICT's involvement in the teaching and learning increases, teachers are inclined to remain within their educational belief zone about teaching with the use of ICT. Few studies have been carried out in this field of interest regarding concerning how these attitudes influences teacher usage of ICT. Zhao et al., (2002) discovered that though so many investigations which had looked into factors that impede teachers adoption of ICT; stated that "most studies tries to bypass the major challenges which teachers face in learning and including a newer ICT tools that has the tendency to disrupt their conventional style of teaching or education" Ertmer (1999) differentiated two kinds of limiting factors that affected teacher's adoption of ICT in their teaching and learning environment. Initial factors are described as external factors such as resources (both soft and hardware), support and technical training, while the second factors were internal factors such as the teacher's

mindset on how students learned, teacher's self assurance and confidence and also their perception placed on the ICT to be adopted during classroom setting.

So, many researchers have discovered that the second factor remains the most demanding and challenging for teachers. Hofer and Swan (2011) discovered that teachers that have minimal experience and training and that are also exposed to larger curriculum usually face challenges when adopting ICT during teaching. Nevertheless, teacher's behavioral attitude and belief must be carefully considered if the adoption of ICT in education is to be largely improved this careful consideration can invariably lead to an improvement in student's learning pattern in divergent areas.

1.5 Limitation of Study

The amount of sample of this research may not mirror the sample of the whole population of secondary school teachers in TRNC. However, time was a limiting factor that impeded the extensive and in-depth investigation that would have been conducted for the purpose of eliciting more facts for future references.

Additionally, proximity to reach all selected secondary school was also a barrier, as a lot of distance needed to be covered throughout the period of this investigation.

Chapter 2

LITERATURE REVIEW

ICT trend is booming all around the globe and its wind has even affected developing nations like Northern Cyprus. ICT have brought about new styles and patterns of teaching and carrying studies and investigative research; and it has impacted educational amenities for e-learning purposes, training and collaborative research study.

This chapter of this thesis study relies on a written style in examining resource materials that are academically accepted and published and other data that correlated to the title of this research work. This portrays the reliability and how contemporary this research appears to be and this will be used as a base for building this research study.

2.1 Technology and Education

In today's system, the universal issues and the ideas and knowledge development of ICT together has disciplined education into a more concentrated aspect and very much surprising, for it requires stringent analysis and methods in blending education and technology acclimatization in order to withstand the conventional transformation. The progression of profitable and societal revolution internationally with be essential if instructional technology tools are adopted in institutions (Leach 2008, and Kozma 2005). It has been significantly proofing that pedagogy and effectual educational setting are substructure by ICT for both learners and teachers

(Berhane 2012). A section of enhanced technology in colleges and university settings is ICT. For communication purposes we adopt technological tools, associations, relationships and connections are all embedded inside the or under the umbrella of ICT. Such as the internet and online learning, web searches and quests, CD-ROM and also, distance tutorship (Lockard& Abrams, 2001). The importance of ICT and setbacks has been analyzed by many investigators because teaching and learning are the available settings that ICT can be found in. In past years, instructors have no option but to include and use ICT in an applicable manner because of it constant increase in ICT adoption in institutions. Agyei and Voogt, (2012), Chai et al., (2013) opined a view of how nations like U.S.A, U.K, and European nation all have computers in their classrooms when its visited. In a classroom setting, ICT has a standard position because most institution has changed from their popular chalkboard in an e-communicative board.smart board (Weimer, 2001). Educators have therefore changed their perceptions on customarylearning settingradically. As the development progresses, majority of the teachers or lectures get scared on the revelation of ICT tools.Non compliance behavior emerges on the part of the teachers as they turn out to be not interested in the adaption of ICT and they see it as been not useful in teaching process as a result of a wobbly and soften nature of ICT (Koehler and Mishra, 2009) and also as a result of the implication of alteration. Recently, to adopt ICT or not in pedagogy is no more a relevant case to be talked about compared to new issues. For instance, including current ICT tools into work, proper ICT selection, choice of ICT for teaching, assimilation technique to encourage ICT the influence of technological tools on the instructional process needs to be understood (Abik and Ajhoun, 2012) and ways to enhance technological educational materials and resources as well as

teachers perception towards technology connected tools are better fields of study being mostly efficient in various characteristics (Chai et al., 2013).

The inappropriateright to use to hardware machines and no practical and mechanicalassistance is the primary aim why ICT is not accepted. Due to ICT instructive tools few trainers are nervous when they observe the efficacious nature of it, for past years, they have surveyed the importance that have been terrifying and investigators have recordeddifferent condimentsnecessary for constant addition of technology to academic setting (Agyei andVoogt, 2012, Chai et al., 2013).

In addition, technologies most times are very attreactive, Lovelass (2003) in his study unveil that there's need to keep pace with innovative ICT instructive tools stated by differenttrainers. In addition, ICT instructive setting or environment also has hindrances. However they were right in these insights when quantified as they access and application nimproved. On its own ICT do not boostacclimatization or learning but with the institute'sessentialsyllabus and program that was included will be helpful in accomplishing learning achievements (Sutherland et al., 2004). Solitary with important monetary investment will integrate ICT tools into organization. Here are three hypotheses for ICT revolutionarycost-effective returns,Honey and Mandinach (2003). Firstly, a device that helps in solving issues in a classroom setting is ICT tool. It includesassessing learner info, increasingcloseness to info resources, and effectnew ways of displaying content/material and writing. Secondly, ICT advancesmodification. Thisinspiresapprisingteacher's style, additional content, and inclusion of the students. Thirdly, in business competitiveness ICT is an important motion. Due to the importance of ICT awareness, students are leaving from the instructive setting and are moving an occupational work life. To modify how learners

learn is very vital, due to the change and success ICT brings to institutions. Culp et al. (2003) mentioned numerous quotes related and conmnected with other authors, he further promoted and supported the progress of ICT vote and teachers exercise. However, in the field he listed the importance for investigation needs. The influence of ICT on education must be understood by teacher, hen adopting ICT for instructional purposes.

The ICT introduction in colleges is not done at once, it takes time and stages. Scholars and heads in Edutech states four levels of integrating technology into schools, and this take a format of a business plan and method. First of all, the colleges analysis and scrutinizes the ICT tools while making some hypothetical assumptions. Second of all, colleges indulge in monetary investment. At third, colleges connects to the technology pace, strength and direction in order to improve their efficiency and effectiveness.These are the stages most colleges base in currently. The ending stage begins with connections and patterned commercial plan that requires proper understanding. Numerous types of technology which is integrated into instructional process are found beneath the usual sort of technological tools. This involves technological tools such as PC, online learning gadgets, Power Point presentation etc.

Academic platforms can be supported and enhanced as a result of appropriate blend of ICT into instruction (Sutherland et al., 2004).Assimilation/learning are not improved by ICT on its own, rather to acquire this, Furr et al. (2005) suggests that technologies should be witnessed as means or gateway of achieving your aim. It’s a type amongst numerous technological tools welcomed into educational platform for enhanced teaching.

In this research work, ICT is known to be an electrical gadget and instrument that enhances and produce connectivity and inter associations in an academic environment.

2.2 Technology Advantages and Disadvantages

2.2.1 Advantages

Since information and communication technology has been introduced into academic platform, it has created a lot of advantages because it establishes proper understanding environs (Heide& Henderson, 2001). In late 80's, authors discovered numerous results; such as,students performing better during evaluation,students wring properly and students finishing ahead of the required time set for evaluation. In addition, the freight of learner separation that some had discussed;students obliged and they were more intimate in the adoption of technologies. Dwyer (1994) affirmedcategoricalstatement of numerousunderstandingthru Apple Classroom project. First, technologies have contributed to education by encouraging different kinds of educative debate. Learning environment transformed from lecturer focused to learner focused, and the students also moved from just listeners to co staff in creating information.Technology also requires from the students challenging activities with greater works needed. This is gottenthruproblemsolution activities and real activities problems. Finally, technologiesensureteachers to doubt the theory of traditional education. For example, Rodrigues (2003) finished a research that adopted technology via three numerous means. Students displayed improvement and intimacy via the three means.Students enjoyed using the media gadget and saw it to be impressing and captivating. The Apple Classrooms of Tomorrow also displayed a proper influence of students integration into ICT adoption (White, 2010). This was enormouslycorrect when technology got included to be among the numerous

technological tolls in academic settings. Giving learner response, motivating learning and revitalizing tutoring sessions are all possible importance of ICT tools (Furr et al., 2005).

2.2.2 Disadvantages

Numerous impacts hinder the adaption of technologyleading into educational training. Most issues are within the institutions and the others are outside found in the society and as well as the instructors individual perception. These issues are not related, though they hinder the display of technology gears straightly in a broader way. Researchers found out that these issues are non-calculative, calculative and teachermatters. Non-calculative identifies to beissueslikeacademichistory, range of age, knowledge of the PC; administration policy and external sustenance are obtainable; while calculativematterssignifiesteachers'insightabout the presentation of ICT gears, teacher's skills and information about ICT gears, and institution also offers assurance for action manner (Strudler and Wetzel, 1999).

Nevertheless, teaching ICT gears holds numerousimportance's, it similarly holds limit. White et al. (2010) specifiedscarcity of practical is the majorsignificant hindrance of using technology gears. Wood et al. (2005) studied teachers' and revealedproblems to operational ICT gearsschoolroom presentationthrough investigations and concentration on assembling of thoughtscollected. This was completed through randomly selection of 144 teachers from aregular sized Canadian city. They revealed the fall or limitationwas due to the issues of the secondary teachers. The crucialsustenancewasmaterials like, software, training and internet. Similarly it includespersonalacquisitions such as ICT gears. Teachers expected education on well-organized incorporating ICT gears into their teachingmethods.

Students differences was the third concern considered by secondary teachers like their features, talent and drive. Moreover, in order to reduce the obstacle of ICT usage they need to makevitalteachers in technological gears presentation.

According to the ICT gearslimitationsspecified by Wood et al. (2005), Iding et al. (2002) confirmed it through education that numerousteachers were ignorant of software's user-friendliness, whereas some was concerned with the period interval required to regulate it well. They presented that ICT gears, like creating internet pages or PowerPoint, compriseanvital length of period by some teachers. Though, numerous teachers' specifies that premature period can cost the assetmeanwhile technology gears presentation becomes pressure free as time goes on (DenBeste, 2003). Wellington (1999a) presented connectedanswers from chemistry teachers that wasquestionedregarding the hindrance in implementing hyper media ICT gears. These comprisescarcity of practical material, scarcity of facilities, practical problems, shortage of teacher self-confidence and period. To sum up, appropriate specialized improvement and collaboration among teachers will solve the problem because teachers teaching are the key hindrance of technological gears.

2.3 ICT in Education

Lately, teaching in his scope has attractednumerousinvestigators and scholars from diverse nations that are interested in teaching at the phase of improvededucation. Conservatively, the shape of educational institute in advance education, the heir of the primary strategy is still on teachers'freedom to options, amassing nearly to their complete individuality, system built are connected on authority and remedial coaching (wellington, 1999). in the modification from the world of a particle to a world of technology(Negroponte, 1995) the globe is witnessing the introduction of

an informative society despite the fact that it grow through the rise of PC machine links that permitsinhabitants to use huge source of info, cooperating rapidly not observed beforehand, so connecting the earth to any part and pronounce itself not just the utlizers of information and data but closely as inventors and possessors of that particular information itself.

also, even if ict gears appears to be so interesting, Lovelass (2003) opined in a revelation that numerous tutors are revealing that there is a need to maintain flexibility and openness in relation to innovative technological tools in his opinionreveal that many teachers are voicing the need to keep swiftness with innovative ICT educationalsite or setting also has difficulties. However, these insightsspecifiedproperly with better-quality entrance and training. Teaching cannot be enhanced by ICT only;nonetheless it is amalgamating with the program to attaininstructive goals (Sutherland et al., 2004). This extrarequire determination and time period; therefore, teachersmust have a appropriateinsight of making use of ICT in teaching and learning setting to evade the teachersdespair from affecting its implementation (Demetriadis et al., 2003).

Notwithstandingall, the status of technological gears in education room turns out glowing; teacher'sgrowth must be continual and sufficiently applied to assure its accomplishment. The main concern of teachers is technological gearssupport (Demetriadis et al., 2003). Astudy was carried out that resulted to the conclusion by Wood et al., (2005). Interrogation was made ontutors of secondary school to find out the challenges faced in displaying technical gears in tutorial environments. The main issue which was discovered was supportingglitches that involved resources, training, administrative problem that results into a general matter like syllabus, teaching and

talents. Also, numerousteachers are the itch with most technological gears. Similarly, Brown (2006) studied that teacher'sthoughtfulinsightregarding ICT gearsenhanced with training and the ones who limited technology gears presentation turns out to be the ones that do not have the knowledge of the technical know-how.

Firstly, ICT gearsought to be capable to present vital educational value. Secondly, the technology gears that isrequiredoughtnot to be costly. Lastly, they must be unceasing change. This shows that technology gears will not adjustinstructive practices independently;preferablyteachers need to revise among each other with instructive ICT gears. For ICT gearamalgamation to work, Wellington (1999a) admits numerousvital parts compulsory to inspire ICT gears presentation in organizations which encompass practical support, contact, and right insight of teachers. Many teachers adhere to a certain standards which make it complicated for them in changing their procedures. Nevertheless, it's by some means, it's difficult for teachers to adjust effortlessly to innovative technological gears (Vail, 2003). To demonstrate this distinctiveness, Zhao and Cziko (2001) examinedteachers' execution of technological gears. The schoolworkdisplays that before ateacher will combine technological gears into education room; he has to trust that ICT will be effective in implementing a particular subject aim andwont cause any challenges during implementation. Once technological tools have been funded by institutions, Zhao and Czikofound that tutors have to own the control of ICT tools evolving based on ICT accompaniment. Tutors tries to increase their instructional methodsmeanwhile they have accepted ICT gears (Sutherland et al., 2004). Wheeler (2001),specified that teachers parts changes with the outline of technological gears. In other words, positions cannot be upheld because of the emerging technology

gears. The vital thing is that resources changes. In today's education and learning setting ICT gears is common such as blackboards, it may quickly turn old-fashioned. He also said that teachers should be inventive in discovering numerous utility of technology, for the idea a teacher have about his/her area of study can be altered. For high ICT efficacy, Sutherland et al. (2004) studied that at all phase they ought to beat evenness and the implementation that encouraged students is the individual interaction with ICT which is private ICT implementation.

An operative ICT implementation relies on expertdevelopment (Venezky, 2004). Iding(2002) got suggestions from instructions regarding institutions role in helping instructors through computer utilization. The normal response obtained was that colleges could create workshops and service spaces for required tutorship. However, Venezky studied many institutes over the world; he found that institutions growth is not regularly planned. For instance, college tutorsobtain assistance from their fellow college. Another research find that, setof tutors learnt how to utilize technological tools, they therefore taught their other colleagues on how to use such tools. Numerous colleges create time for retraining staff on the work to enhance development. Methods such as this permits the involvement of technical tools to spread through trained instructors in adopting ICT skills and patterns of blending technology with academics. The result was reported by Pelgrum (2001) who opined that technological tools require dedicated practice to be successful. Investigations have discovered that ICT engagement requires modification since tutors are experts in operating technical tools. As instructors increases in ICT usage either educational backing or practical is needed in teaching and learning setting (White et al., 2010).

The modification of learning outlook is as a result of the ICT growth in pedagogical environment. There is a shift in productive learning from tutor-focus to student-focusplatform where studentsadjust to becoming stronger during understanding the patternand tutors should be aware in order to be able to create important academic platform. Contemporary tutors should be able to teach electronically – an electronic tutor is one who teaches with the means of presentation via media and deliberations. The only way for instructors to integrate students in the course content and pattern to make educationstimulating, digitalresource should be included – ICT. (PBS 15 -20, 2013) a review that was grounded on web with us underneath k-12 teacherscumulating 503 examination and it was a quantifiable record on how teachers are presenting ICT in USA's schoolroomdemonstrates that 74% of teachersspecified that educational ICT gears increases education, two third of the tutors needs many educational technological tools and about seventy five percent of the tutors that teaches are instructors in a lesser paying college. The findings shows that many tutors encourage varieties of technological resources and content; forty eight percent make available classroom info and 43% of teachers use online image, write up and video. Numerous benefits generated over the years were as a result to the amount of usage. Instructive technology has been confirmed useful and pertinent by acting as a way of improving and enlarging of scheme content, motivating learners to assimilate through practical scheme, dynamic in acting to newer ways of teaching and learning, helping the leaner in a greater way and helping the tutors in showing knowledge which might not be shown in class settings. For instance, tutors don't encounter challenges of controlling inventiveness but encounters with the responsibility of producing novel and spectacular opportunity for learners (Weiner, 2001). The general subject for researchers nowadays is the high request for the need

of refining teacher's technological educational content knowledge. Nowadaysinvestigators has been examiningdiversearea of technological educational content knowledge such as TRACK level of investigation, improving pattern for dimensions, instruments and authentication, establish growth etc (Chai et al., 2010; Jang and Tsai, 2013).

ICT has been appreciated to support an excellent education and creative teaching-learning environment for student and teacher. Numerousexploration studies have shown that ICT has lightened up opportunities and environmental willingness for teaching and learning instruction. Most significantly, ICT plays a major part in creating of knowledge and exception of information subjectsresolving and extra inspection. Nevertheless, it is still understood on how educators use, combine and request students to study access, gather, and process, analyze, communicate and reproduce information. The ICT practice in classroom teaching is more applied, interactive and imaginative point rather than hypothetical. The result is that the smash of ICT on teaching is one of the adverse issues (Webber 2003).

ICT gears is anabsolute device that letsapplied setting and back upinnovativeapproaches of training and learning and helpstudents to develop in information and skills for cooperation, communication and problem solving. The presentation of ICT gears into classroom teaching has been the standing part for teachers (Voogt 2003).

2.4 Related Literature.

More than half of the teachers observed ICT to providebenefits to classroom knowledge but numerousstruggles to see exactassistances and approaches for use. Numerouslessonshaveidentified these diverseinsights from teachers. (Korte&Hüsing

2007; Balanskat et al 2006; Becta 2008). In an EU School net (2010) pre-pilot teacher evaluation on usage of Acer netbooks concerning 6 countries, mass number of teachers decided that netbook use has optimisticinfluence on learning, permitted for personalized learning and assisted to increase learning outside the school day. Likewise, some investigatorslisted that most teachers do not see vital learning assistances for students from ICT, irrespective of their skill on ICT system. The realhave extraordinary education benefits for learners' (Korte&Hüsing 2007). Review about UK study displays that fifth of European teachers thinks that using computers in classroom do not teacher'sdisplays that the optimisticinfluence of ICT role was moderated as it become but was more incomprehensible and indeterminate about exact current benefits (Becta, 2008). The methodsinstructors feel about ICT in the event that it makes their occupation simpler or add to their workloads varies. The greater part of the instructors using netbook study concurred that netbook expand their workload (EU Schoolnet 2010).Bingimlas (2009) recommended that the main reason while educators don't apply ICT sincerely in lessons is because of as far as imaginable in their employment.Though, Becta's 2008 studydisplays that online materials and interactive whiteboards has minorextent of time set aside when make use of the technology. Balanskat et al (2006) identified that lesson preparation as apart where ICT help teachers to work professionallyfor the reason that of its aptitude to offer collaboration and resource distribution. A number of teachers that replied to EU Schoolnetreport (2009) are the ones making use of games in classroom and need to know further on how games are used as teaching gears. It's factualregardless of their sex, age or experience in making use of games themselves. Teachers have vibrant insights about their efficiency when they make use of ICT in classroom which can in due course affect how they make use of technologies in

classroom. For instance, it was reported that teachers in UK have high level of self-rated effectiveness but teachers in Turkey have not as much of confident about their technology abilities and usage in classroom (Becta 2008; Gulbahar&Guven 2008). On a comparable note, Bingimlas (2009) declared that teachers that agree that innovative technologies assists them impart and are the ones that have self-confident in ICT and will like to make use of them more in future. Large study that is reviewed by Balanskat et al (2006) discovered that when they make use of ICT teachers' application is not varying much, it also reviewed that the teachers that make use of ICT are more project-oriented, cooperative and experimental way more than other teacher which is because they have high optimisticinsights of ICT.

Since ICT has been joined into teaching technique or instructive settings, may inspect study has been done concerning educator's recognition towards ICT development into instructional material, instructing and instructing strategies. The segment of this exploration work has attained the outline of numerous inspections and their findings or their outcomes.

Yang (2003) analyzed a college study called, use of internet by Pr-service teachers in elementary school" that examination of pre-administration elementary teachers on web use, web self-adequacy, and web annoyance and their relationship. The general population responding to this investigation was all elementary pre-administration understudies that are focusing on in Core College of Education Course at Idaho State University amid 2003. Opinion Polls were shared to 98 understudies amid consistent class time and 71 reactions were collected. A recommendation about the findings was not an early and regular application of web over educator's instructive system was obliging in empowering understudies utilization of web and self-viability.

Zhang (1999) stated that “educators adoption of the web electronic resources,” was a means to determine how instructors incorporate, reproduce and analyzes electronic gadgets in the midst of the examination. The researchshows that the number and amount of creators that utilized e-asset as a part of their examination papers more than eight year time frame were high yet e-source was used a great deal not as much as print source. E-assets efficiently used by teachers and it turn out enormous in their examination.

Similar to National Center for Education Statistics (NCES, 2005), from 1994-2002 amount of government institutions which have the access to the internet grew from thirty five percent to ninety nine percent. Recently, must instructors’ regular portions of ICT major to their day to day doing. NCES (2005) confirmed that 68% of instructor respect electronic mailing to be unobtainable, and 61% of instructors have faith in the web relating in teaching and learning setting which is required for teaching and development. The finding of this result was a nationwide study of ICT well-educated instructors.

Numerous studies have educated that attributes of teachers presumed a critical part on the utilization of ICT. Educator qualities are their instructive level, sex, educating, PC encounters, age and financial position. A study by the National Center for Educational Statistics (2005) expressed those educators that have long viewing background have less use of PC than those teachers with less teaching knowledge. The report was measured this way, educators that have less viewing knowledge adopt the computers about forty eight percent of the time, 4-5 years learner uses PC forty five percent of the occasions, 10-19 years of users uses the computerabout forty five percent of time and tutors having twenty years and a greater quantity of showing

knowledge use PCs just thirty three percent (Collins and Jung 2003). The outcomes was found according to the scientist's and an assembly of East African investigators. Some said the quality is because of age while others it was because of one's inevitability experience. They moreover declared that instructors are technophobic with the use of PC while others due to their belief saw the use of PC as transgression. Ina bunch dialog folks said they were not given preparing on the most capabletechnique to use ICT. At his proves that educators need ICT making both at pre-administration and in-administration levels. Preparing educators on the best way to use ICT is great and ICT is authoritative on the grounds that they are a technique for presentation patterns (Brummelhuis, 1995). It was relatively announced that tutors possess positive minds on the adoption of ICT, but to get and own access of technological tools and gadgets such as hardware, interactive amenities are not complete. School that have some ICT properties are only restricted to office use. Some informant reported that in East African, not to talk of ICT properties that some schools in the rustic areas don't have adequate chairs, blackboards and pure water for intake and optimism and well-being of teachers are very low. As vital as teachers are in countries like Somalia, Eritrea and Ethiopia, teachers are looking for part time jobs to be contented and some moved to western countries to make a living.

Moseley et al.(1999), in an examination on lower level colleges teachers they are seen to achieve both typical or past ordinary change on doings of successful attainment by learners, fascinated on informative presentation of innovation. A photo that has a concrete stand was scored to show all around sorted out teachers getting innovation. Educators were strengthened with vital materials in making, preparing to have info in ICT. The arrangement exposed interconnection amongst educators' idea

on supervisory conduct or exercises inside teaching and learning settings and learners' information change. The study specifies gainful educators are as a consequence of supportive data was the essential normal for the study. Many studies exposed that educators present samples and return tests and join learners in explanation and display to instructing settings. Educators that have great innovation capacity are the ones that favored innovation and are be dependent on upon to have such and they, the same see innovation device as an essential device in training. Educators are accountable to recognize helpful action investigations and learner decision.

A study that it result and the progress movement that review gainful instructive converged with innovation in authority and capability in lower schools (Moseley et al., 1999) offers tests of teachers performs and many-sided nature of presentation that educators do in choosing ways and time to present innovation in securing their training. As of late, a few lower level classes in universities still have entry to couple of PCs, and its influencing the alternatives teachers could mark concerning presenting innovation. Moseley et al. (1999) presented pre and post harmonious appraisals in watching advancements in learners' accomplishment. Parts of the development exertion were an examination of relationship among educators' idea their guiding practices and exercises in instructing and learning scenes, and learners information upgrades. It was uncovered that teacher's contemplations and standards behind mentoring and information are associated with the tutor’s previous activities orwhat occurs in the academic processes and for the option by selecting the way to join innovation into training. A viable utilization of depictions demonstrates that the teacher is dynamic and that is the fundamental attributes of a dynamic educator. The

educators that have great and sound innovation capacities are the ones that favored innovation and they saw innovation as a vital gadget for data and instruction. Those educators that are not in backing of the presentation of innovation must have advance characteristic of center and should have the capacity to support learner to do work freely. Some examination recorded that what a scholarly head or a participation encompassing movement gives are esteemed. It recommended that the task of joining educators' capability in presenting innovation is a cutting edge plan and wishes to be known as a standard part to their expert change. As novel innovation gadget is made teachers need to propel novel capacities and instructive strategies.

Investigation on six program field, comprised language, Hennessy et al., (2003) unveiled that introduction and an increase in student's private association. The influence of the modification in academics setting displays that tutors are expected to utilize an operational strategy in academic and improve a more adoptable approach in other to cater, control and enhance students' academic. It involves also the watching of students' improvement and growthgradually and encouraging them by giving time and focus to the subject information.Students supports also by carrying additional duty for their own knowledge via advance participation. During which different approaches were active, many of them were based on proven exercise, then the researcher confirmed that education is linked together with the introducing technology to encourage course training and education was still growing.

Moseley et al.(1999) recommended that the more active instructors becomes was a well explanatory adoption and its their primary characteristic. He underlined the importance of keeping instructor's favorites and suggestions related to education and also their progressregarding ICT tool. Tutors should juxtapose academic together

with the recommended academic influence of activity. Nevertheless, Brown *et al.* (2001) was not successful in classifying any similar attributes to educational activities which on the other hand can be a great impact to learners' success. Moreover, the research placed questions on ground about instructors effectiveness may be rigidly studied by observing in education scene, the researcher squad was able to recognize much behavior that was seen in effective instructors to be well owned and respected. They are good number of learner that are good mathematically, which shows strong decision among task and objective, accepting series of methods of communication and more concern on perception that replies.

Hennessy et al.,(2003) in a similar work found out that about 88% of the teachers adopt the internet for several purposes. His significant outcome for his finding showed a p value of >0.05 significant point. Papaioannou and Charalambous (2011) in a related study found similar result, in his analysis of the daily usage of technology by instructors. He found that there is no relationship in their daily adoption of the technology by instructors. Blanskat, et al., (2006) found in a related result that no significant result was gotten in the analysis of teachers attitudes towards technology and education. Philip (2009), found in a related work, that no significant difference exist from the findings of his study, having (f (8,458) =.846, and p=.563). This signified that no difference was found in amongst the specialty of instructors in their daily work life. Adam (2002) in a similar study realized that teachers that are experienced either male or female includes the adoption of ICT tools in their daily work activities.

Chapter 3

METHODOLOGY

This chapter concentrates on analyzing the patterns and method of research which would be carried out in analyzing the attitudes towards ICT and the internet usage of the teachers of secondary education as a case study of TRNC. Concrete description will be done regarding the design of the study, data sample, study case, collection of data, data collection techniques and its analysis.

3.1 Research Design

This dissertation study is a descriptive research that appears to be investigative in the process, and will also include connective variables. Creswell (2003) revealed that investigative studies are always very vital, especially when a lot of researches have not been carried out on the title of study or the sampled study group. Descriptive examination study, sometimes called survey research, is mainly connected with attitudes, procedures, perceptions, preferences and awareness (Gay &Airasian 2000). The findings from the quantitative investigation would be maintained through an elaborate and a well structured interview. This qualitative part of the investigation will be done for the purpose of not gathering more specific and accurate data alone but to also make sure that the result of the whole investigation is been validated at the end. The patterns of gathering numerous data ensure the validity of outcomes of research studies (Gelsne, 1998). Structured interviews turn out to be a vital advantage in other to cover the issues that are not touched by the questionnaire and to

also help the researcher to possess a solid knowledge of teachers' attitudes towards ICT and their internet usage for secondary educational level.

3.2 Research Group

Khan and Best (1993) described a sample research group as a collection of people having similar or more features, which the researcher is passionate of investigating or evaluating. A particular research group the researcher will really like to expand to is called a target group (Gay and Airasian, 2000). The particular population that this research will be focused on is the secondary school teachers of TRNC for the Spring term of 2015.

3.2.1 Sample

Some portion of the entire population usually known as a sample, according to Wiersma (2000), would be randomly chosen through a sampling method known as a convenience sampling style and also will be issued questionnaire for the purpose of collecting data. A purposive method of sampling will be done for participant that will partake in the interview process. Patton (1990), quoted that an in-depth or extreme sample is made up of information and experience rich cases that shows the phenomenon of research interest deeply but neither excessively. The measure for choosing the sample respondents will made based on factual and deep reply to the critical subject matter pertinent to the research study.

The whole amount of questionnaire that was shared out were 320 pieces, unfortunately, many sampled participants did not return their own copy of questionnaire. Therefore, the total collected copies of questionnaires are 252 copies.

Research participants for this research are totaled to a number of 252 secondary school teachers from 10 selected schools in TRNC. A systematic random sampling method was used in selecting teachers from the 10 selected secondary schools within the location of the study; picking 25 teachers each from nine schools and 27 teachers from one school to complete the total participants used for the study. Moreover, 25 teachers were also chosen as participants to answer the structured interview questions. The participant will respond to the 15 interview questions organized to support the gaps of the questionnaire if any.

Table 1:Demographic

		Frequency (N)	Percent (%)
Gender	Male	114	46.0
	Female	138	54.0
	Total	252	100
Branch	Mathematics	34	12.5
	Physics	30	11.0
	Turkish	18	6.6
	Chemistry	15	5.5
	Social science	16	5.9
	Biology	28	10.7
	Information technology	27	9.9
	History	15	5.5
	Physical education	8	2.9
	Science and technology	16	5.9
	Music	7	2.6
	Psychology, counseling and guidance	9	3.3
	English	3	1.1
	Religious and moral knowledge	14	5.1
	Engineering and design teacher	5	1.8
	Others	7	9.6
	Total	252	100
Years of Professional Experience	0-9yrs	55	23.2
	10-20yrs	95	36.9
	21yrs And Above	102	39.9
	Total	252	100
Level of computer usage	5 hours and above	26	16.6
	2-5 hours a day	187	68.8
	Few times a week	25	9.2
	Few times a month	14	5.4
	Total	252	100
Purpose of internet usage	Preparing lecture notes	17	6.3
	Social networks(Facebook, tweeter etc.)	61	22.4
	Playing games	15	5.5
	Reading news	61	22.8
	Doing research	13	7.8
	Mail shopping	63	23.2
	Shopping, listening to music, watching films etc.	10	3.7
	Finding additional sources for lesson and lectures	12	7.4
	Total	252	100

Computer experience	Yes	181	70.5
	No	71	29.5
	Total	252	100
Computer certification/in-service training	Yes	151	59.5
	No	101	40.5
	Total	252	100

In the Table 1, the characteristics of the demography of the respondents of this study were examined. The descriptive examinations thus have these outcomes, 46.0% (114) of the participants were male and 54.0% (138) were female participants for the study. For the branches or field areas of the teachers, 12.5% (34) of the participants are mathematics teachers, 11.0% (30) are physics teachers, 6.6% (18) are Turkish teachers, 5.5% (15) are chemistry teachers, 5.9% (16) are social science teachers, 10.7% (28) are biology teachers, 9.9% (27) are information technology teachers, 5.5% (15) are history teachers, 2.9% (8) are physical education teachers, 5.9% (16) are science and technology teachers, 2.6% (7) are music teachers, 3.3% (9) are psychology, counseling and guidance teachers, while 1.1% (3), 5.1% (14), 1.8% (5) and 9.6% (7) are English, religious and moral knowledge, engineering and design and other teachers respectively. According to the years of professional experience of the teachers 23.2% (55) of the teachers had 0-9 years of experience, while 36.9% (95) and 39.9% (102) had 10-20 years and 21 years and above respectively. Based on the teacher's level of computer usage, 16.6% (26) of the participants used the computer for 5hours and above daily, 68.8% (187) of the participants used the computer 2-5 hours daily, while 9.2% (25) and 5.4% (14) all used the computer few times a week and few times a month respectively. The analysis regarding the purpose of using the internet, 6.3% (17) of the participants uses the internet to prepare lecture notes, 22.4% (61) of the participants used the internet for social networks (Facebook and tweeter), 5.5% (15) of the participants used the internet to play games, 22.8%

(61) of the participants used the internet read news, 7.8% (13) of the participants used the internet to do research works, 23.2% (63) of the participants used the internet to carryout mail shopping, while 3.7% (10) and 7.4% (12) of the participants used the internet shopping, listening to music, seeing films etc. and funding additional sources for lesson and lectures respectively. According to the computer experiences of the teachers, 70.5% (181) have computer experience and 29.5% (71) do not have computer experience. Finally, for teachers with computer certifications, 59.5% (151) have one computer certification or the other and 40.5% (101) do not have any computer certification.

3.3 Tools for Gathering Data and Techniques

Quantitative and qualitative type of research pattern would be used to collect information from the targeted sample of the population of secondary school teachers in TRNC via structured interview questions and questionnaire instrument. Questionnaire instrument used for this research was developed by Tavsancil and Keser (Ezel and Hafize, 2000) in their work "Development of a likert type attitude scale towards internet usage". Questionnaires would be shared to sampled participants in other to collect data needed for the research; 252 questionnaire instruments were given out to 252 randomly selected sample participants and additionally, 15 interview questions would be posed to 25 purposive selected respondents at the time for gathering information. The questionnaire instrument was divided into two parts of which the second part contains a total of 68 questions that covers the delimitation of the research study, while the first part of the questionnaire contains seven (7) variables at which the questionnaire items will be used as a relational and significant measure to obtain the final outcome of the research.

The questionnaire uses measuring scales of 5 points for the second part of the questionnaire known as: Strongly Agree, I agree, Neutral, I disagree, I strongly disagree, to measure the degree or level of respondents responses. The gathered information would be organized and collated into the Statistical Package for the Social Science Database (SPSS) and will be analyzed afterwards depending on an explorative and explanatory assessment test. Thompson (2009) explained that explanatory and exploratory research pattern is used when gathering information into a reasonable report so as to be assimilated and properly understood.

3.4 Data Analysis

Quantitative statistics would be out to show the whole analysis of the total data, through getting the mean of the group, significant relationship, probability points, and standard deviation point of the explorative investigation. T-test would be carried out on data having two variables in each of the groups, such as Computer certification/in-service training, computer experience and gender; while ANOVA will be carried out on data having three or more variable in any group e.g. branch, years of experience, and level of computer usage and purpose of computer usage. All these would be achieved through SPSS v.18.0 (IBM.org).

3.5 Reliability and Validity

To obtain validity in this research investigation, it will be shown on the significant outcome from the statistical analysis of the research data and in a absolute or extreme truth. Validity in this research will also be achieved by the adoption of interview questions to back up the questionnaires after they have been collected from the sample groups; this is as a result to cover the unmet challenges or issues in the questionnaire. Furthermore, validity of this study will be ensured by carrying out a purposive respondents selection during interview phase of the research investigation;

this is to ensure that valid replies are gotten from interviewees and thus validating the whole outcome and process of the research study.

Importantly, it is known that in the scarcity of a reiterated statistical relationship outcome, the exploration study or investigation has not achieved the necessary criteria for testability. Therefore, the reliability of the investigative study would be dependent on the total results obtained during the research findings; because it is likely to appear in a similar research fashion under the same variable condition and sample participants.

Chapter 4

FINDINGS AND DISCUSSIONS

This part of this research work concentrates on examining data collected via the instruments of the study, which was subsequently entered into database; in other to organize the data, SPSS file was used. Frequency columns were used for the analysis of the demographic characteristics of the study, standard deviation and mean scores were also gotten via a descriptive statistics approach regarding the participant's responses in relation to likert scale ranges. Also, T-test analysis will be done for gender groups and other variables with only two groups in the study. More so, ANOVA analysis will be done on the branches of teachers, duration of profession, duration of computer usage and purposes of using the internet. Subsequently, variables with significant differences will further be analytically discussed in finding the major variation within the groups.

4.1 Items Scale Reliability Test

Scale reliability determines how firmly and strongly the items in an instrument set are closely related to each other and how they are properly connected with the topic of the research (Sekeran, 2003). Scale reliability test also identifies how fit the items are in other to measure the research topic. The most popular approach in evaluating the stability and consistency in association to the scale measurement is the use of the Cronbach's Coefficient alpha (Pallant, 2001). The internal stability and steadiness of the items in the work is also determined through this instrument of measurement. The result from Table 2 has shown that all the items hold a Cronbach alpha score

greater than the statistical standard score point of 0.7 (Nunnally, 1978) which also is the point set for this study.

Table 2: Cronbach reliability test

	Items	Cronbach's Alpha
Q1	I think that the usage of ICT is beneficial in terms of the success of programmes of instruction.	.833
Q2	The usage of ICT in the lesson is a work load.	.840
Q3	I think that the usage of ICT in the lesson will increase the teacher´s success.	.834
Q4	I think that the lessons including ICT will attract student´s attention.	.834
Q5	I think that the educational tools and materials for ICT lessons are expensive.	.840
Q6	The usage of ICT in education is luxurious for our country.	.842
Q7	I think that the usage of CIT in the lesson is difficult.	.843
Q8	I think that the usage of ICT tools and materials will be a waste of time.	.846
Q9	I believe that the ICT support makes the learning easier.	.833
Q10	I want to use audiovisial aids in my lessons.	.835
Q11	I think that the usage of ICT in lesson will increase student´s success.	.835
Q12	With the usage of ICT, I think students will participate more actively in lessons.	.837
Q13	I think that ICT will make important contributions to pedagogics.	.835
Q14	My goal is that our students will get computer assisted training.	.836
Q15	ICT is not suitable for our country.	.846
Q16	I believe that ICT increases the quality of the education and instruction.	.833
Q17	I think that ICT is an opponent against the teacher.	.845
Q18	I think that the usage of ICT disables the student´s creativity/passivates the student.	.843
Q19	I believe that the audiovisial aids increase the persistency in learning.	.835
Q20	I think it´s difficult to benefit from ICT in crowded classrooms.	.841
Q21	I believe that one of the biggest problems of our educations system is that ICT is not being used in an effective way.	.838
Q22	I think it´s important that teachers are constantly informed/instructed about ICT.	.834
Q23	I don´t find it necessary to know the application areas of ICT.	.843
Q24	I don´t think that the usage of ICT is necessary in reaching specific goals in education.	.845
Q25	I like using ICT tools and materials in my lessons.	.836
Q26	Providing students with the possibilities of ICT, I believe that the lessons will be more productive.	.836
Q27	I don´t believe that ICT is necessary for all kinds of lessons.	.843
Q28	Since I started teaching, I feel the lack of ICT usage.	.840
Q29	It´s a big pleasure for me to teach a lesson with the aid of ICT.	.834
Q30	I think that ICT is a source of trust and courage for the teachers.	.836

Q31	I think that ICT limits the creativity of the teachers.	.843
Q32	I think that ICT increases the motivation in lesson.	.839
Q33	I believe that knowledge and skill is necessary in using ICT tools and materials.	.835
Q34	I think ICT applications are necessary in making teaching more effective.	.835
Q35	I think that the usage of ICT increases the responsibility of the teacher.	.837
Q36	I think that one of the conditions of being a good teacher is the proper usage of ICT.	.835
Q37	I think that ICT limits the creativity of the student.	.842
Q38	While using ICT, I think that the teacher has to take the authoritative role in the classroom.	.838
Q39	The internet is a tool which helps the people to use their right for education.	.836
Q40	Being able to revise the learned subject on the internet as often I want comforts me.	.835
Q41	The internet increases the teacher´s performance.	.835
Q42	For me, the internet increases the teaching quality.	.837
Q43	On the internet take the opportunity to learn appropriate to my own speed.	.835
Q44	Learner centered instruction on the internet increases my interest in learning.	.835
Q45	I enjoy learning from the internet.	.834
Q46	The internet rescues the teaching process from getting boring.	.834
Q47	The internet is a great library.	.836
Q48	The possibility of simultaneous information exchange on the internet attracts me.	.835
Q49	It makes me happy to reach any source I want on the internet.	.834
Q50	For me, doing research on the internet is boring.	.846
Q51	I don´t benefit from the internet while doing research.	.845
Q52	The internet increases my interest in doing research.	.837
Q53	I don´t like to browse on the internet.	.846
Q54	By means of the internet I meet new people.	.841
Q55	I make new friends from foreign countries on the internet.	.841
Q56	Sharing my problems with people from different regions via internet relieves me.	.842
Q57	I wish all lessons were given via internet.	.839
Q58	I don´t think that internet training is enjoyable.	.845
Q59	Internet training is interesting.	.837
Q60	For me, learning on the internet makes the instruction more effective.	.834
Q61	I don´t communicate via internet.	.846
Q62	I don´t use the internet for conversations.	.846
Q63	Instead of writing letters, I use the e-mail.	.835
Q64	On the internet I can express myself freely.	.840
Q65	For me, the internet is the best setting for discussing thoughts and ideas freely.	.841
Q66	The internet is my main reference guide for watching world events.	.837
Q67	Internet is the place where information is shared easiest.	.836
Q68	For me, the internet is the main source for communication.	.837

4.2 Descriptive Evaluation of the Measurement.

Table 3, displays the descriptive evaluation of response level in relation to the likert measurements of the study. This section does not measure either positive or a negative attitude of the secondary school teachers in relation to the items of the instrument and the variables of the study but it measures their responses level regarding each item of the instrument. These items measure their internet usage of the teachers and their attitude towards ICT.

Table 3: Descriptive Evaluation of Individual Item Measurement Scale

	Items	Min	Max	Mean ($\bar{x}$)	**Std. Div.**
Q1	I think that the usage of ICT is beneficial in terms of the success of programmes of instruction.	1.00	5.00	3.3651	1.54099
Q2	The usage of ICT in the lesson is a work load.	1.00	5.00	**2.6825**	**1.24500**
Q3	I think that the usage of ICT in the lesson will increase the teacher´s success.	1.00	5.00	3.3452	1.45701
Q4	I think that the lessons including ICT will attract student´s attention.	1.00	5.00	3.1984	1.51720
Q5	I think that the educational tools and materials for ICT lessons are expensive.	1.00	5.00	3.0317	1.35656
Q6	The usage of ICT in education is luxurious for our country.	1.00	5.00	**2.8095**	**1.44593**
Q7	I think that the usage of ICT in the lesson is difficult.	1.00	5.00	**2.8254**	**1.31583**
Q8	I think that the usage of ICT tools and materials will be a waste of time.	1.00	5.00	**2.6786**	**1.36998**
Q9	I believe that the ICT support makes the learning easier.	1.00	5.00	3.2183	1.48671
Q10	I want to use audiovisial aids in my lessons.	1.00	5.00	3.2579	1.42014
Q11	I think that the usage of ICT in lesson will increase student´s success.	1.00	5.00	3.3294	1.43325
Q12	With the usage of ICT, I think students will participate more actively in lessons.	1.00	5.00	3.3373	1.32786
Q13	I think that ICT will make important contributions to pedagogics.	1.00	5.00	3.4762	1.32865
Q14	My goal is that our students will get computer assisted training.	1.00	5.00	3.3214	1.40995
Q15	ICT is not suitable for our country.	1.00	5.00	**2.4603**	**1.35489**
Q16	I believe that ICT increases the quality of the education and instruction.	1.00	5.00	3.3968	1.46157
Q17	I think that ICT is an opponent against the teacher.	1.00	5.00	**2.5794**	**1.28392**
Q18	I think that the usage of ICT disables the student´s creativity/passivates the student.	1.00	5.00	**2.8810**	**1.46714**

Q19	I believe that the audiovisial aids increase the persistency in learning.	1.00	5.00	3.4841	1.44329
Q20	I think it´s difficult to benefit from ICT in crowded classrooms.	1.00	5.00	3.0357	1.26409
Q21	I believe that one of the biggest problems of our educations system is that ICT is not being used in an effective way.	1.00	5.00	3.0437	1.22559
Q22	I think it´s important that teachers are constantly informed/instructed about ICT.	1.00	5.00	3.2460	1.44303
Q23	I don´t find it necessary to know the application areas of ICT.	1.00	5.00	**2.5556**	**1.42848**
Q24	I don´t think that the usage of ICT is necessary in reaching specific goals in education.	1.00	5.00	**2.8611**	**1.50415**
Q25	I like using ICT tools and materials in my lessons.	1.00	5.00	3.4524	1.30692
Q26	Providing students with the possibilities of ICT, I believe that the lessons will be more productive.	1.00	5.00	3.2103	1.36256
Q27	I don´t believe that ICT is necessary for all kinds of lessons.	1.00	5.00	**2.8294**	**1.39964**
Q28	Since I started teaching, I feel the lack of ICT usage.	1.00	5.00	3.1627	1.37773
Q29	It´s a big pleasure for me to teach a lesson with the aid of ICT.	1.00	5.00	3.2778	1.34010
Q30	I think that ICT is a source of trust and courage for the teachers.	1.00	5.00	3.0516	1.40341
Q31	I think that ICT limits the creativity of the teachers.	1.00	5.00	2.7897	1.51429
Q32	I think that ICT increases the motivation in lesson.	1.00	5.00	3.2579	1.45055
Q33	I believe that knowledge and skill is necessary in using ICT tools and materials.	1.00	5.00	3.2976	1.36376
Q34	I think ICT applications are necessary in making teaching more effective.	1.00	5.00	3.0278	1.43207
Q35	I think that the usage of ICT increases the responsibility of the teacher.	1.00	5.00	3.2778	1.31619
Q36	I think that one of the conditions of being a good teacher is the proper usage of ICT.	1.00	5.00	2.9563	1.26698
Q37	I think that ICT limits the creativity of the students.	1.00	5.00	**2.5714**	**1.29669**
Q38	While using ICT, I think that the teacher has to take the authoritative role in the classroom.	1.00	5.00	2.9881	1.34955
Q39	The internet is a tool which helps the people to use their right for education.	1.00	5.00	2.9603	1.28731
Q40	Being able to revise the learned subject on the internet as often I want comforts me.	1.00	5.00	3.2103	1.39707
Q41	The internet increases the teacher´s performance.	1.00	5.00	3.0794	1.36628
Q42	For me, the internet increases the teaching quality.	1.00	5.00	3.1310	1.30426
Q43	On the internet take the opportunity to learn appropriate to my own speed.	1.00	5.00	3.1667	1.40153
Q44	Learner centered instruction on the internet increases my interest in learning.	1.00	5.00	3.2460	1.38407
Q45	I enjoy learning from the internet.	1.00	5.00	3.3333	1.42261
Q46	The internet rescues the teaching process from getting boring.	1.00	5.00	3.2381	1.34771
Q47	The internet is a great library.	1.00	5.00	3.2817	1.43786

Q48	The possibility of simultaneous information exchange on the internet attracts me.	1.00	5.00	3.2421	1.37471
Q49	It makes me happy to reach any source I want on the internet.	1.00	5.00	3.2460	1.40682
Q50	For me, doing research on the internet is boring.	1.00	5.00	**2.5794**	**1.43014**
Q51	I don´t benefit from the internet while doing research.	1.00	5.00	**2.2659**	**1.35867**
Q52	The internet increases my interest in doing research.	1.00	5.00	3.3135	1.36602
Q53	I don´t like to browse on the internet.	1.00	5.00	**2.5635**	**1.41138**
Q54	By means of the internet I meet new people.	1.00	5.00	2.9286	1.27353
Q55	I make new friends from foreign countries on the internet.	1.00	5.00	2.8611	1.33056
Q56	Sharing my problems with people from different regions via internet relieves me.	1.00	5.00	2.9738	1.37163
Q57	I wish all lessons were given via internet.	1.00	5.00	2.9214	1.25825
Q58	I don´t think that internet training is enjoyable.	1.00	5.00	2.9683	1.38551
Q59	Internet training is interesting.	1.00	5.00	2.9881	1.36708
Q60	For me, learning on the internet makes the instruction more effective.	1.00	5.00	3.1706	1.35936
Q61	I don´t communicate via internet.	1.00	5.00	**2.5595**	**1.41996**
Q62	I don´t use the internet for conversations.	1.00	5.00	**2.5913**	**1.46507**
Q63	Instead of writing letters, I use the e-mail.	1.00	5.00	3.0913	1.40139
Q64	On the internet I can express myself freely.	1.00	5.00	2.9175	1.39102
Q65	For me, the internet is the best setting for discussing thoughts and ideas freely.	1.00	5.00	2.9452	1.38152
Q66	The internet is my main reference guide for watching world events.	1.00	5.00	3.1111	1.36406
Q67	Internet is the place where information is shared easiest.	1.00	5.00	3.2183	1.38156
Q68	For me, the internet is the main source for communication.	1.00	5.00	2.9484	1.40905

Table 4: Descriptive Evaluation of Aggregate Item Measurement Scale

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
AGGREGATE_ITEM	252	68.00	340.00	257.1230	27.57642

Table 3 and 4, showed the result of the descriptive analysis of the individual items and aggregate computed items respectively. The items where measure on a minimum and maximum scale point of 1 (minimum) and 5 (maximum), to determine participants level of agreement and disagreement on the individual items and the aggregate item in general. It can be observed that for the individual items in Table 3, majority of the respondents hold a high response in their attitudes towards ICT and also have higher responses in their level of usage of the internet. All the items which state the positive impacts of ICT and internet to education and daily living, most especially to the teacher hold a mean score of 2.90 and above. Over 80% of the individual items have a maximum mean score points, thereby proving an acceptable attitude towards ICT and a greater usage of the internet by the teacher participants of this study.

From Table 3, the median between the min and max point is (2.5), therefore, items within the range of (2.5) and below showed a lower response of respondents regarding such items, invariably proving their disagreement to those items in the instrument. From Table 3, it can be found that all the items that are found on the minimum mean score point described ICT and the internet as a negative tool as well as a limiting factor to user especially the teachers. These items having a low mean scores, signifies that teachers tend to disagree on the item statements that ICT limits creativity of the students, ICT is an opponent to the teacher, that its unnecessary to know ICT applications, ICT being boring, not benefiting from internet during research, disliking browsing and not using the internet as well as not communicating via the internet. This is evidential in Q15, Q17, Q23, Q37, Q50, Q51, Q53, Q61 and Q62 respectively.

For the aggregate score in the descriptive measurement scale section, it is found that the minimum scale point was found to be 68 and maximum scale point was found to be 340 after computing the total items of the study to get the total mean. This proves that the median between the aggregate min and max is 170. Therefore, having an aggregate mean of 257.1230 far above the median point which is approximately 75.5% statistically showed that respondents hold a high acceptable attitude towards ICT and also indulges in higher usage of the internet for their daily educational purposes and activities.

Teacher A, in a reply, stated that, "*she has never been misled or disappointed for once while adopting the ICT tools during teaching and learning processes at school".*

Additionally, Teacher B, in one of her responses during the interview phase, stated that "*in her simplest answer ICT is so very significant in their daily lives and activities as teachers and educators".*

Teacher C, further gave his thoughts regarding the impact of ICT to his daily activity in school, he states that *"no school, college, or institution will survive an administrative or academic setting without the adoption of the internet or the utilization of ICT tools".*

A related study proves similar finding showing evidence that instructors adopt ICT to support and encourage newer educational settings to benefit their students (Underwood, 2006).

4.3 Independent T-test Analysis of Group Variables.

This part compared the mean score on variables for gender groups in the study, by using Independent sample T-test instrument. According to Pallant (2007) the results from this examination of the gender group will show if there is any significant differences available between variable with two groups, as well as analyzing them based on their mean score variances to determine the disparities between group responses.

4.3.1 Difference in Attitudes towards ICT and Level of Internet Usage between Males and Females.

Based on the result of the analysis in Table 5, it showed that in all the total number of secondary school teachers in TRNC that participated in this investigation 45.2% (114) were male participants and 54.8% (138) were female participants.

Table 5: Group statistics of independent analysis on gender

	Gender	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Aggregate Item	male	114	208.0088	27.93086	2.61596
	female	138	204.5652	27.28331	2.32251

Table 6: Attitudinal differences towards ICT and the level of usage of the internet based on Gender responses

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Aggregate	Equal variances assumed	.281	.596	.987	250	.325	3.44355	3.49035

Item	Equal variances not assumed			.984	238.91	.326	3.44355	3.49819

Table 5, showed the group statistics of T-test analysis on gender. It showed also their mean differences and total number (N) for both female and male in their responses regarding their attitudes towards ICT and their level of usage of the internet. The table portrays that female group has a total of 138 participants and the male participants has a total of 114 participants.

Table 6, also showed that there is no significant difference in the attitude of secondary school teachers towards ICT, thereby, they hold similar responses regarding their level of usage of the internet. It can be seen also that (t=.987 and .984) and (p>0.05), and this is the significant point selected for this research work. It can be deduced statistically that both male and female teachers of TRNC secondary school holds a high relationship in their attitudinal behaviors towards ICT and their level of internet usage; since no significant differences occur.

Teacher D, quoted that *"there is no discrimination in the usage of ICT tools for work or the adoption of the internet, it all depends on the personal usage or job description. To me, the usefulness of the internet is immeasurable".*

Teacher C, stated that *"ICT generally is very efficient and helpful to the entire teachers of all schools, if it is used rightly and for the right purpose".*

Adam (2002) in a similar study realized a similar finding and he concluded thus, that teachers that are experienced either male or female includes the adoption of ICT tools in their daily work activities.

4.3.2 Difference in Attitudes towards ICT and Level of Internet Usage between Teachers that Attended Computer Classes or Not.

From Table 7, it showed that in all the total number of secondary school teachers in TRNC that participated in this investigation 71.83% (181) attended one computer classes or the other while 28.17% (71) of the remaining participants have not attended a computer class or lesson.

Table 7: Group statistics of independent analysis on teachers that attended computer classes or not

		N	**Mean**	**Std. Deviation**	**Std. Error Mean**
Aggregate Item	Yes	181	205.3204	28.12190	2.09028
	No	71	208.1690	26.21613	3.11128

Table 8: Attitudinal differences towards ICT and the level of usage of the internet based on teachers that attended computer classes or not

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
AGGREGATE ITEM	Equal variances assumed	.005	.945	-.737	250	.462	-2.84857	3.86514
	Equal variances not assumed			-.760	136.628	.449	-2.84857	3.74825

Based on the findings from the analysis in Table 8, it can be observed that no significant difference exist between the teachers that have attended computer classes and the teacher participants that have not attended any computer class regarding their various attitudes towards ICT and their level of internet usage. It can be observed that ($t = -0.737$ and -0.760) and ($p > 0.05$), this indicates that there is great similarities in their responses based on their differences in computer class experiences or expertise in computer fields; as regards their attitude towards ICT tools and the usage level of the internet.

Teacher A,B,D,E,F,G, etc, states that "*they do not need to participate in any professional computer courses before they realize the benefit of ICT and the internet, also, they also do not need to attend such classes to be able to adopt the internet*". Stating that the internet is a self taught tool that need no assistance.

4.3.3 Difference in Attitudes towards ICT and Level of Internet Usage between Teachers that possess any computer certification or not

From Table 9, it showed that in all the total number of secondary school teachers in TRNC that participated in this investigation, 59.9% (151) of the teacher participants has one computer certificate or the other while the remaining 49.1% (101) of the teachers participants does not possess any certification from any computer school or college.

Table 9: Group statistics of independent analysis on teachers that possess any computer certification or not

		N	Mean	Std. Deviation
AGGREGATE ITEM	Yes	151	205.0265	28.61560
	No	101	207.7624	25.99890

Table 10: Attitudinal differences towards ICT and the level of usage of the internet based on teachers that attended computer classes or not

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
AGGREGATE ITEM	Equal variances assumed	.092	.762	-.771	250	.441	-2.73589	3.5476
	Equal variances not assumed			-.786	227.94	.433	-2.73589	3.4807

Based on the findings from the analysis in Table 10, it can be observed that no significant difference exist between the teachers that have a computer certificate and the teacher participants that have no computer certificate regarding their various attitudes towards ICT and their level of internet usage. It can be observed that ($t = -0.771$ and -0.786) and ($p > 0.05$), this indicates that there is a great similarities in their responses based on their differences in their possession of computer certificates; as regards their attitude towards ICT tools and the usage level of the internet.

4.4 Analysis Of Variance (ANOVA) in the Attitude of Secondary School Teachers Towards ICT and their Level of Internet Usage according to Department, Years of Experience, Daily Usage of ICT tools and Purposes of Internet Usage

This section evaluates the significant differences and connection between and amongst variables that holds more than two groups and the aggregate item of the questionnaire instruments used in this research study.

4.4.1 Differences in the Attitude of Secondary School Teachers towards ICT and their Level of Internet Usage according to Department

Based on the result of the analysis in Table 11, it showed that in all the total number of secondary school teachers in TRNC that participated in this investigation, mathematics teachers appeared to be more having 13.4% (34) of the total sampled population of the secondary school teachers in TRNC. Physics, Turkish, Chemistry, Social Science and Biology teachers were, 11.9% (30), 7.1% (18), 5.95% (15), 6.34% (16) and 11.11% (28) respectively; more so, 10.71% (27), 5.95% (15), 3.17% (8), 6.34% (16), 2.77% (7), 3.57% (9), 1.19% (3), 5.55% (14), 1.98% (5) and 2.77% (7) were Information Tech, History, PHE, Science and Tech, Music, Psychological Counselling and Guidance, English, Religious, Engineering and other teachers respectively.

Table 11: Group statistics of ANOVA analysis on departments of teachers

	N	Mean	Std. Deviation
Mathematics teacher	34	197.2647	31.13247
physics teacher	30	208.7333	27.84679
Turkish teacher	18	207.7222	24.27733
Chemistry teacher	15	208.7333	26.47766
Social Science teacher	16	187.0000	41.58205
Biology teacher	28	206.7143	24.13980
Information tech teacher	27	211.3333	21.15147
History teacher	15	209.8667	23.33871
PHE teacher	8	195.6250	26.59719
Science and Tech teacher	16	216.7500	30.57995

Music teacher	7	207.7143	22.96167
Psychological Counseling and Guidance teacher	9	218.8889	27.52928
English Language teacher	3	195.0000	9.84886
Religious teacher	14	206.0714	25.33306
Engineering and design teacher	5	214.4000	23.98541
Others	7	210.1429	17.18942
Total	252	206.1230	27.57642

Table 12: Attitudinal differences towards ICT and the level of usage of the internet based on department of teachers

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	14,824.532	15	988.302	1.325	.188
Within Groups	176,050.655	236	745.977		
Total	190,875.187	251			

Based on the findings from the analysis in Table 12, it can be observed that no significant difference exist between the departmental groups of the teacher participants on their various attitudes towards ICT and their level of internet usage. It can be observed that ($f = 1.325$ and $p > 0.05$), this indicates that there is great similarities in their responses based on their different departments or area of expertise of the teachers regarding internet usage and their attitude towards ICT.

Teacher D, in his replies *"I do not think technological tools selects a particular field in other to function appropriately, because ICT to has it different functions in different area of study".*

Teacher E, states that *"the internet has helped in the improvement of all areas of study, by also opening lots of researchers to wider knowledge and information needed for further investigations and discoveries".*

Philip (2009), found in a related work, that no significant difference exist from the findings of his study, having (f (8,458) =.846, and p=.563). This signified that no difference was found in amongst the specialty of instructors in their daily work life.

4.4.2 Differences in the Attitude of Secondary School Teachers towards ICT and their Level of Internet Usage according to Years of Experience

Table 13, showed that in all the total number of secondary school teachers in TRNC that participated in this investigation, 21.8% (55) of the teacher participants fall in the range of 0-9 years of experience, 37.6% (95) and 40.4% (102) of the teacher participants all fall in the range of 10-20years and 21 years and above years of experiences.

Table 13: Group statistics of ANOVA analysis on years of experiences of teachers

	N	**Mean**	**Std. Deviation**
0-9 years	55	2.9799	.36429
10-20 years	95	2.9824	.45652
21 years and above	102	3.1044	.36702
Total	252	3.0312	.40554

Table 14: Attitudinal differences towards ICT and the level of usage of the internet based on the years of experiences of teachers

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.917	2	.459	2.830	.061
Within Groups	40.362	249	.162		
Total	41.279	251			

Based on the findings from the analysis in Table 14, it can be observed that no significant difference exist between the years of experience group of the teacher participants on their various attitudes towards ICT and their level of internet usage. It can be observed that ($f = 2.830$ and $p > 0.61$), this indicates that there is great similarities in their responses based on their different years of experiences of the teachers regarding internet usage and their attitude towards ICT.

Teacher F said that *"my level of experience in teaching has made me more used to the regular ICT tools and as well as the internet for my works, likewise will be for other teachers both older and younger in the job".*

Teacher G openly said that "*if you are in a job for more than a year or two and you still find it difficult in handling technological tools for such job then you have a problem to fix".* He further opined that "*he and his colleagues at work in school can handle work equipments needed for them to pass out instructions*". He also defined the internet as the "*the major source of knowledge for all instructors in learning new information, impacting their student and also updating the already gotten information"*.

Blanskat, et al., (2006) found in a related result that no significant result was gotten in the analysis of teachers attitudes towards technology and education.

4.4.3 Differences in the Attitude of Secondary School Teachers towards ICT and their Level of Internet Usage according to Daily Computer Usage by Teachers

Table 15, showed that in all the total number of secondary school teachers in TRNC that participated in this investigation, 10.31% (26) of the teacher participant used the computer more than 5 hours a day, 74.2% (187) uses the internet between 2 and 5 hours a day, 9.9% (25) and 5.5% (14) all uses the computer a few times a week and a few times a month respectively.

Table 15: Group statistics of ANOVA analysis on daily computer usage by teachers

	N	Mean	Std. Deviation
More than 5 hours a day	26	3.1454	.39091
Between 2 and 5 hours a day	187	3.0125	.41198
A few times a week	25	3.0971	.30604
A few times a month	14	2.9517	.48364
Total	252	3.0312	.40554

Table 16: Attitudinal differences towards ICT and the level of usage of the internet based on the daily computer usage by teachers

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.601	3	.200	1.222	.302
Within Groups	40.678	248	.164		
Total	41.279	251			

Table 16, also showed that there is no significant difference in the attitude of secondary school teachers towards ICT, thereby, they hold similar responses regarding their level of usage of the internet based on their daily usage of the computer. It can be seen also that (f=1.222) and (p>0.05). It can be deduced statistically that the analysis of the daily usage of the computer by teachers of TRNC secondary school holds a high relationship as regards their attitudinal behaviors towards ICT and their level of internet usage.

Teacher A,C,D,E,H,I,J.M,K,O etc., all stated that "*there is no day that passes that they don't use the computer or the internet".*

Teacher A,B,I,J,H,L,O etc., agreed that "*they login into the computer and the internet for a minimum of two to four hours daily just to check updates and friends, and also to do their daily work activities during working hours*".

Papaioannou and Charalambous (2011) in a related study found similar result, in his analysis of the daily usage of technology by instructors. He found that there is no relationship in their daily adoption of the technology by instructors.

4.4.4 Differences in the Attitude of Secondary School Teachers towards ICT and their Level of Internet Usage according to Purpose of Using the Internet by Teachers

Table 17, showed that in all the total number of secondary school teachers in TRNC that participated in this investigation, 6.47% (17) of the teacher participants uses the internet for preparing lecture notes, 24.2% (61) of the teacher participants adopts the internet when using social networks; 5.95% (15), 24.2% (61), 5.1% (13), 25% (63), 3.96% (10) and 4.76% (12) all used the internet in playing games, reading news,

doing research, mail shopping, shopping listening to music and seeing a films and finding additional sources for lesson and lectures respectively.

Table 17: Group statistics of ANOVA analysis on the purpose of using the internet by teachers

	N	Mean	Std. Deviation
Preparing lecture notes	17	3.0130	.45674
Social networks (Facebook, Twitter etc.)	61	3.0325	.44006
Playing games	15	2.9549	.16909
Reading news	61	3.1242	.40730
Doing research	13	2.9762	.32233
Mail shopping	63	3.0019	.42553
Shopping, listening to music, watching films etc.	10	2.8676	.40136
Finding additional sources for lesson and lectures	12	3.0233	.31085
Total	252	3.0312	.40554

Table 18: Attitudinal differences towards ICT and the level of usage of the internet based on the purpose of using the internet by teachers

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.982	7	.140	.849	.547
Within Groups	40.297	244	.165		
Total	41.279	251			

Table 18, also showed that there is no significant difference in the attitude of secondary school teachers towards ICT, thereby, they hold similar responses

regarding their level of usage of the internet based on their purposes of using the internet by the teachers. It can be seen also that (f=.849) and (p>0.05). It can be deduced statistically that the analysis of the purpose of using the internet by teachers of TRNC secondary school holds a high relationship as regards their attitudinal behaviors towards ICT and their level of internet usage.

Teacher A,C,G,H,I,J,M,N,O,P,L,Q,R etc., all stated that "the internet is very vital irrespective of the purpose of its usage", most teacher also stated that "they cannot survive in the job without the use of the internet".

Teacher M,N,O,P,R,S,T,U etc, all stated that "no matter how researchers tries to portray internet to be a bad influence to the growing students, it importance can never be over ruled in our educational environment likewise". They further states that the internet is a tool that can never be avoided".

Hennessy et al., (2003) in a similar work found out that about 88% of the teachers adopt the internet for several purposes. His significant outcome for his finding showed a p value of >0.05 significant point.

Chapter 5

CONCLUSIONS

This research study examined the attitudes towards ICT and the internet usage of the teachers of secondary education with the sample of TRNC. Data used in this investigation was collected through a survey means of research, this allowed for greater opportunity in acquiring a broader observation of the teacher participants used for this investigative study. This study further, adopted an interview method, by administering a purposive interview questions to the teacher participants in other to elicit useful responses that the questionnaire may fail to target. Such interview processes also allowed for close observation of the participants personal and general work life, thus, the researcher obtained useful clues that were beneficial during the analysis of the findings and results of the study.

This study theoretically reviewed the technological implementation and its relationship with educational settings, and further went ahead in analyzing the some advantages and disadvantages of Technological tools as they have impacted positively or negatively in education as found by researchers. This study also went further in brightening an already established relationship of the technological tools adopted by instructors in educational settings.

This study went ahead to determine the general attitude of teacher participants and their level of internet usage by analyzing their minimum and maximum scale points

both for individual items and the aggregate items of the instrument. The significant differences were further examined on all the aggregate variables adopted for the purpose of this investigation.

Findings of this investigative study show that majority of the respondents hold a high response in their attitudes towards ICT and also have higher responses in their level of usage of the internet. It can be found that more than 80% of the teacher participants gave a mean score response to be way higher above the minimum point in this research. The aggregate response also was found to hold a mean score of over 75.5% more than the minimum score point. This generally showed to prove that the attitudinal level of teacher's acceptance of ICT tools and the internet usage level are on a greater scale. This was also found relative in a similar work of (Underwood, 2006).

Adam (2002) found a similar result, in relation to the result of this study; according to the gender analysis of this study, there was no significant difference between male and female respondents regarding their attitudes toward ICT tools and their usage of internet level. Automatically, this proves to say that secondary school teachers of TRNC, holds similar views and attitudes regarding adoption of the internet and ICT tools irrespective of gender disparities.

Further findings in this study showed that, larger percentage of teachers in TRNC attended one computer class or the other. Also, it was found that no significant difference was found between the teachers that have attended computer classes and the teacher participants that have not attended any computer class regarding their various attitudes towards ICT and their level of internet usage.

Based on the certification of the teachers in TRNC, it was discovered that greater number of teachers in TRNC holds one computer certificate or the other. And further findings showed that no significant difference exist between the teachers that have a computer certificate and the teacher participants that have no computer certificate regarding their various attitudes towards ICT tools and their level of internet usage. This indicates that there is a great similarity in their responses based on their differences in their possession of computer certificates; as regards their attitude towards ICT tools and the usage level of the internet.

Moreover, with respect to the department of the teachers, it was found that the mathematics, physics, biology and information tech department tends to utilize the ICT tools and the internet more. This can be further said to be that the science department adopts more of the ICT tools during work activities and the other department like arts tends to utilize ICT and internets advantages efficiently. Further findings showed that no significant difference exist between the departmental groups of the teacher participants on their various attitudes towards ICT and their level of internet usage, indicating a great level similarities in their attitudinal characteristics and internet usage level. Philip (2009) discovered similar findings in a similar title he investigated on.

Additionally, regarding the teachers' years of experience, it was found that the teachers with 21 years of experience and above were more and those with experiences less than 10 years are lesser in population in TRNC. Further findings proved that no significant difference exist between the years of experience group of the teacher participants on their various attitudes towards ICT and their level of internet usage, proving that greater relationship exists in their responses regarding

the disparities in their years of experiences. Blanskat et al., (2006) found a similar outcome regarding years of experiences of instructors and the usage of internet and ICT tools.

Finally, regarding the daily use of the computer it was found that majority of the secondary school teachers in TRNC utilize the computer between 2 and 5 hours every day. Also, there is no significant difference in the attitude of secondary school teachers towards ICT, thereby; they hold similar responses regarding their level of usage of the internet based on their daily usage of the computer. It can be deduced statistically that the analysis of the daily usage of the computer by teachers of TRNC secondary school holds a high relationship as regards their attitudinal behaviors towards ICT and their level of internet usage. Papaioannou and Charalambous (2011) established similar findings regarding the daily usage of the computer by instructors. It was also found that majority of the secondary school teachers in TRNC utilize the ICT tools and internet for social networks, reading news online, as well as mail shopping. Findings further proved that no significant difference in the attitude of secondary school teachers towards ICT, thereby, they hold similar responses regarding their level of usage of the internet based on their purposes of using the internet by the teachers.

Conclusively, it can be generally deduced that there is no significant impact of demographic characteristics affecting the attitudes of secondary school teachers in TRNC in adopting the ICT tools in their daily educational activities based on the findings of this study. Moreover, the internet usage is by secondary school teachers of TRNC is neither affected nor determined by their individual characteristics; but based on its importance to the individual teacher or group of teachers.

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APPENDICES

Appendix I QESTIONNAIRE

Dear participant;

Within my thesis study in education as a graduate student in information and communication technologies program, the evaluation of "the attitudes towards ICT (information and communication technology) and the internet usage of theteachers of secondary education with the sample of KKTC" is to be aimed. The information gathered before the questionnaire will be thebasis of a scientific/academic and will not be used for other purposes.

1. What is your gender?
   ( ) Female ( ) Male

2. What is your branch?
   ( ) Mathematics Teacher
   ( ) Physics Teacher
   ( ) Turkish Language Teacher
   ( ) Chemistry Teacher
   ( ) Social Sciences Teacher
   ( ) Biology Teacher
   ( ) Information Technologies Teacher
   ( ) History Teacher
   ( ) Physical Education Teacher
   ( ) Science and Technology Teacher
   ( ) Music Teacher
   ( ) Psychological Counseling and Guidance Teacher
   ( ) English Language Teacher
   ( ) Religious C. and Moral knowledge Teacher
   ( ) Engineering and Design Teacher
   ( ) Other ...

3. What is the duration you spent on your profession?

   ( ) 0-9 years ( )10-20 years ( ) 21 and above

4. What is the approximate duration of your computer usage a day?
   ( ) More than 5 hours a day
   ( ) Between 2 and 5 hours a day
   ( ) A few times a week
   ( ) A few times a month

5. What is your purpose on using the internet?
   ( ) Preparing lecture notes
   ( ) Playing games
   ( ) Doing research
   ( ) Shopping, listening to music, watching films etc.
   ( ) Social networks (facebook,twitter etc.)
   ( ) Reading news
   ( ) Mail shopping
   ( ) Finding additional sources for lesson and lectures

6. Did you take a computer course during your university years?
   ( ) Yes ( ) No

7. During your career, did you participate in the in-service training/certification program about computer?
   ( ) Yes
   ( ) No

(5)I strongly agree (4)I agree; (3)Neutral; (2)I disagree; (1)I strongly disagree

		1	2	3	4	5
1.	I think that the usage of ICT is beneficial in terms of the success of programmes of instruction.					
2.	The usage of ICT in the lesson is a work load.					
3.	I think that the usage of ICT in the lesson will increase the teacher´s success.					
4.	I think that the lessons including ICT will attract student´s attention.					
5.	I think that the educational tools and materials for ICT lessons are expensive.					
6.	The usage of ICT in education is luxurious for our country.					
7.	I think that the usage of CIT in the lesson is difficult.					
8.	I think that the usage of ICT tools and materials will be a waste of time.					
9.	I believe that the ICT support makes the learning easier.					
10.	I want to use audiovisial aids in my lessons.					
11.	I think that the usage of ICT in lesson will increase student´s success.					
12.	With the usage of ICT, I think students will participate more actively in lessons.					
13.	I think that ICT will make important contributions to pedagogics.					
14.	My goal is that our students will get computer assisted training.					
15.	ICT is not suitable for our country.					
16.	I believe that ICT increases the quality of the education and instruction.					
17.	I think that ICT is an opponent against the teacher.					
18.	I think that the usage of ICT disables the student´s creativity/passivates the student.					
19.	I believe that the audiovisial aids increase the persistency in learning.					
20.	I think it´s difficult to benefit from ICT in crowded classrooms.					
21.	I believe that one of the biggest problems of our educations system is that ICT is not being used in an effective way.					
22.	I think it´s important that teachers are constantly informed/instructed about ICT.					
23.	I don´t find it necessary to know the application areas of ICT.					
24.	I don´t think that the usage of ICT is necessary in reaching specific goals in education.					
25.	I like using ICT tools and materials in my lessons.					
26.	Providing students with the possibilies of ICT, I believe that the lessons will be more productive.					
27.	I don´t believe that ICT is necessary for all kinds of lesssons.					
28.	Since I started teaching, I feel the lack of ICT usage.					
29.	It´s a big pleasure for me to teach a lesson with the aid of ICT.					
30.	I think that ICT is a source of trust and courage fort he teachers.					
31.	I think that ICT limits the creativity of the teachers.					

32.	I think that ICT increases the motivation in lesson.					
33.	I believe that knowledge and skill is necessary in using ICT tools and materials.					
34.	I think ICT applications are necessary in making teaching more effective.					
35.	I think that the usage of ICT increases the responsibility of the teacher.					
36.	I think that one of the conditions of being a good teacher is the proper usage of ICT.					
37.	I think that ICT limits the creativity of the sutdents.					
38.	While using ICT, I think that the teacher has to take the authoritative role in the classroom.					
39.	The internet is a tool which helps the people to use their right for education.					
40.	Being able to revise the learned subject on the internet as often I want comforts me.					
41.	The internet increases the teacher´s performance.					
42.	For me, the internet increases the teaching quality.					
43.	On the internet take the opportunity to learn appropriate to my own speed.					
44.	Learner centered instruction on the internet increases my interest in learning.					
45.	I enjoy learning from the internet.					
46.	The internet rescues the teaching process from getting boring.					
47.	The internet is a great library.					
48.	The possibility of simultaneous information exchange on the internet attracts me.					
49.	It makes me happy to reach any source I want on the internet.					
50.	For me, doing research on the internet is boring.					
51.	I don´t benefit from the internet while doing research.					
52.	The internet increases my interest in doing research.					
53.	I don´t like to browse on the internet.					
54.	By means of the internet I meet new people.					
55.	I make new friends from foreign countries on the internet.					
56.	Sharing my problems with people from different regions via internet relieves me.					
57.	I wish all lessons were given via internet.					
58.	I don´t think that internet training is enjoyable.					
59.	Internet training is interesting.					
60.	For me, learning on the internet makes the instruction more effective.					
61.	I don´t communicate via internet.					
62.	I don´t use the internet for conversations.					

63.	Instead of writing letters, I use the e-mail.					
64.	On the internet I can express myself freely.					
65.	For me, the internet is the best setting for discussing thoughts and ideas freely.					
66.	The internet is my main reference guide for watching world events.					
67.	Internet is the place where information is shared easiest.					
68.	For me, the.internet is the main source for communication.					

Thank you…

APPENDIX II INTERVIEW QUESTIONS

1. Do you derive satisfaction when it comes to ICT tools use in school and outside of the school?
2. How is your access towards ICT tools within and outside the school, free or limited?
3. On a personal assessment what is your view on the general perception of ICT?
4. Do you think ICT tools consume your time and distract your focus during teaching and process?
5. How can you describe the general trends/features of the ICT tools used for learning purpose?
6. What do you like about ICT? Is there anything distracting learning via such medium?
7. Compare instructional technological setting and traditional classroom learning, which one makes you feel more confident as an intelligent student?
8. Do you which ICT tools shouldn't be used for teaching process?
9. Which is more reliable in terms of gathering information and knowledge, Internet or the library?
10. What is the worst or best thing regarding internet and ICT tools towards your field of specialty?
11. Can you teach without the use of ICT and feel more comfortable?
12. How do your students react to the inclusion of ICT tools during teaching process?
13. Which ICT tool do you prefer the most during teaching?

14. Which ICT tool do your students prefer the most during learning process?
15. How often do you adopt ICT tools in preparation and implementation of ICT tools for teaching activities?