Analysis of Current ICT Technologies in Education and Their Comparisons with the Proposed Technologies

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ABSTRACT

In its general sense education is a form of learning in which the knowledge, skills, and habits of a group of people are transferred from one generation to the next through teaching, training, or research. Education frequently takes place under the guidance of others, but it can be autodidactic. It stands for information and communication technologies and according to the purpose of primer, it is described as information, creating contact, storing and disseminating the diverse array of the technological tools and resources used to manage. Among these technologies; there are computer, internet, broadcasting technologies (radio and television) and phone. On the other hand, networked computers and the internet are the ICTs that enable the best interactive and collaborative learning; their full potential as educational tools will remain unrealized if they are used merely for presentation or demonstration. Technology has become an important part of our daily life so that ICT in education has become indispensable. In addition, advanced Information Technology has gained much importance**.** Moreover, with developing technology, variations have been taking place in many fields such as industry, trade, health and education as well and the scope of information, access speed to information and access methods are rapidly changing. Educational institutions stand in the very middle period of change as we may refer to as information age. Within this period, the quite important missions fall particularly to the school administrators and teachers.

Merely to educate literate individuals is not sufficient anymore, but technologically literate individuals should also be trained. The rapid development of ICT is leading to the establishment of what has been called the information society. New technologies have affected economical, social and educational structure of the society. Therefore, societies should follow technological changes. The most important condition to realize this matter is to integrate technology to the educational environment effectively.

The study is designed as a case study with a mixed methods approach. The research group was composed of 522 students, 92 teachers and 11 school administrators, total of 625 participants. Data was collected from the participants with the help of a questionnaire. Findings indicate that technology is a current knowledge on the use of Information Technology. Due to technological advancements, automation has been achieved in our daily life, enabling educators to save time and the produce more accurate solutions to the problems. Students also benefited from the education serviced to them through Information Technology within the same period of time. The findings also have implications for the use of Information Technology, technological applications, ICT technologies, technological literacy, integration of technology and educational technology.

Keywords: Technological Applications, ICT Technologies, Technological Literacy, Integrate Technology.

ÖZ

Teknoloji kullanımı, öğrenmenin gerçekleşmesi sırasında eğitim deneyimi kalitesinin artırılmasında önemli bir rol oynamaktadır. Eğitim teknolojisi kullanımı eğitimin çehresini değiştirmekte ve daha fazla fırsat yaratmaktadır. Öğrenciler, sınıf ortamlarına teknolojinin girmesiyle daha fazla bir ilgiyle öğrenmeye karşı daha ilgili olmaya başlamışlardır. Bu çalışmanın amacı, eğitimde güncel bilgi ve iletişim teknolojilerini önerilen teknolojilerle karşılaştırmak ve analiz etmektir.

Çalışma karma yöntemli bir durum çalışması olarak tasarlanmıştır. Çalışmanın araştırma grubu 522 öğrenci, 92 öğretmen ve 11 okul yöneticisi olmak üzere toplam 625 kişiden oluşturulmuştur. Veriler, öğrencilerden, öğretmenlerden ve okul yöneticilerinden anket yöntemi ile toplanmıştır. Elde edilen bulgular teknoloji kullanımının öğrencilerin, öğretmenlerin ve okul yöneticilerin güncel bilgi ve iletişim teknolojileri üzerinde büyük bir etkisinin olduğunu göstermektedir. Eğitimdeki teknolojik gelişim sayesinde, günlük hayatımızda otomasyon sağlanmış ve bu sayede eğitimciler zaman kazanmış, daha kesin, doğru çözümler üretmiş, sınıf içerisindeki tüm öğrenciler de, aynı zaman dilimi içerisinde eğitilmiş ve daha güncel ve kaliteli bir eğitim servisi elde etmişlerdir. Sonuçlar aynı zamanda teknoloji kullanımı, teknolojik uygulamaları, değişim dönemini, teknolojik okuryazarlığı, entegrasyon dönemini ve eğitim teknolojisini yansıtmaktadır.

Anahtar Kelimeler: Teknolojik Uygulamalar, Değişim Dönemi, Teknolojik Okuryazarlık, Entegrasyon Dönemi.

DEDICATION

To God almighty, family and friends. To my loving and supportive family, Mr. Kanber Boyraz and Mrs. Fadime Boyraz, your words full of wisdom have been a source of inspiration along this path. I am most grateful to my elder brothers Mr. Aytaç Boyraz and Mr. Alpay Boyraz who have supported me, at all the stages of my thesis.

To my devoted and dear family

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ABBREVIATION

AECT	Association for Education Commutations and Technology
E-Learning	Electronic Learning
ICT	Information and Communication Technology
ICTE	Information and Communication Technology in Education
ICTE-MM	ICT in School Education Maturity Model
IT	Information Technology
OECD	Organisation for Economic Co- Operation and Development
TRNC	Turkish Republic of Northern Cyprus
TK	Technological Knowledge

Chapter 1

INTRODUCTION

In this chapter, the analysis of current ICT technologies in education and their comparisons with the proposed technologies are discussed, the research issues covered are introduced, structure is described, and analysis has been done.

Over the years, the technology in the schools and other learning located in the castle has been grown. Teachers are faced with the pressure of integrating the technology in a meaningful way. In this study, all the training, providing technology-supported electronic devices and others will be referred to interact. There are no classes without computers in USA, UK and other parts of Europe (Agyei and Voogt, 2012 as cited in Chai et al., 2013; Mudzimiri, 2012).

The main reason for the lack of equipment and technical support for non-use technology is the inadequate access. There were a necessary cause and fears with learning different material in the context of education for a successful integration of the technology in education. A few teachers disliked or had a fear for ICT once they have seen the possibilities, but over the years, it was seen the possibility was explored (Agyei and Voogt, 2012 as cited in Chai et al., 2013; Koh et al., 2013 Mudzimiri, 2012).

ICT is often used as an enlarged synonym for Information Technology (IT). It is a

more wide term (i.e. scope wider) that unified the communications and the role of telecommunications (telephone lines and wireless signals), computer integration, as well as the necessary enterprise software, middleware, storage and data transfer to enable the audio-visual system to emphasize (access, store and transmit) the process information. The term ICT also with computer networks through a single cabling or link system, is used to refer to the convergence of audiovisual and telephone network. Single cabling, signal distribution and management using the computer network system with a unified system to combine the telephone network (telephone network due to big cost savings, the elimination) has great economic incentives.

However, almost on a daily basis from the continuous evolution of ICT, there is no accepted definition universally, in ICT attenting the concepts, methods and practices. ICT covers any products that will be broad in transferring the data electronically, to digital boards, personal computers, digital television, e-mail, as robots etc. (Wikipedia, 2011).

There is many useful thinking about ICT. It is to consider all the uses of digital technology that exists to help individuals, businesses and organizations to use the information. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, e-mail, robots etc. ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of the digital data. Importantly, it is also concerned with the way these different uses can work with each other (Tutor, 2013).

There are two options of what the acronym ICT could stand for:

1. Information and communication technology

2. Information, communication and technology

In business, ICT is often categorized into two broad types of product:

1. Traditional computer-based technologies (things you can typically do on a personal computer or using computers at home or at work)

2. Digital communication technologies (allow people and organizations to communicate and share information digitally) (Tutor, 2013).

(Abik and Ajhoun, 2012) defined research in technology evolution as improving the learning quality of a variety of learning styles such as electronic learning, using electronic, multimedia technologies and the internet presentation and access to resources through remote collaboration as it creates a better learning experience through facilitating, to develop mobile learning to identify research e-learning using mobile technologies. In a such student learning place, where it is not static formal learning, the learning environment system consists of students to adapt to the way a computer creates complete transparency.

Technology has changed the learning approaches in development that lies in education. In effective transition for teacher-centered learning, students should be informed as to be able to create a constructive environment for teachers to be actively involved in the learning process, composed to student-centered environment. In the 21st century, students need to work in this digital world, teachers must be digital-teachers, that means teaching environment, which is one of the rich and interactive technologies in education. Teachers' course is the only way, and students are looking for ways to push more attention that should be the learning embracing under the digital resources- technologies.

In the classrooms in America, 74% of teachers say that educational technology is over two-third of the teachers who want more technology in their classes, student motivation and up to 75% of teachers teach in low-income schools.

Technology teaching is different from the non-technology teaching environment (Mudzimiri, 2012). In this study, technology teaching means any form of learning education, computers, smart boards, interactive slide presentations, video, multimedia, and training including the use of electronic or digital medium such as computers, expresses multimedia and internet among others.

According to the Association for Education Commutations and Technology (AECT, 1994), Instructional Technology is defined as "the theory and learning processes and resources in the design, development, use, management and evaluation applications (Luppicini, 2005).

Technology has facilitated various ways for teachers to go beyond the liner text-based learning and help exploring new ways to facilitate the students' interests. Through these efforts, technology learning in a self-contained environment, teacher-centered that case, the usual traditional methods learning tools of versatility with computer classes, technology with enough information projects and provide behavioral assessments, show concepts, technological knowledge (TK) (Kohler et al., 2012).

Enhancing the quality of teaching and learning has been the top priority on continuing education. Education has faced social encounters, technical and cultural issues of overtime and according to (Januszewski & Mole, 2008). Educational

technology tries to overcome these challenges to facilitate learning and improve performance.

Teaching a variety of students need ICT. ICT is which can successfully be improved and also students' learning skills may be appropriate (Samuel & Bakar, 2006). Students are highly motivated, and reluctance removed, when appropriate motivational strategies are added and unnecessary ones by the use of ICT, combines different media types with different learning styles of this compromise, because it makes easier to motivate the students by increasing communication and collaboration between peers (Song & Keller, 2001). (Relan, 1992) stated that color factors in education, such as the type of animation and graphics, could become permanent impact and strong motivation.

To successfully integrate ICT training to work effectively, some barriers or difficulties were addressed. According to (Hayes, 2007), successful commitment and repeated experiments anonymously are required for ICT in different time periods.

Previously conducted studies based on some teaching technical skills. It can reduce their ICT professional performance, which feels insecure about incorporating revealed that there is insufficient. Insufficient of motivation (Lofstrom & Nevgi, 2008) is teaching materials incorporating ICT into another problem. (Ertmer, 1999) defined two types of obstacles about ICT integration; first-degree and second-degree barriers. First-degree barrier, trainers inadequate resources, second-degree barrier training obstructions, and third-degree barrier support is so easily solved.

In this study, it was found that challenges are caused into major factors, including

ICT education. These factors include teachers, innovation and context (Zhao et al., 2002) which were divided into three categories of teachers in the category of factors are three aspects to deal affecting ICT in the classroom and it continues inside teacher of compliance: technology abilities, pedagogical suitability and social cognizance.

There have been several theories and definitions about motivation that have been described over the years; Although these theories and definitions are not so different from one another. (Deci, 1995) defined motivation as the expectation of the level of success a person expects alongside with the level of appreciation felt after being successful. According to (Ryan and Deci 2000), motivation is the drive to accomplish something. Someone without boost or simply no enthusiasm is categorized as unmotivated. In contrast someone with determination or who is enthusiastic to meet an end is categorized as motivated.

Motivation can also be described as a process where goal-driven activities are stimulated and maintained (Schunk, Pintrich, & Meece, 2008). It offers certain directive and inspiring qualities (Brophy, 1983; Wlodkwoski, 1978). Sternberg (2005) also defined motivation from an educational perspective, as the level which a student puts effort in order to concentrate on learning so as to attain successful outcomes.

Inquiring students' perspectives gives acumen students' experiences to redefine the ways technology is introduced into schools (Selwyn N., Potter J., & Cranmer S., 2010). Much have not to be said in research about experiences of students' in technology use in education looking at it from the perspectives of the students.

With the spread of technology through the society, the use of mobile phones, for example, is helping to push its utilization and increase across racial and economic boundaries. Nowadays it is seen that students have been coming to schools with tablets in addition to their laptops and smartphones. These increase the use of technology as now that made it difficult for educational institutions to invest their time and money.

Research has shown various factors that determine academics' use and non-use of evolving technologies for both teaching and learning in developed countries. These factors comprise of the needs of the learners, the attributes and participation of academics, the availability of the technology. The working environment and how much they perceive the use of the technology and the concerning conditions to which the academic is a part of it (Oshinaike & Adekunmisi, 2011).

Finally, (Zhao et al., 2002) stated that the context category has three aspects, of the factors in necessary innovation. These are human substructure, technological substructure and social contribution. Human substructure is the organizational preparation containing guidance on ICT in the classroom, technological substructure make it back to their colleagues or to the extent this is available to meet the innovators which discourage the innovation and social support.

1.1 Problem Statement

According to (Ertmer, 2005), students and teachers should use future applications of ICT in teaching and learning. Although, the increasing availability and the support for ICT concretion, relatively few teachers, intend to combine ICT into teaching activities.

(Akkoyunlu, 2010) defines research as technology that has an important role in enhancing educational progress. Therefore, educators need to adapt technology in learning. Textbooks, films, radio, television, overhead projectors, video recorders and of course as training materials, to enrich the learning environment with computers in the school. Educational materials motivate students and encourage them to access information and to examine the issue, while offering students the opportunity to assess.

Although criticism has been its risks and costs. IT has been a great influence on society. IT is widely accepted and used in many areas. At the same time, technological changes and offering new business opportunities for social advancement is seen as a panacea. Undoubtedly, new technologies, as well as the social and education systems have been affected by the economic system. Thus, societies must adapt the technological change, which has proven to be anything (OECD, 1988).

(Akkoyunlu, 2010) noted that research is important, in the rapid development of IT which is leading to the establishment of so-called information society. Today, information has become crucial to the economic development of the developed countries is clear. Technology has also played an important role in helping advance education. Educators do not only need to be aware of these changes work in their field, but also they must also adapt these changes in the society which they live in.

The significance of research was highlighted in various studies (Solar, et al., 2007); ICT-based and skills-oriented training capabilities and a model to evaluate the maturity of ICT in schools. The proposed model is called ICTE-MM (ICT in School

Education Maturity Model). There are three elements that support the educational processes: Information criteria, ICT resources, and leverage domains. ICT and special focus on changing the traditional five Leverage Areas were identified: Education Management, Infrastructure, Administrators, Teachers and Students.

(Solar, et al., 2007) stated that: The Leverage Domains generate a hierarchical structure with a second level named Key Domain Areas. These areas should be measured and controlled, thus allowing the model's elements must be evaluated qualitatively and quantitatively, is associated with a third hierarchical level, called the critical variables. The other two elements of these variables associated with the intersection of talent and ability determines the five levels of capability.

(Solar, et al., 2007) added, "the proposed model is strongly supported by the international standards and best practices for ICT management. This is confirmed by data collection tools and the associated web support tool was refined with a small pilot study. In summary, it provided the proposed ICTE-MM model of self-assessment and a basis for improvement planning. This is not only a diagnostic tool but also ICT investment principles have been found to be useful for directing".

According to (Seyeoung, 2011), the aim of the study is to focus on the two decades of ICT in education and to examine its merits and demerits, and thereby evaluate the value of ICT in educational development from the viewpoints.

(Seyeoung, 2011) defined research as through a descriptive study, that one can also identify the best practices and success factors for ICT integration and discuss their implications. The study revealed four lessons for policy leadership as a success

factor, school ecology as a complex factor, the gap between technological and social development as a crisis factor, and the task of pedagogy as a fundamental assignment.

1.2 Current Study

In this thesis, surveys are based on internet, computer and technology in Northern Cyprus Education System. The main aim is to analyse the purpose of the students, teachers and school administrators, to get their opinions, and to share the results with the Ministry of Education in the academic world. First, surveys were developed for the Board of Education Ministry of Education to get the initial data. In Northern Cyprus, the survey has with the most crowded students from each district. For the survey analysis, the most crowded primary schools have been chosen in the main cities (Nicosia, Famagusta, Kyrenia, Iskele and Morphou) in the TRNC. An approval from the Board of Education was obtained. Then, these surveys were piloted at Alasya Primary School in Famagusta. The results measured were checked to see whether they were valid or trustable. After, when the results were found to be significant for Alasya Primary School, surveys were performed across the island from each district in Northern Cyprus. In addition to, Alasya Primary School at Famagusta, Şehit Ertuğrul Primary School at Nicosia, Şehit Hasan Cafer Primary School at Kyrenia, Özgürlük Primary School at Morphou and Şehit İlker Kartel at Iskele were selected for the survey. Finally, survey results were distributed into the charts, analyzed and their results were analyzed and discussed to conclude the current ICT technologies in the TRNC.

1.3 Research Questions

Analysis plays a fundamental role in learning. After analyzing students needs, educators requirements, and their existing current ICT technologies, a proposed

technology for schools can easily be suggested to increase the motivation in education. This study will discuss analysis of current ICT technologies in education and their comparisons with the proposed technologies and in order to achieve the goal of the study, as specified; following research questions will be looked into and answered:

1. What analyses of the current ICT technologies are aware of the computer education learning system related computer, internet, social media of experience and education?

2. What are the perceived benefits of using the system as a base of ICT technologies for e-learning?

3. What are the students', teachers' and school administrators' perceptions with regard to computer education system?

4. What are the factors which the current ICT technologies take into adoption of computer education systems, and how important are these factors into consideration when deciding on?

Through the above questions the efficiency schools can be of education in increased to payroll and get benefit governmentally for the future of TRNC.

1.4 Significance of the Study

This study will contribute to earlier studies students', teachers' and school administrators' analyses of current ICT technologies. The rapidly increasing use of ICT-based instruction, so expanding the knowledge about challenges students, teachers' and school administrators’ faces while incorporating ICT in an instruction is important.

The results of this study will be helpful in the following ways:

i. It can serve students, teachers and school administrators to help improving students' education as tool students', teachers' and school administrators' analysis of current ICT technologies in learning environments.

ii. It can serve to reveal to the faculty, university and Education Board of Northern Cyprus, about the necessary resources that can help to improve the quality of education.

iii. It can inform students about this level analysis of current ICT technologies which they have for learning, so that improve their knowledge will improve.

1.5 Limitations

The amount of collected data is limited only to students, teachers and school administrators in the pilot schools in Northern Cyprus in 2014-2015 Spring Semester. In addition, the data for this research can not really be perceived by them, the information gathered in the perception of contemporary Information Technology and its report can not be used to determine their competency. Due to limited time, representative sample of the current study was gathered in 2014-2015 Spring Semester. The research was conducted with the teachers whose awareness is familiar with primary school teachers based on instructions. Materials related to the current ICT technologies, providing examples and information was a great acting challenge, a new technology in the education sector in Northern Cyprus. In addition to that there are some problems with the current system because of sanctions, is not fully operational in all departments, the functional components of the system were able to

sample and study investigator. A limited number of responses were obtained from the students, teachers and school administators since it was a volunteer participation.

1.6 Organization of the Thesis

This thesis contains 5 chapters, starting from the introduction to the conclusion.

A short summary of each chapter is as follows:

Chapter 1 is the introduction chapter that discusses the research's main view about the ICT and ICTE. Chapter 2 talks about the methodology in which the research was carried out. It contains information about how, where and with whom this study was conducted, including the survey data. Chapter 3 presents research findings, that is to say survey analysis of the selected primary schools 5^{th} classes have been focused. Chapter 4 focuses on the results and discussion. Chapter 5 draws a conclusion to this study and gives recommendations for further researches.

Chapter 2

METHODOLOGY

In this thesis, survey has been prepared and simulated for the analysis of current ICT technologies in education and their comparisons with the proposed technologies. The researcher examined students', teachers' and school administrators' comparisons and proposed level of current ICT technologies, according to the survey questions in appendices.

2.1 Research Method

As the survey format, students, teachers and school administrators were considered by investigators as the best way possible to achieve a large population data. For quantitative design, a large population can be generalized to produce accurate and consistent results. This huge amount of respondents as (Steckler, 1992) said: "a quantitative descriptive research because the best way to gather this data, was conducted by questionnaire way". The research design and descriptive survey was self-administered. In this study, screening models is used only in the relational model (Karasar, 2007). It is used to determine a single scan model of the current ICT technologies comparisons and proposed level of students, teachers and school administrators while relational model, whereas the differences are used to determine students, teachers and school administrators' sensitivity and awareness level about current ICT technologies.

2.2 Participants

The survey was diversified to the 5th class of students, teachers and school administrators studying at Alasya, Özgürlük, Şehit Ertuğrul, Şehit Hasan Cafer and Şehit İlker Kartel Primary Schools in TRNC, 2014-2015 Spring Semester. The participants were selected randomly, from the most crowded schools in the TRNC. Both female and male students, teachers and school administrators participated in the study.

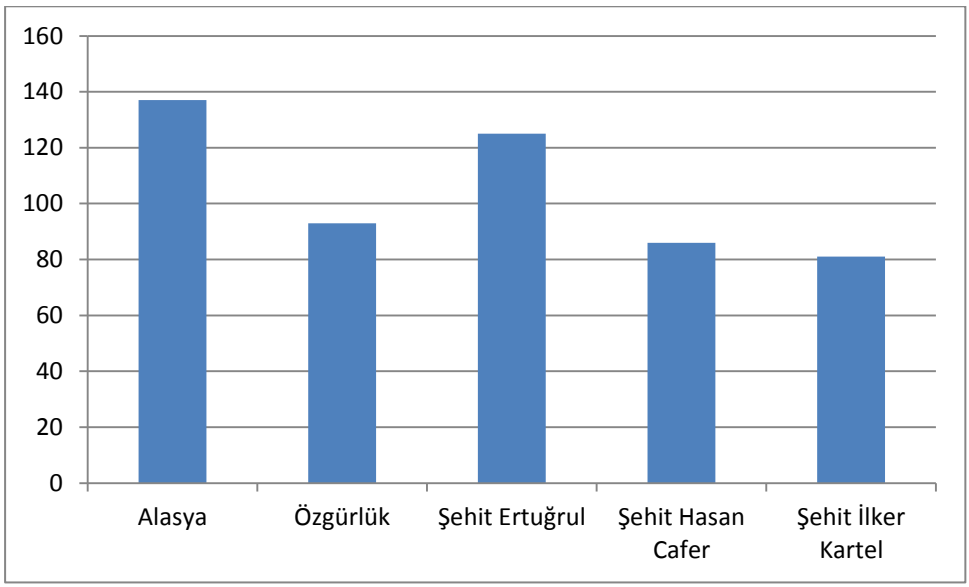

Figure 1: Students participated in the survey in TRNC.

Alasya Primary School 137 students, Özgürlük Primary School 93 students, Şehit Ertuğrul Primary School 125 students, Şehit Hasan Cafer Primary School 86 and Şehit İlker Karter Primary School 81 students total of 522 students participated in the survey, as shown in Figure 1.

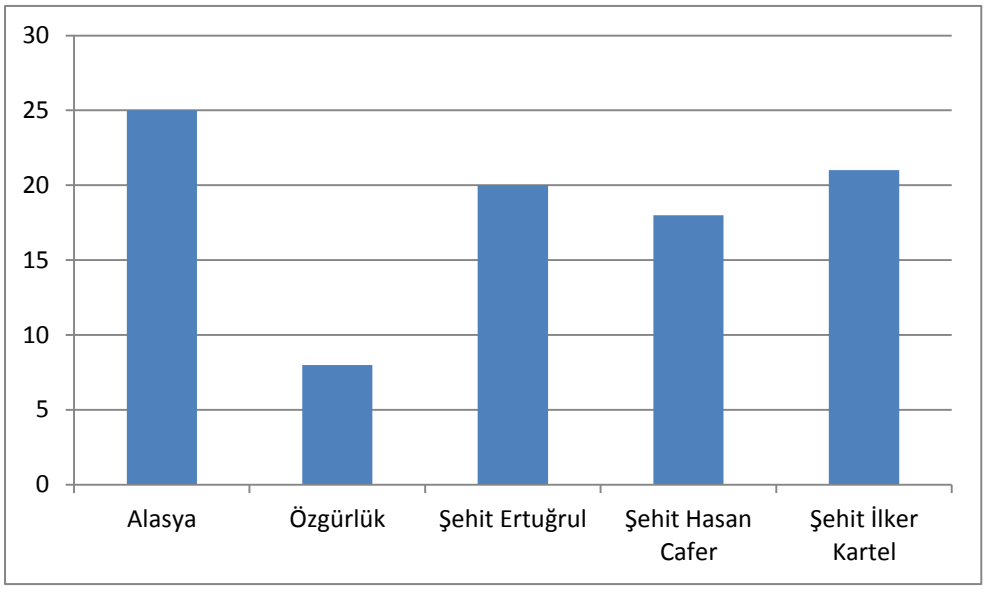

Figure 2: Teachers participated in the survey in TRNC.

Alasya Primary School 25 teachers, Özgürlük Primary School 8 teachers, Şehit Ertuğrul Primary School 20 teachers, Şehit Hasan Cafer Primary School 18 teachers and Şehit İlker Karter Primary School 21 teachers total of 92 participated in the survey, as specified in Figure 2.

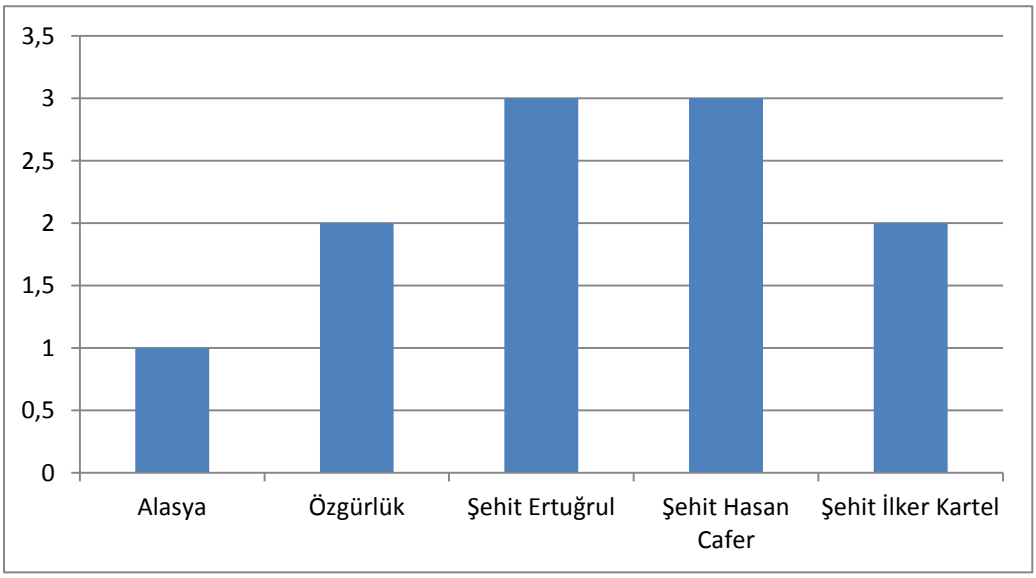

Figure 3: School Administrators participated in the survey in TRNC.

Alasya Primary School 1 school administrator, Özgürlük Primary School 2 school administrators, Şehit Ertuğrul Primary School 3 school administrators, Şehit Hasan Cafer Primary School 3 school administrators and Şehit İlker Karter Primary School 2 school administrators total of 11 school administrators participated in the survey, as shown in Figure 3.

Totally, 522 5th class students studying at Alasya, Özgürlük, Şehit Ertuğrul, Şehit Hasan Cafer, Şehit İlker Kartel Primary Schools posed to be the participants. When I selected to study at Primary Schools in TRNC, this group had a unique feature in both Turkey and TRNC representative sample. Only about participants 58% (270) were male, 42% (252) of them were female.

92 teachers working at Alasya, Özgürlük, Şehit Ertuğrul, Şehit Hasan Cafer, Şehit İlker Kartel Primary Schools pose to participants. When determining the sample, from teachers working at primary school in TRNC were selected who had a unique feature in both Turkey and the TRNC representative sample. Participants were only about 54% (50) women and 46% (42) of them were men.

11 school administrators working at Alasya, Özgürlük, Şehit Ertuğrul, Şehit Hasan Cafer, Şehit İlker Kartel Primary Schools posed to be the participants. When determining the sample, from school administrators working at primary school in TRNC were selected has a unique feature in both Turkey and the TRNC representative sample. Among the participants, only about 73% (8) were male, 27% (3) of them were female.

2.3 Survey Questions

In this study, survey including one part was conducted to determine the candidate students', teachers' and school administrators' opinion. The student survey consists 16 items and was answered with scales as specified in Appendix A. The teachers and school administrator survey consisted of 17 items and were answered with scales as shown in Appendix B and C.

2.4 Data Collection Methodology

The student survey was conducted by researcher to 5^{th} class students who are studying at Alasya Primary School, Özgürlük Primary School, Şehit Ertuğrul Primary School, Şehit Hasan Cafer Primary School and Şehit İlker Kartel Primary School in TRNC.

The teacher and school administrator questionnaires were applied by the researcher to Primary School teachers and school administrators who are working at Alasya Primary School, Özgürlük Primary School, Şehit Ertuğrul Primary School, Şehit Hasan Cafer Primary School and Şehit İlker Kartel Primary School in TRNC.

The practice of the data collection tools in the class time was performed with Ministry of Education's permission. Before the data collection, the students, teachers and school administrators were informed about the purpose and content research. The names of the participants were not included to get real and true answer. Required information mentioned at the beginning of the survey in writing.

2.5 Data Analysis

After data collection, the answers were put in Microsoft Spread Sheet Program for the quantitative data analysis. The data collected was divided into three main parts:

the first measures of sensitivity and awareness of students' level of current ICT technologies, while the second measures the sensitivity and awareness of teachers' level of current ICT technologies then the third measures school administrators' comparisons and proposed level of current ICT technologies.

Chapter 3

SURVEY ANALYSIS

3.1 Survey Design

Students', teachers' and school administrators' surveys are based on the analysis with quantitative method of data collection. This survey will help identifying and answering the research questions. Does this feature affect students, teachers and school administrators' comparisons and proposed in using current ICT technologies? Survey would help the researcher to understand if the level of complexity was decreasing when the researcher integrates the management and learning management systems together. Finally researcher will be able to evaluate student, teacher and school administrator perspectives for implemented as well as future enhancements for such system. The survey targeted 522 5^{th} class students in Alasya Primary School, Özgürlük Primary School, Şehit Ertuğrul Primary School, Şehit Hasan Cafer Primary School and Şehit İlker Kartel Primary School located in Northern Cyprus. After the researcher surveyed are the students, teachers, school administrators and collected the data as hardcopy, the collected data are recorded into computer for the analysis.

3.2 Survey Analysis

3.2.1 Students Analysis for Primary Schools

In the survey it has been asked that the following question to the 5th class of the Primary School students that ”Are you an internet user?” in the questionaire. Alasya Primary School students on 137 students and 132 of them responded as yes, Özgürlük Primary School students on 93 students and 90 of them responded as yes, Şehit Ertuğrul Primary School students on 125 students and 120 of them responded as yes, Şehit Hasan Cafer Primary School students on 86 students and 83 of them surveyed as yes, Şehit İlker Kartel Primary School on 81 students and 77 of them responded as yes.

Has been measured that the following question to the 5th class of the Primary School students to measure their “effective internet usage” in the questionaire. Alasya Primary School students on 137 students and 129 of them responded as yes, Özgürlük Primary School students out of 93 students 85 of them responded as yes, Şehit Ertuğrul Primary School students on 125 students and 117 of them responded as yes, Şehit Hasan Cafer Primary School students out of 86 students and 78 of them responded as yes, Şehit İlker Kartel Primary School students on 81 students and 71 of them responded as yes.

In the survey it has been asked that the following question to the 5th class of the Primary School students that amount of daily internet usage in the questionaire. This shows that the 5th class primary school students use the daily internet usage between 1 hour and up to 2-4 hours. Internet usage reasons were generalized that the students most popularly use internet in research, lessons, homework and contact to friends.

Has been measured that the following question to the 5th class of the Primary School students that “What is the positive contribution that the internet usage fields to its course?” in the questionaire. So it can be generalized that almost most of them are not trained on the effective internet usage.

In the survey it has been asked that the following question to the 5th class of the Primary School students that “Have you received any training on the effective use of the internet?” in the questionaire. Alasya Primary School on 137 students and 116 of them responded as no, Özgürlük Primary School on 93 students and 73 of them responded as no, Şehit Ertuğrul Primary School on 125 students and 104 of them responded as no, Şehit Hasan Cafer Primary School on 86 students and 68 of them responded as no, Şehit İlker Kartel Primary School on 81 students and 60 of them responded as no.

Has been measured that the following question to the 5th class of the Primary School students that “How do you connect to the internet in your home?” in the questionaire. The most popular answers were mobile phone, computer and tablet/ipad internet connection devices at home.

In the survey it has been asked that the following question to the 5th class of the Primary School students that “Do you have internet access outside of your school?” in the questionaire. Alasya Primary School on 137 students and 96 of them responded as no, Özgürlük Primary School on 93 students and 54 of them responded as no, 39 of them responded yes, Şehit Ertuğrul Primary School on 125 students and 84 of them responded as no, 41 of them responded as yes, Şehit Hasan Cafer Primary

School on 86 students and 50 of them responded as no, Şehit İlker Kartel Primary School on 81 students and 36 of them responded as no, 45 of them responded as yes.

Has been measured that the following question to the 5th class of the Primary School students that "How do you provide internet access in your home?" in the questionaire. We can generalize that the students' the most popular answers were wifi, satellite, mobile phone and the phone line home internet access providers.

In the survey it has been asked that the following question to the 5th class of the Primary School students that "What do you think the internet access speed?" in the questionaire. So we can generalize that the students the most popular answers were fast, not bad and very fast for the internet access speed. These results show that the answers are given very approximate.

Has been measured that the following question to the 5th class of the Primary School students that "What physical health problems are you experiencing due to the use of computers?" in the questionaire. So we can generalize their answers that the students stated they have eye pain, headache neck pain, continuous sleepiness and major physical problems faced by students when using computers.

In the survey it has been asked that the following question to the 5th class of the Primary School students that "Do you have computer lesson? " in the questionaire. Alasya Primary School on 137 students and 119 of them responded as no, Özgürlük Primary School on 93 students and 89 of them responded as yes, Şehit Ertuğrul Primary School on 125 students and 112 of them responded as yes, Şehit Hasan

Cafer Primary School on 86 students and 82 of them responded as no, Şehit İlker Kartel Primary School on 81 students and 81 of them responded as yes.

Has been measured that the following question to the 5th class of the Primary School students that "Is there a computer in your home?" in the questionaire. Alasya Primary School on 137 students and 122 of them responded as yes, Özgürlük Primary School on 93 students and 82 of them responded as yes, Şehit Ertuğrul Primary School on 125 students and 110 of them responded as yes, Şehit Hasan Cafer Primary School on 86 students and 75 of them responded as yes, Şehit İlker Kartel Primary School on 81 students and 74 of them responded as yes.

In the survey it has been asked that the following question to the 5th class of the Primary School students that "If you experience any negativity with internet?" in the questionaire. It was observed that the students have disadvantages of using the computer. The main disadvantages are nervous disorder, aggression, affectation, fraud and harassment.

Has been measured that the following question to the 5th class of the Primary School students that "Which social site/sites do you use?" in the questionaire. It was observed that students are used facebook, google plus and twitter are the major social media sites that are used by students.

In the survey it has been asked that the following question to the 5th class of the Primary School students that "How often have you been connecting to the social sites?" in the questionaire. It was observed that the students have been connecting for 1 hour or 2-4 hours. There is no balance of time.

Has been measured that the following question to the 5th class of the Primary School students that for “Which purposes do you use social sites?” in the questionaire. The students use social sites for communicating their friends, using education, following daily events and meeting new friends. These are main purposes of them for using social sites.

3.2.2 Teachers Analysis for Primary School

In the survey it has been asked that the following question to the Primary School teachers that ”Is there any computer education in your school or not?” in the questionaire. Alasya Primary School on 25 teachers and 25 of them responded as no, Özgürlük Primary School on 8 teachers and 8 of them responded yes, Şehit Ertuğrul Primary School on 20 teachers and 20 of them responded as yes, Şehit Hasan Cafer Primary School on 18 teachers and 18 of them responded as no, Şehit İlker Kartel Primary School on 21 teachers and 21 of them responded as yes.

Has been measured that the following question to the Primary School teachers that “How do you see computer-aided education?” in the questionaire. We generalize that most of them are responded as positive.

In the survey it has been asked that the following question to the Primary School teachers that “Do you have computer at home?” in the questionaire. All of teachers responded as yes.

Has been measured that the following question to the Primary School teachers that “How do you connect to the internet in your home?” in the questionaire. We can generalize that most of the teachers connect with computer, mobile phone and tablet/ipad to the internet in their home.

In the survey it has been asked that the following question to the Primary School teachers that “Do you have internet access rather than computers in your school?” in the questionaire. The answer was “no”.

Has been measured that the following question to the Primary School teachers that “What are the positive contributions of the internet?” in the questionaire. We generalize that almost teachers are using the internet in lesson, they also use the internet for communicating with collegues about research purposes.

In the survey it has been asked that the following question to the Primary School teachers that “What are the negative contributions of the internet?” in the questionaire. So we can generalize that most of the teachers are faced with harassment, affectation, fraud and nervous disorder.

Has been measured that the following question to the Primary School teachers that “Daily internet connections” in the questionaire. So it is generalize that, they have been using for 5 hours and over, 2-4 hours and 1 hour per day.

In the survey it has been asked that the following question to the Primary School teachers “How do you provide internet access at home?” in the questionaire. We can generalize that most of them provide through the phone line, satellite, mobile phone and wifi in their home.

Has been measured that the following question to the Primary School teachers that “What do you think about the internet access speed?” in the questionaire. Most of

them were generalized that internet was slow, and the internet access speed was not bad.

In the survey it has been asked that the following question to the Primary School teachers that “What do you think about your students internet usage (helpful or not)?” in the questionaire. Alasya Primary School on 25 teachers and 21 of them responded as yes, 4 of them responded as no, Özgürlük Primary School on 8 teachers and 7 of them responded as yes, 1 of them responded as no, Şehit Eğturul Primary School on 20 teachers and 17 of them responded as yes, 3 of them responded as no, Şehit Hasan Cafer Primary School on 18 teachers and 15 of them responded as yes, 3 of them responded as no, Şehit İlker Karter Primary School on 21 teachers and 18 of them responded as yes, 3 of them responded as no.

Has been measured that the following question to the Primary School teachers that “Do you have any training on ‘the effective internet usage’?” in the questionaire. Alasya Primary School on 25 teachers and 16 of them responded as yes, 9 of them responded as no, Özgürlük Primary School on 8 teachers and 6 of them responded as yes, 2 of them responded as no, Şehit Eğturul Primary School on 20 teachers and 12 of them responded as yes, 8 of them responded as no, Şehit Hasan Cafer Primary School on 18 teachers and 11 of them responded as yes, 7 of them responded as no, Şehit İlker Karter Primary School on 21 teachers and 13 of them responded as yes, 8 of them responded as no.

In the survey it has been asked that the following question to the Primary School teachers that “Which social site/sites are you using?” in the questionaire. We can generalize that most of them use facebook, google plus and twitter users.

Primary School teachers' daily social sites usage is aimed to be measured in the questionnaire. We can generalize that most of them have been using to connect to social sites for 1 hour, 2-4 hours, 5 and over hours.

In the survey it has been asked that the following question to the Primary School teachers that for "Which purpose are you using the social sites?" in the questionaire. So it is generalized that most of them are using social sites for communicating with their friends, daily events and educational purposes.

Has been measured that the following question to the Primary School teachers that "Which technological devices are you using for educational purposes in your school? " in the questionaire. So we can generalize that most of them answered as computer, smart phone, tablet/ipad, tv/radio, overhead and all.

In the survey it has been asked that the following question to the Primary School teachers that "Does your current computer systems match today's conditions?" in the questionaire. It is generalized it is neither good and not bad.

3.2.3 School Administrator Analysis for Primary School

Has been measured that the following question to the Primary School administrators that " Is there any computer education in your school? " in the questionaire. Alasya Primary School on 1 school administrator and 1 of them responded as no, Özgürlük Primary School on 2 school administrators and 2 of them responded as yes, Şehit Ertuğrul Primary School on 3 school administrators and 3 of them responded as yes, Şehit Hasan Cafer Primary School on 3 school administrators and 3 of them responded as yes, Şehit İlker Kartel Primary School on 2 school administrators and 2 of them responded as yes.

In the survey it has been asked that the following question to the Primary School administrators that “Is there any smart class available in your school?” in the questionaire. Alasya Primary School on 1 school administrator and 1 of them responded as no, Özgürlük Primary School on 2 school administrators and 2 of them responded as no, Şehit Ertuğrul Primary School on 3 school administrators and 3 of them responded as no, Şehit Hasan Cafer Primary School on 3 school administrators and 3 of them responded as no, Şehit İlker Kartel Primary School on 2 school administrators and 2 of them responded as no.

Has been measured that the following question to the Primary School administrators that “How do you eliminate Information Technology Problems in your school?” in the questionaire. Alasya Primary School and Şehit Hasan Cafer Primary School are eliminating with 100% private company. So it can be generalized that most of them eliminate by themselves and private company.

In the survey it has been asked that the following question to the Primary School administrators that “Do you have any computer / technology class in your school? ” in the questionaire. Alasya Primary School on 1 school administrator and 1 of them responded as no, Özgürlük Primary School on 2 school administrators and 2 of them responded as no, Şehit Ertuğrul Primary School on 3 school administrators and 3 of them responded as no, Şehit Hasan Cafer Primary School on 3 school administrators and 3 of them responded as no, Şehit İlker Kartel Primary School on 2 school administrators and 2 of them responded as no.

Has been measured that the following question to the Primary School administrators that “If question 4 is yes/how do you create technology class?” in the questionaire.

All of the schools do not have a technology class. So we can generalize that most of them do not have computer/ technology class.

In the survey it has been asked that the following question to the Primary School administrators that "Are you happy about the 'Technology Education Policy' of the Ministry of Education?" in the questionaire. Alasya Primary School on 1 school administrator and 1 of them responded as no, Özgürlük Primary School on 2 school administrators and 2 of them responded as no, Şehit Ertuğrul Primary School on 3 school administrators and 3 of them responded as no, Şehit Hasan Cafer Primary School on 3 school administrators and 3 of them responded as no and Şehit İlker Kartel Primary School on 2 school administrators and 2 of them responded as no.

Has been measured that the following question to the Primary School administrators that "Is there any computer education in your school curriculum?" in the questionaire. Alasya Primary School on 1 school administrator and 1 of them responded as no, Özgürlük Primary School on 2 school administrators and 2 of them responded as no, Şehit Ertuğrul Primary School on 3 school administrators and 3 of them responded as no, Şehit Hasan Cafer Primary School on 3 school administrators and 3 of them responded as no and Şehit İlker Kartel Primary School on 2 school administrators and 2 of them responded as no.

In the survey it has been asked that the following question to the Primary School administrators that "Which classes are taking computer education in your school?" in the questionaire. Only in Şehit İlker Kartel Primary School, all the classes are giving computer education. Other schools are not giving any computer education. So we can generalized that most of them do not have any computer education in the 5^{th} classes.

Has been measured that the following question to the Primary School administrators that “Do you communicate with your graduated students by using ICT?” in the questionaire. Alasya Primary School one administrator responded as yes, Özgürlük Primary School 2 administrators responded as no, Şehit Ertuğrul Primary School 3 administrators responded as yes, Şehit Hasan Cafer Primary School 3 administrators responded as yes and Şehit İlker Kartel Primary School 2 administrators responded as no.

In the survey it has been asked that the following question to the Primary School administrators that “Do you need any Information Technology Specialist Requirements in your school?” in the questionaire. Alasya Primary School 1 administrator responded as no, Özgürlük Primary School 2 administrators responded as yes, Şehit Ertuğrul Primary School 2 administrators responded as no, one of them responded as yes, Şehit Hasan Cafer Primary School 3 administrators responded as no and Şehit İlker Kartel Primary School 2 administrators responded as yes.

Has been measured that the following question to the Primary School administrators that “Is there computer education compulsory or not compulsory in your school? ” in the questionaire. All of the school administrators responded as no.

In the survey it has been asked that the following question to the Primary School administrators that “What kind of technological devices or classes do you need in your school?” in the questionaire. Most of them need smart board, computer education class/es, smart class/es and laptop in their school.

Has been measured that the following question to the Primary School administrators that “How do you find the internet access speed in your school?” in the questionaire. Alasya, Şehit Ertuğrul and Şehit Hasan Cafer Primary administrators responded as not bad. Others responded as fast.

In the survey it has been asked that the following question to the Primary School administrators that “Have you taken any effective internet usage training before?” in the questionaire. Alasya Primary School administrator responded as no, Özgürlük Primary School responded as no, Şehit Ertuğrul Primary School 2 of them responded as yes, one of them responded as no, Şehit Hasan Cafer Primary School 2 of them responded as yes, one of them responded as no and Şehit İlker Kartel Primary School responded as no.

Has been measured that the following question to the Primary School administrators that “Does Ministry of Education provide any training services in the field of technology?” in the questionaire. All of the school administrators responded as no.

In the survey it has been asked that the following question to the Primary School administrators that “Do you have any family portal in your school?” in the questionaire. Alasya Primary School responded as no, Özgürlük Primary School responded as no, Şehit Ertuğrul Primary School responded as yes, Şehit Hasan Cafer Primary School responded as yes and Şehit İlker Kartel Primary School responded as no.

Has been measured that the following question to the Alasya Primary school administrator that “What is the degree of compatibility of your computer system

under to days conditions?” in the questionaire. Alasya and Şehit İlker Kartel Primary Schools responded as not bad the other schools mostly responded as not bad and good.

Chapter 4

RESULTS AND DISCUSSION

The aim of this study was to evaluated students', teachers', school administrators' current ICT technologies in education and their comparisons with the proposed technologies. Quantitative data were analyzed to gain a comprehensive understanding of students, teachers, school administrators to understand current ICT technologies in education.

4.1 Findings and Discussion

Several studies were pointed out on ICT technologies using in education. In the thesis, the researcher mainly focused over the analysis of TRNC; current ICT technologies are for students', teachers' and administrators' way of perspectives. After their analysis problems faced will be realized on ICT and their solutions will be carried out through the country.

The details below show students, teachers and school administrators opinions on current ICT technologies and the results of the analysis have done in order to understand how their opinions about their competencies in current ICT technologies change according to information which are gender, age and the government of in-service training for the use of technologies.

As the responses were varied according to the methods which were chosen to collect them, they were grouped into main categories of questionnaire, their relevant evaluations and finally the results and findings.

Students focused over the current ICT technologies carefully. The survey questions applied to the students current ICT technologies and to hear more attention, classes to use more current ICT technologies, technology class in schools, smart class and to work with in accordance with current ICT technology tools.

Teachers focused over the current ICT technologies carefully. Teachers in the classroom and in every stage of life want to use current ICT technologies effectively. They wanted to assemble current ICT technologies in schools. They applied them with their answers in the survey showed that the importance of current ICT technologies.

School administrators focused over the current ICT technologies carefully. School administrators use current ICT technologies in the classroom, in school and in all stages of the life they want. Consideration should be given to developing world to compete against current ICT technologies as needed. The way they applied them with their answers in the survey showed the importance of current ICT technologies.

4.2 Survey Results

4.2.1 Students Survey Results for Primary Schools

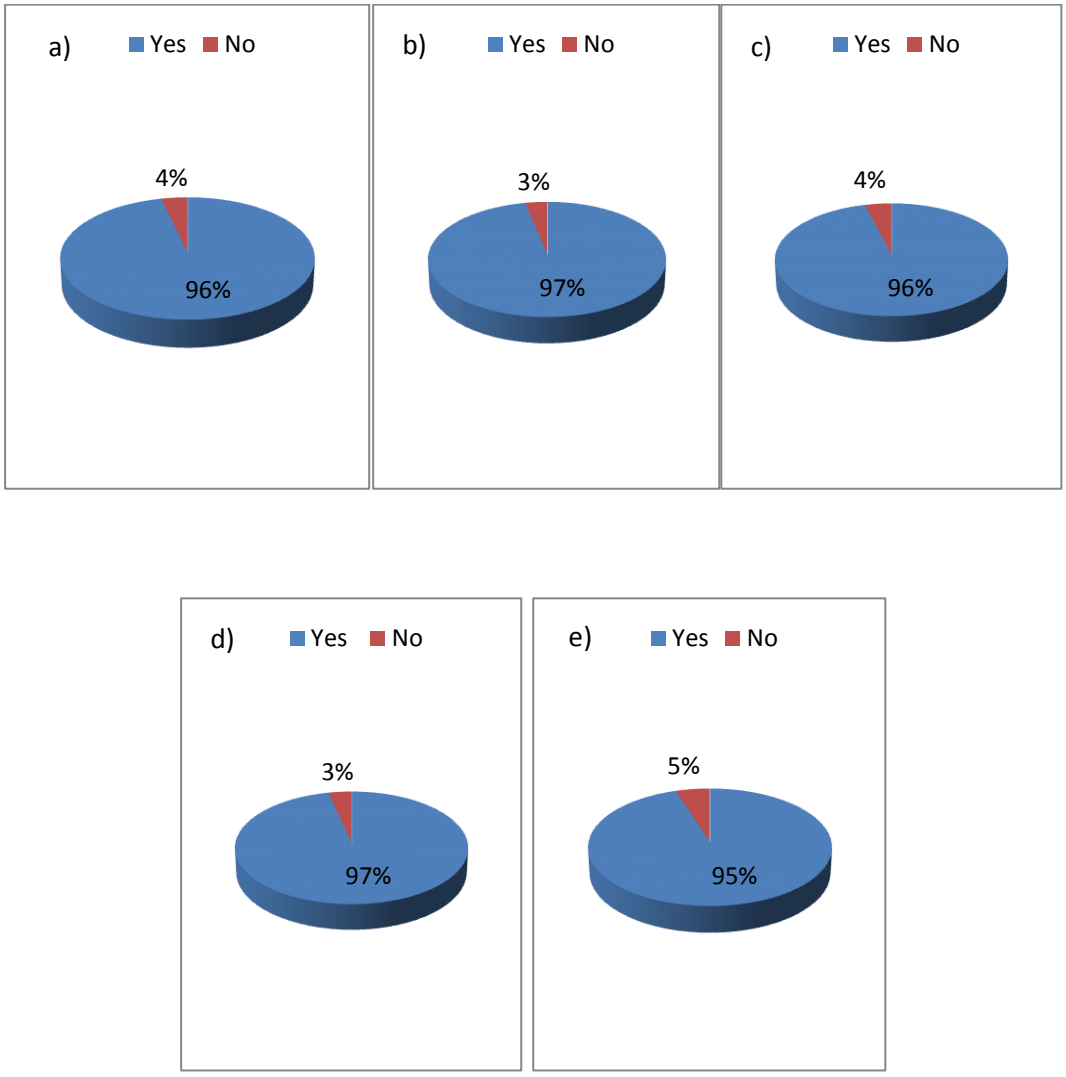

Figure 4: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *Internet Usage.*

Internet usage of the students was answered as yes (over 95% in every school). This shows that internet usage among 5th classes among primary school students is very common. This rate is high and quite significant. See Figure 4, for the data distribution survey results for the chosen schools.

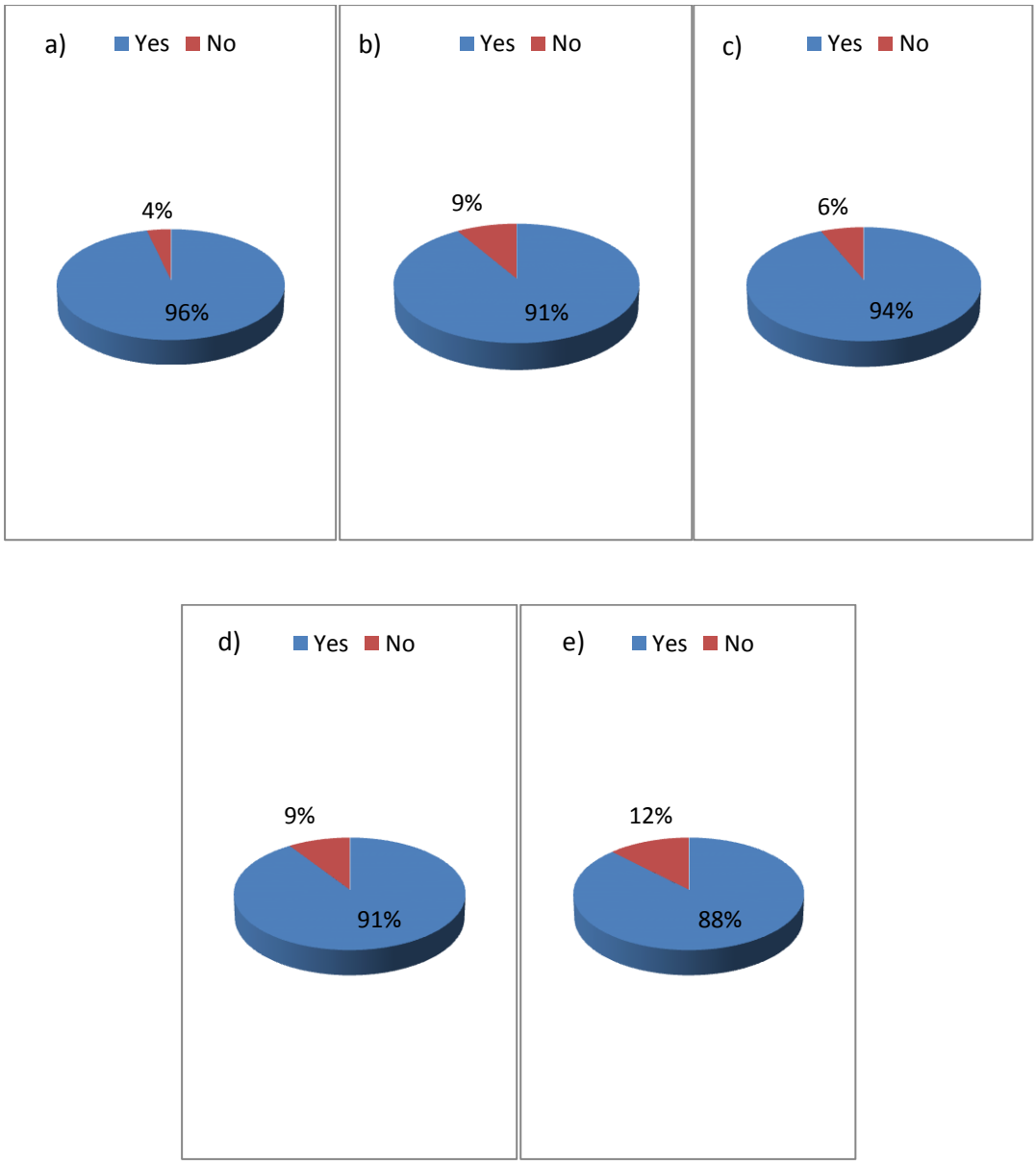

Figure 5: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *effective internet usage*.

88% of the students found the internet usage effective. This shows that, effective internet usage among 5th class primary school students are very common. This rate is high and quite significant. In other words, the number of students using the effective internet usage is high. Moreover, taken into account the response of the students of effective internet usage has become part of their life. In another way, students

believe that, they are using internet as effective as possible. See Figure 5, for the statistical results.

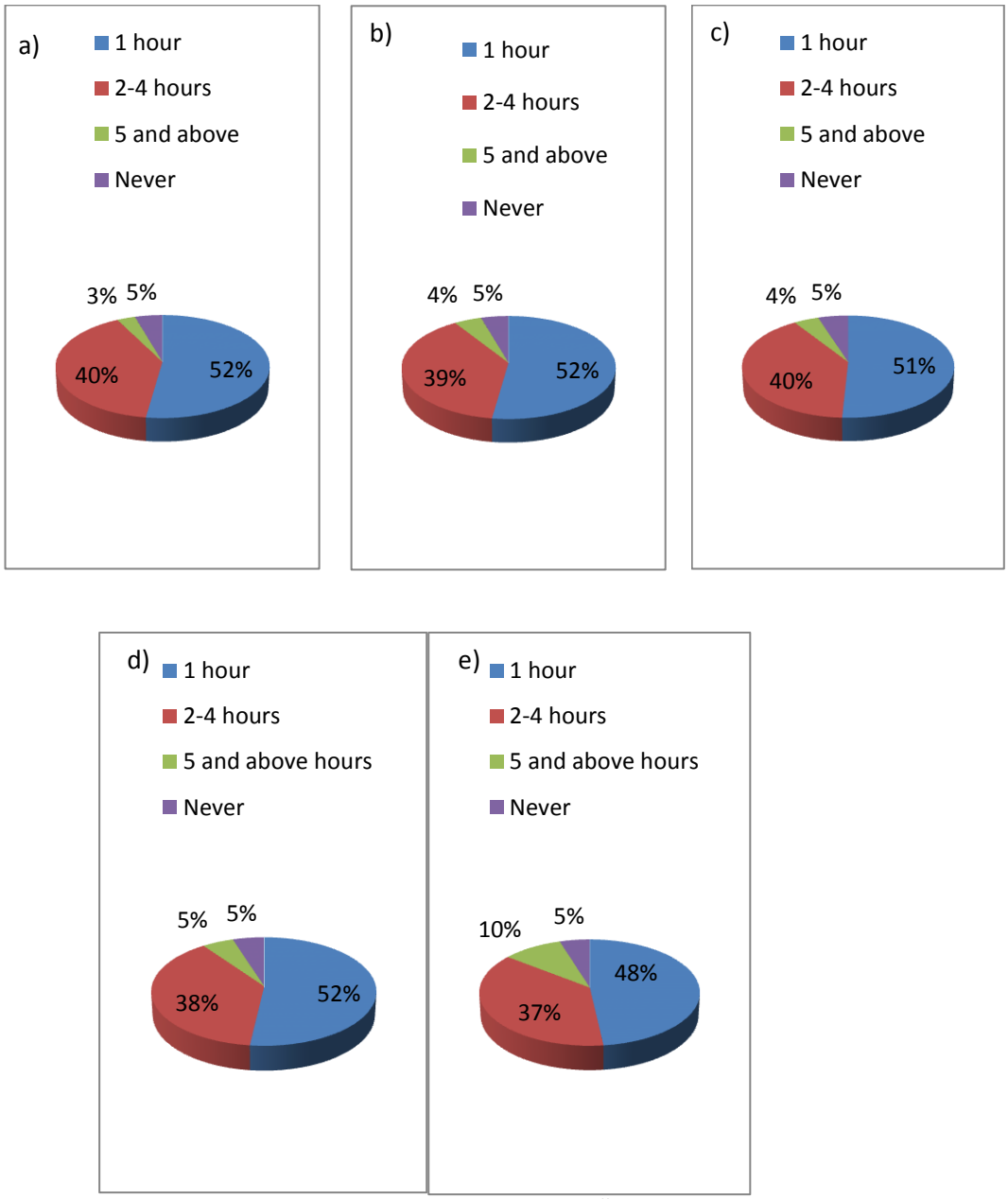

Figure 6: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *daily internet usage (in hrs.).*

As shown in Figure 6, around ~90% of the students, daily internet usage is between 1 and 4 hours. This is a quite big number for a primary school students. Educators

should think about this more than one hour daily internet usage. It should not be ignored that there is no compulsory technology education in schools, so how effective they are using this technology is a big trouble for the families.

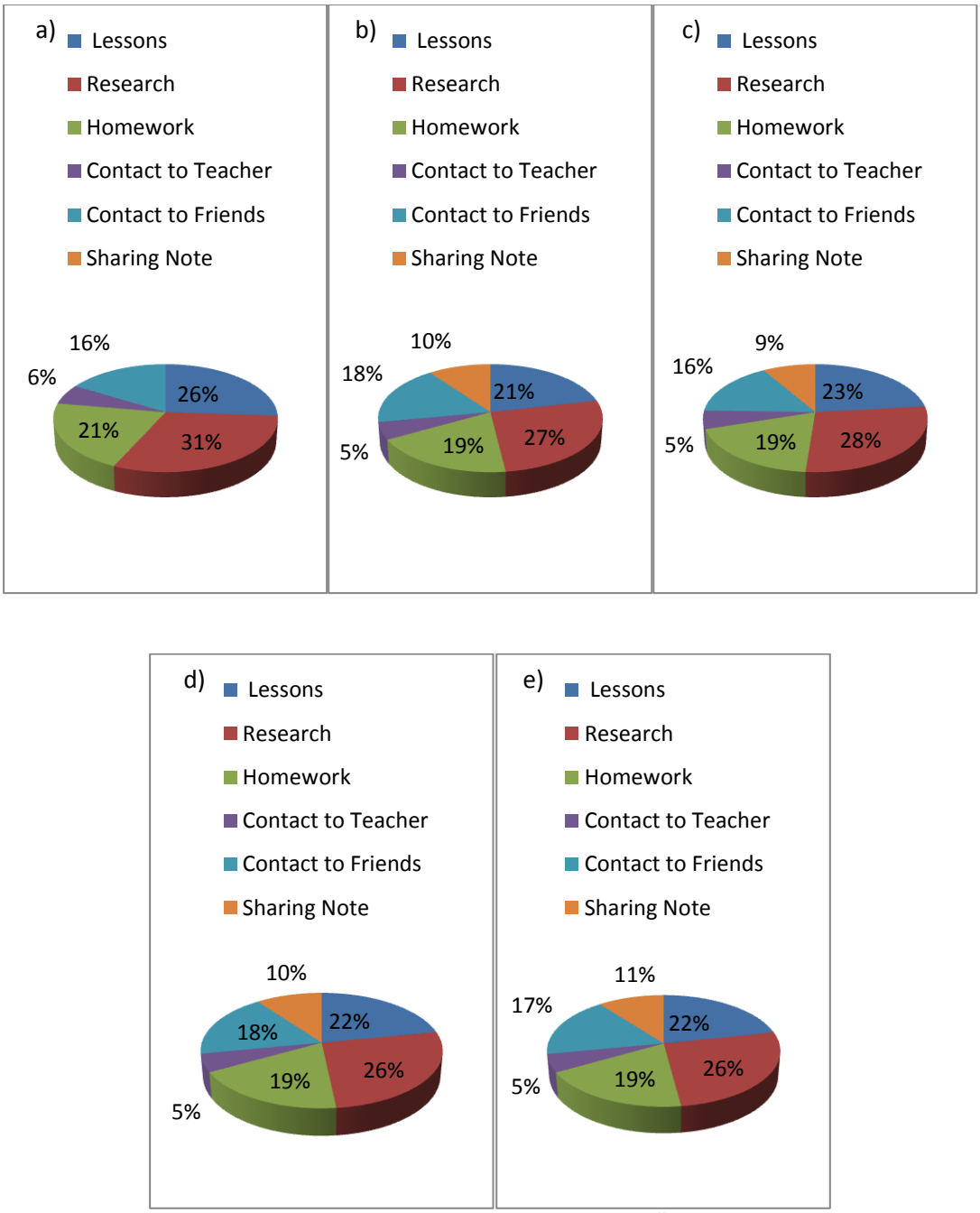

Figure 7: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *the internet usage fields*.

Internet usage fields surveyed is shown in Figure 7. Mostly students are using internet for research purposes (~30%), then in lessons around 23%, then homework around 20%, 17% for contact to friends, except Alasya around 10% for sharing notes, and the lowest around 5% contact to teacher.

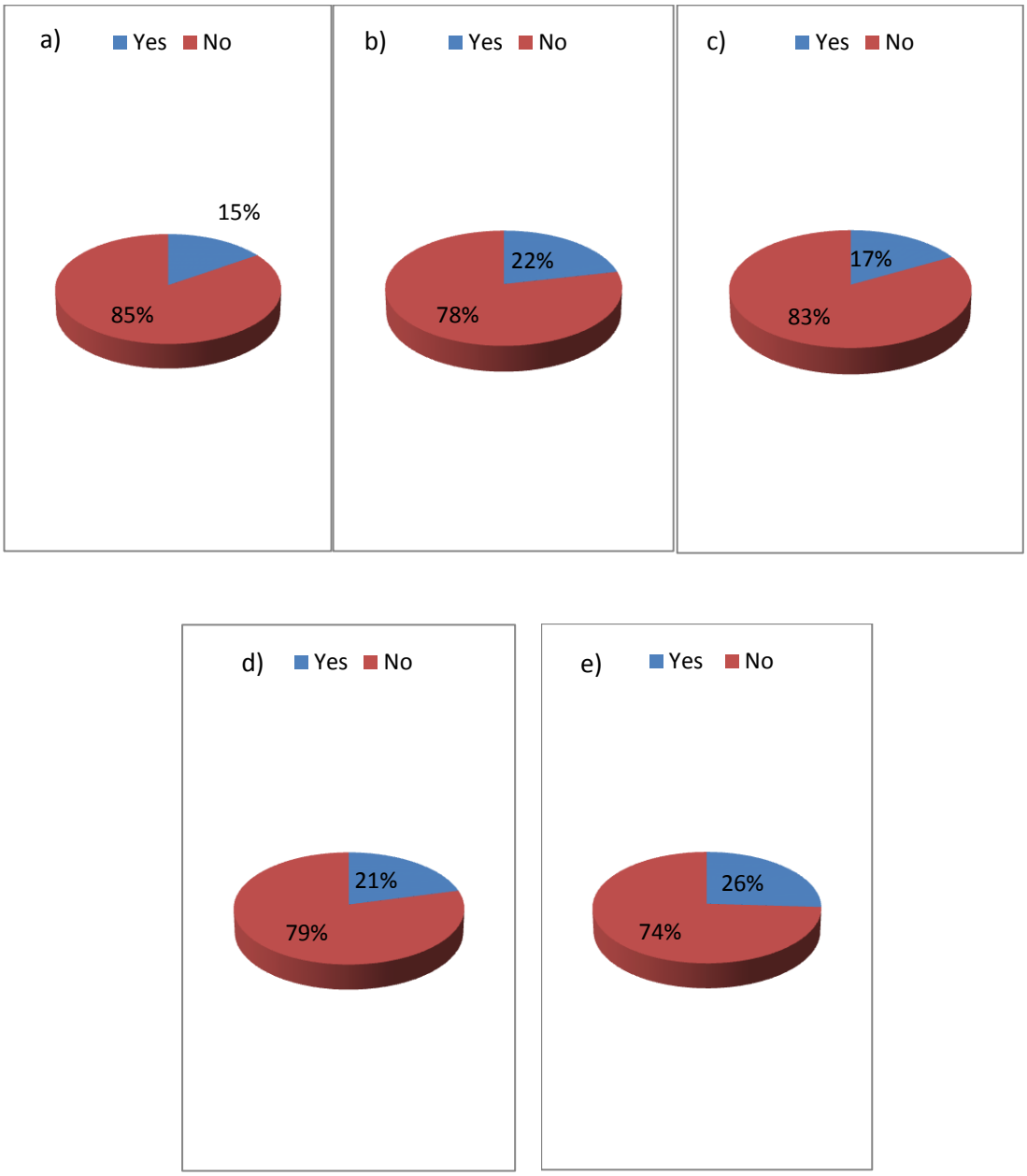

Figure 8: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *the taken, effective internet education.*

Around 80% of the students did not find internet education effective. This shows that, effective internet education among 5th class of primary school students are not common. As an average around 20% of the students responded as yes for the existance of effective internet education.

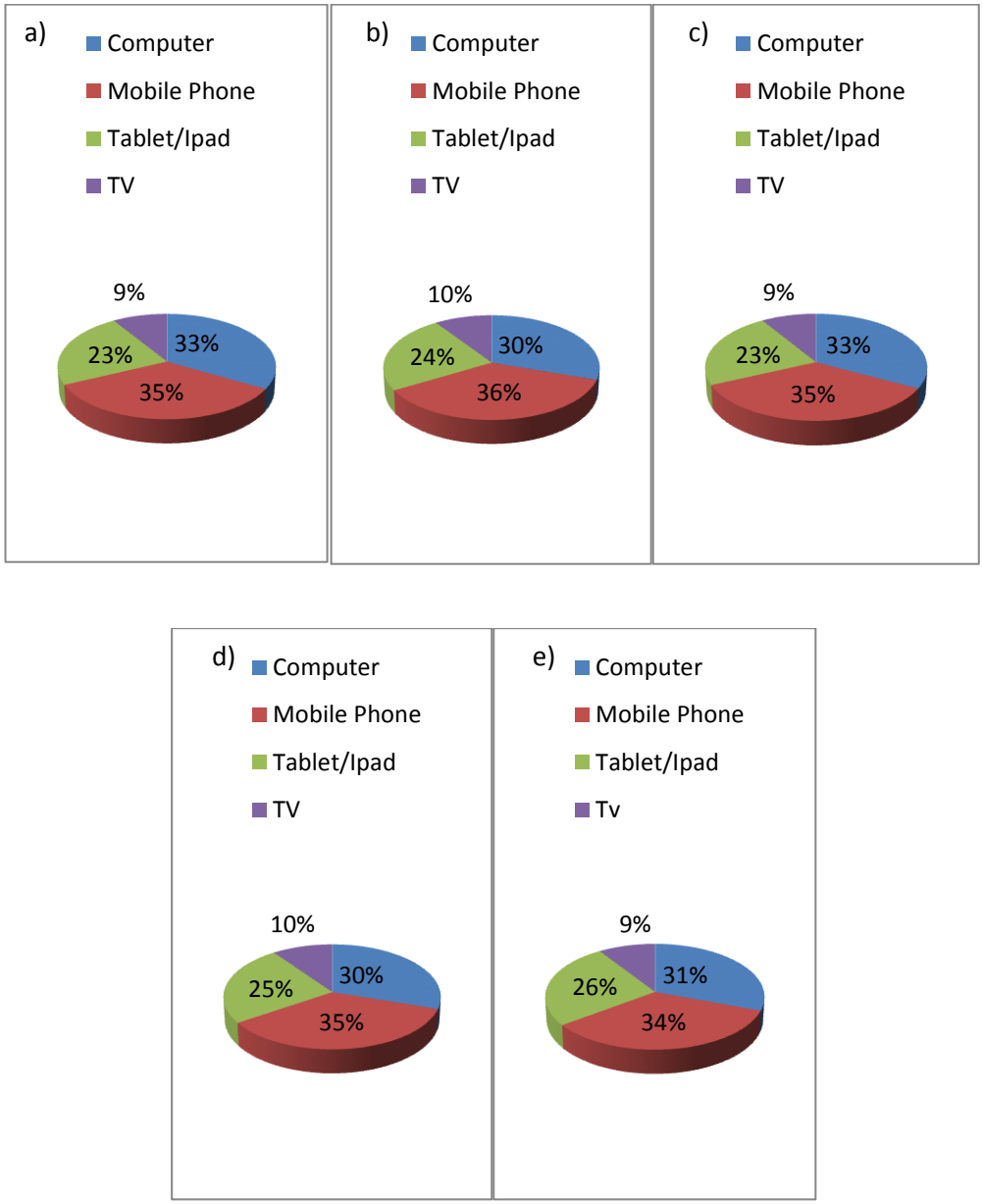

Figure 9: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *internet connection devices at home*.

Students provided the answer for the 6th question in student survey as 34% and over via mobile phone, 30% and over via computer, 23% and over via tablet/ipad and %9 and over via tv connect to the internet at home. See Figure 9 for the details.

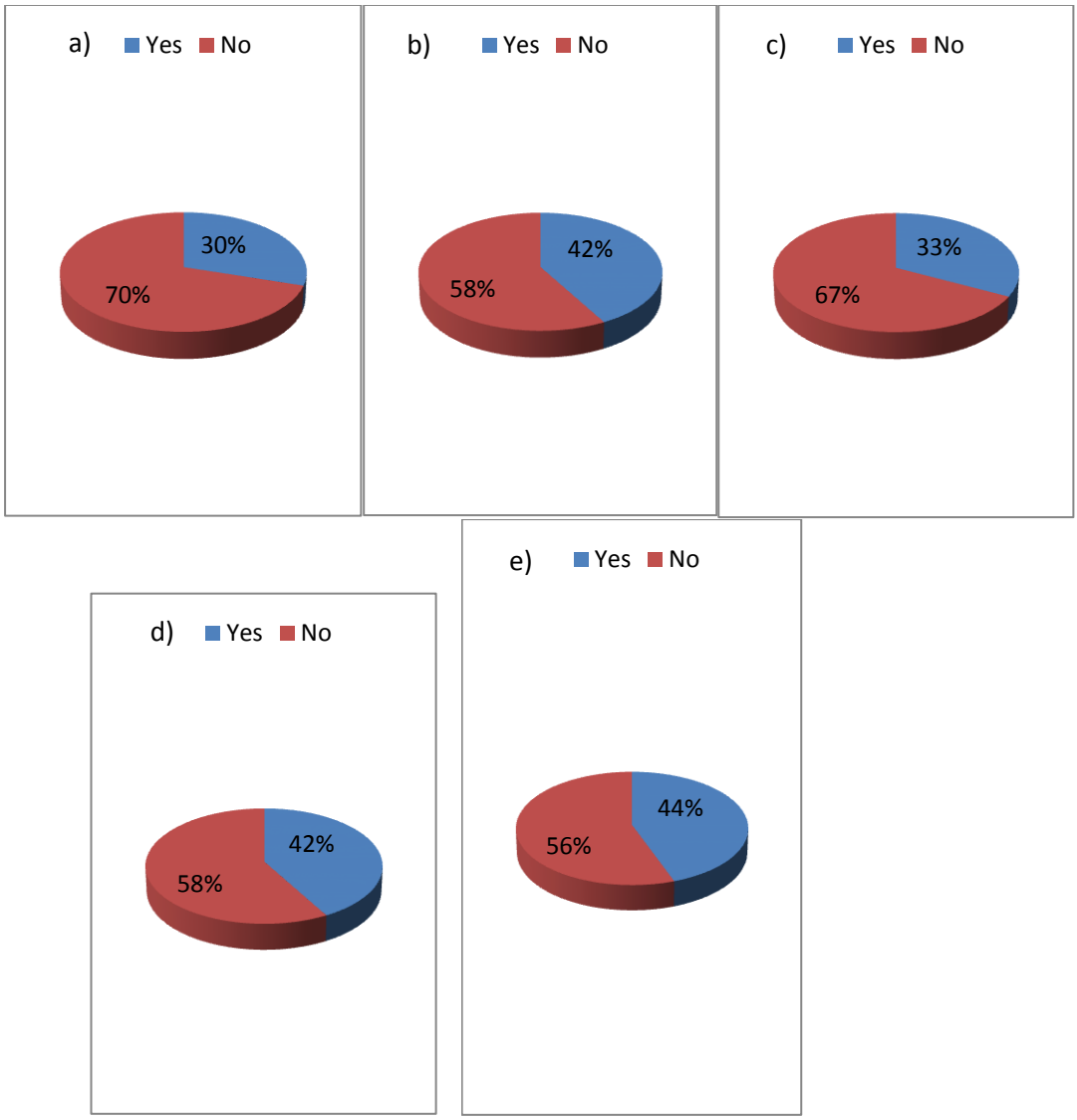

Figure 10: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *internet access outside of their school.*

Students provided the answer for the 7th question as 56% and over no, 30% and over yes. There is no significant difference between schools. In general, 56% and 58% of those who say no whole band is among those who say yes to the majority 40% and

42%. Alasya and Şehit Ertuğrul Primary School are also those who say yes have sunk in 30% to 33%. In other words, these results are similar results. See Figure 10 for the details.

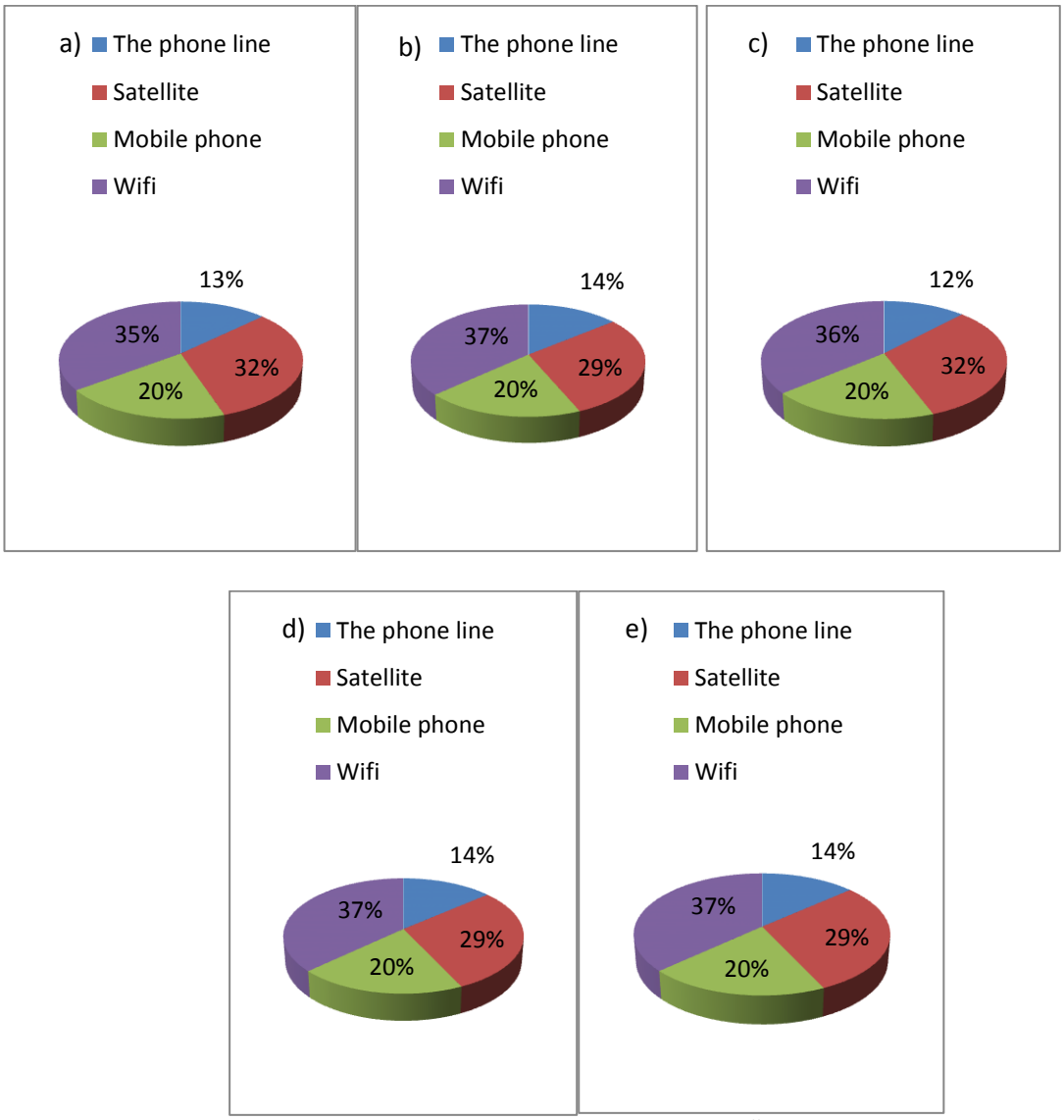

Figure 11: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *home internet access providers.*

In question 8, 35% of the students chose “wifi”, 29% and over “satellite”, 20% “mobile phone” and 12% and over with “phone line”, internet access providers in

home. So the highest is through wifi and the lowest is through the phone line. As specified in Figure 11.

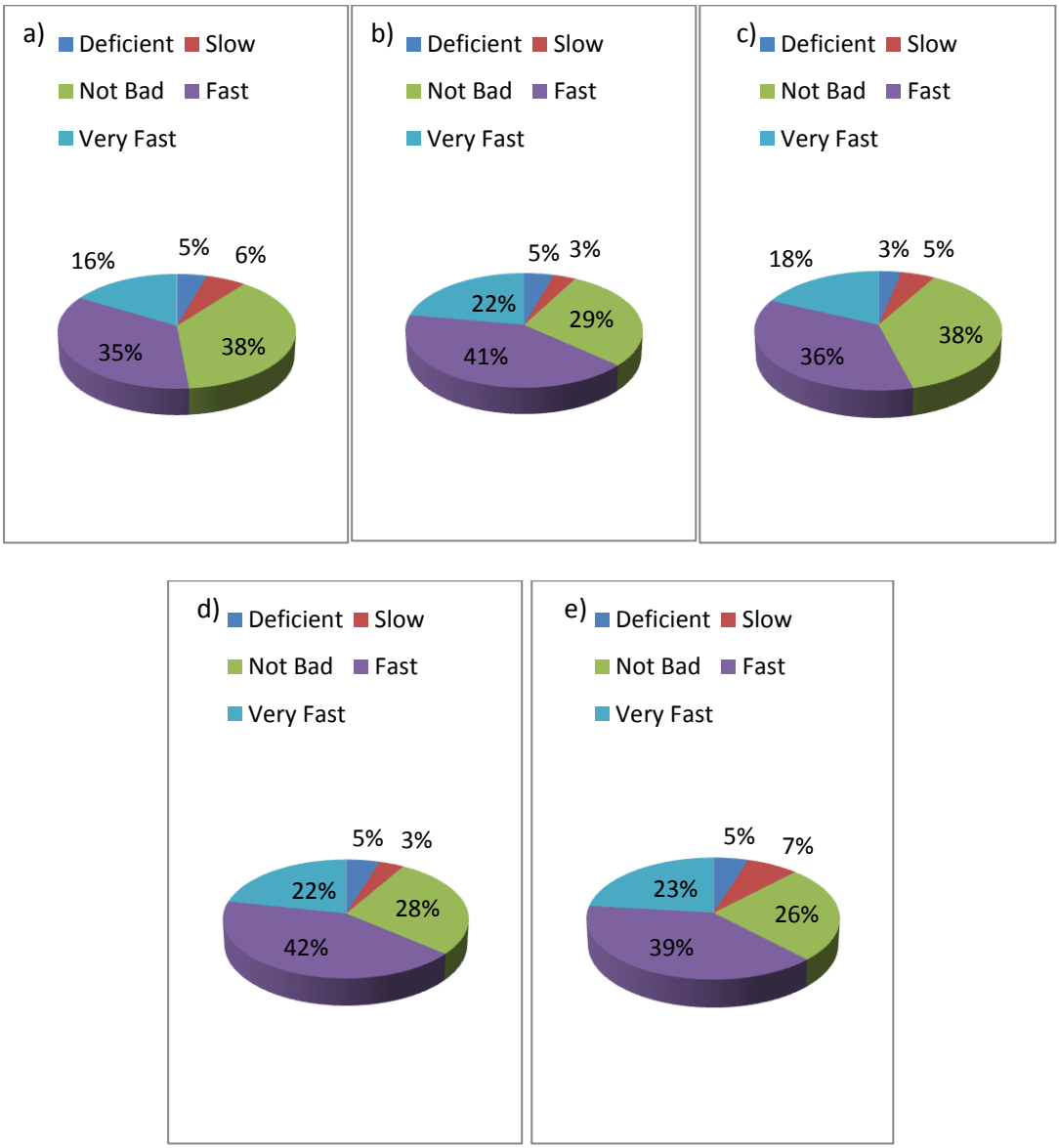

Figure 12: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *internet access speed.*

Internet access speed has been answered; 35% and over fast, 26% and over not bad, 16% and over very fast. See Figure 12 for the details.

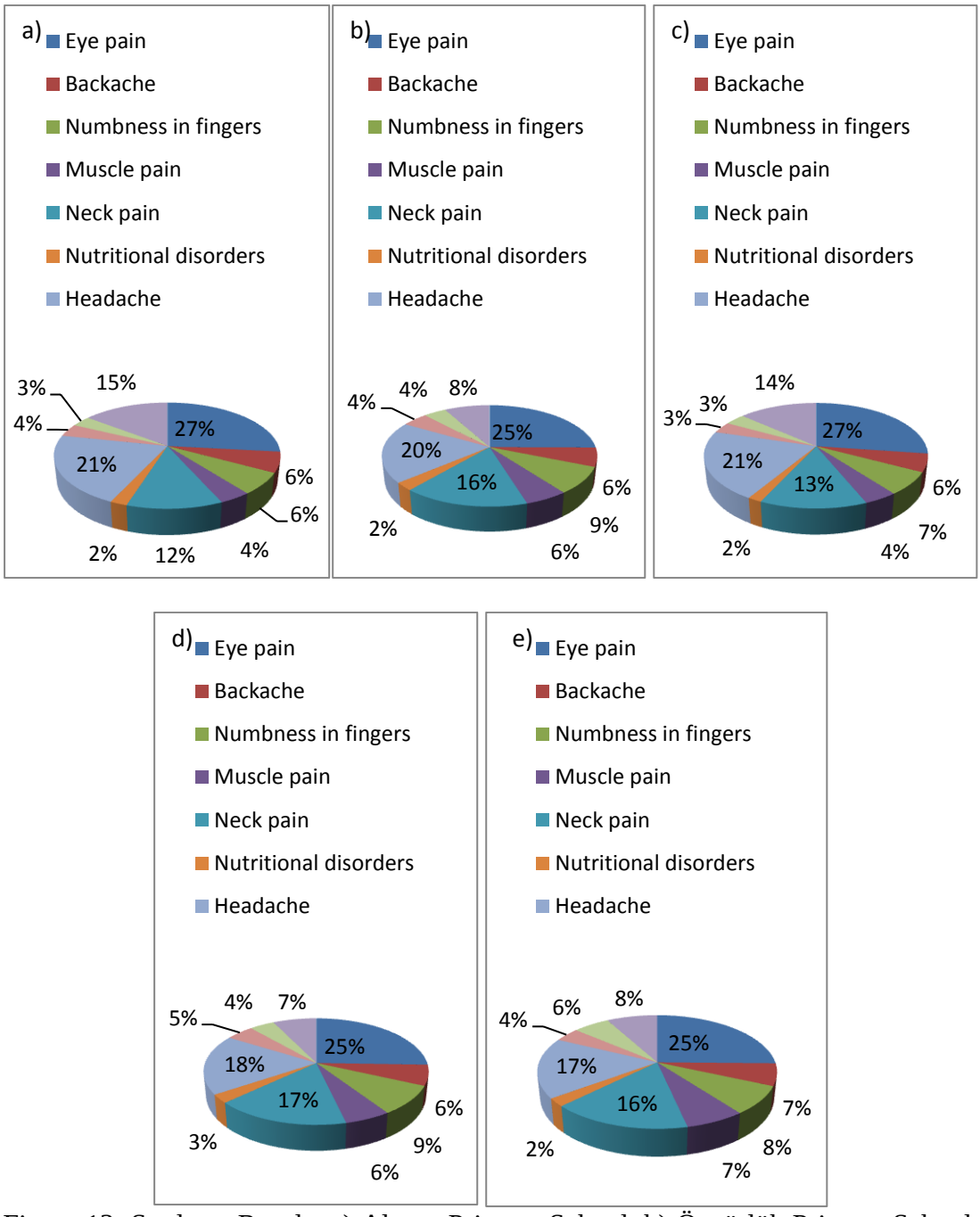

Figure 13: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *physical health problems.*

Physical health problems of the students were questioned and, over 25% had eye pain, over 17% had headache, over 12% suffered from neck pain and 7% had

continuous sleepiness problems. Results are quite similar and proportional in every school, as shown in Figure 13.

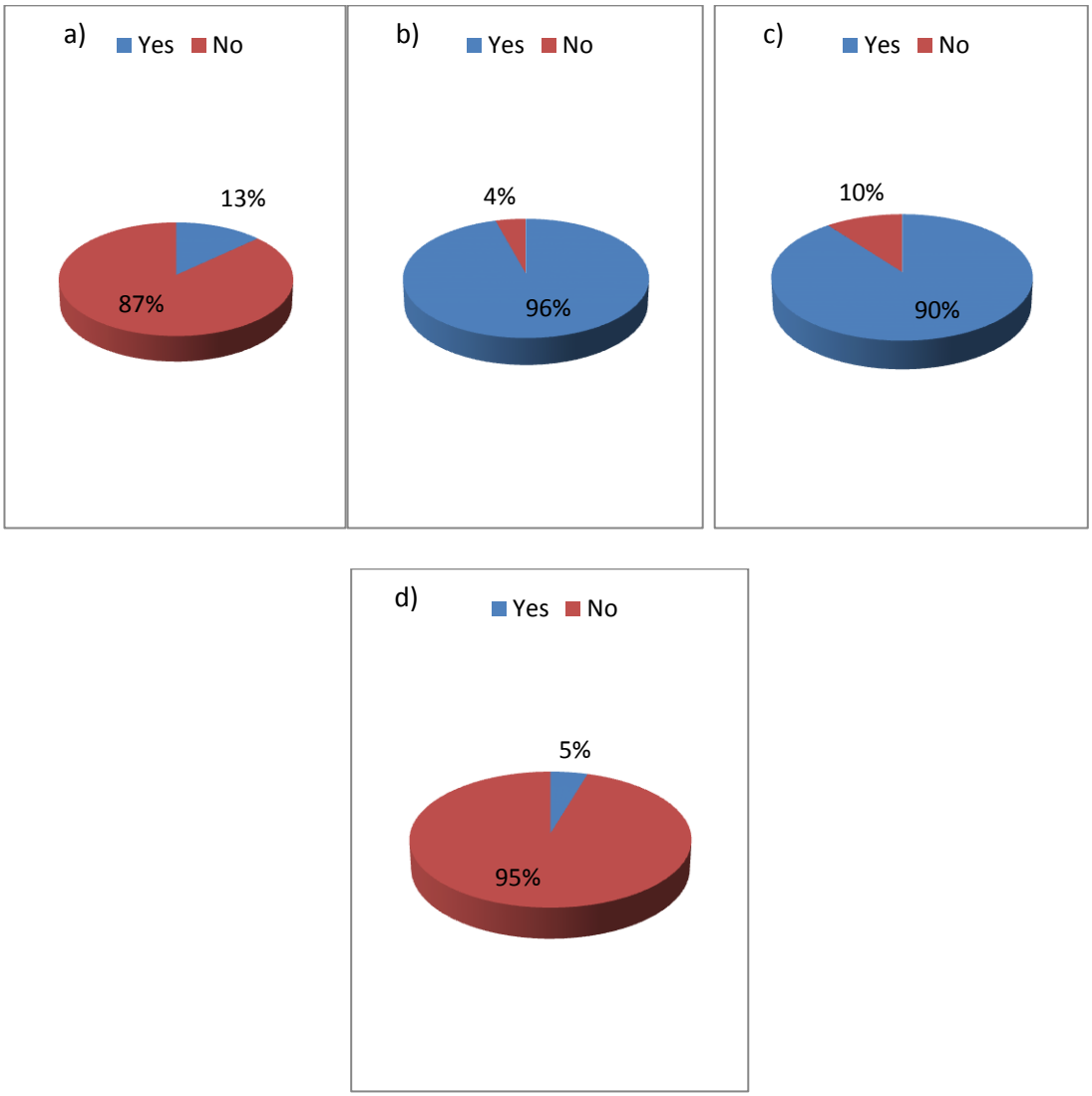

Figure 14: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School Primary School for existance of *computer education.*

Existance of computer education surveyed and Özgürlük, Şehit Ertuğrul, Şehit İlker Kartel Primary Schools 90% and over specified as yes, Alasya and Şehit Hasan Cafer Primary Schools 87% and over answered as no. Şehit İlker Kartel Primary School surveyed as 100% yes. So it can be generalized that Özgürlük, Şehit Ertuğrul, Şehit

İlker Kartel Primary Schools have computer education; Alasya and Şehit Hasan Cafer Primary Schools do not have computer education.

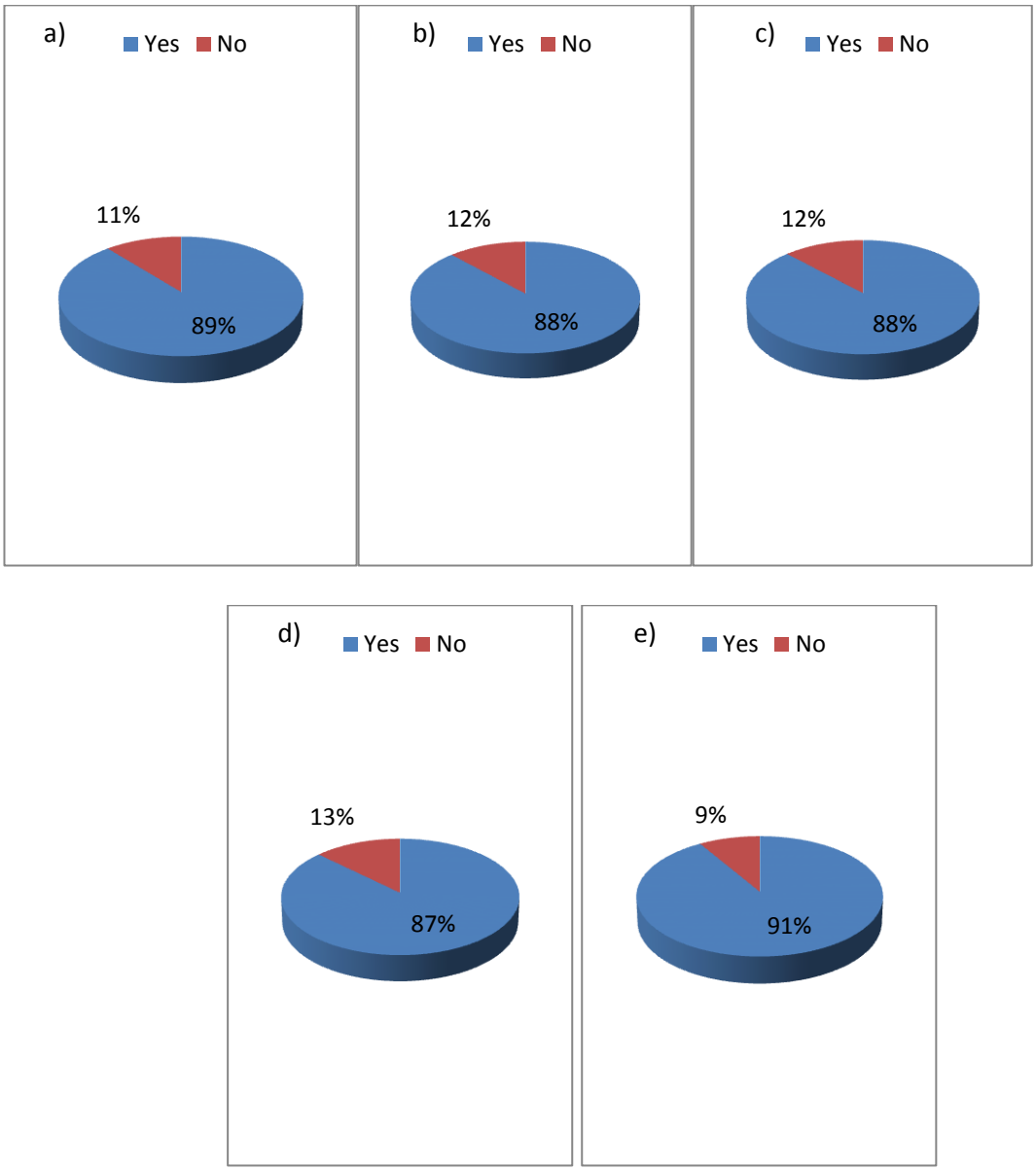

Figure 15: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for existance of *computer at home.*

Approximately 90% of the students have computer in their home. This is a very big number, especially for the country and educators should think and use this percentage as beneficial as possible.

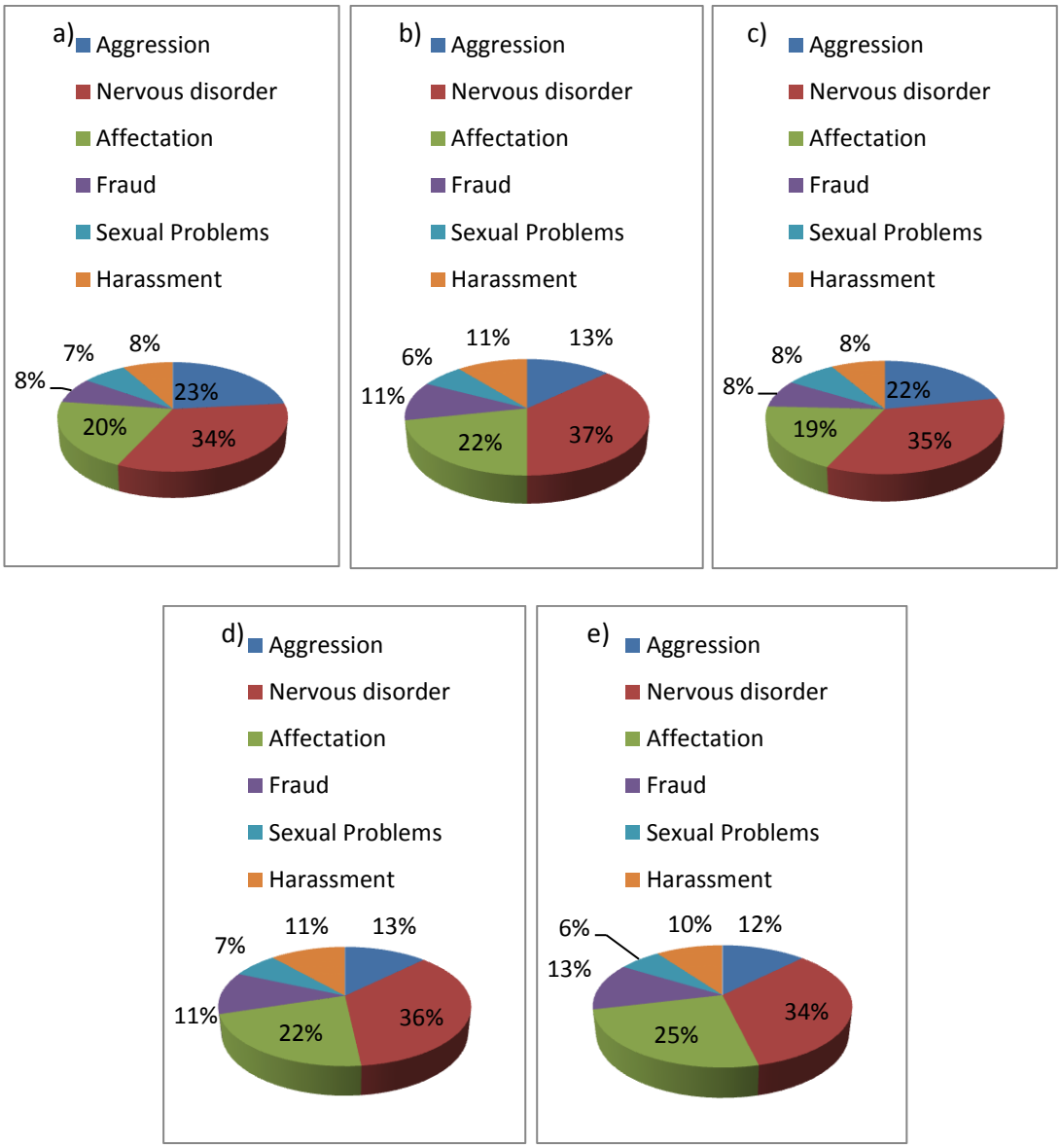

Figure 16: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *negativity of internet.*

Approximately 35% of the students have nervous disorder, ~22% affectation, ~13% agression of the students in Özgürlük, Şehit Hasan Cafer and Şehit İlker Karter have aggression problems, but this percentage is nearly dublicated in Alasya and Şehit Ertuğrul priamry schools, ~10% of them have fraud problems, ~10% have

harassment problems. These results demonstrate that the negativity of internet consequences are very similar and significant, as specified in Figure 16.

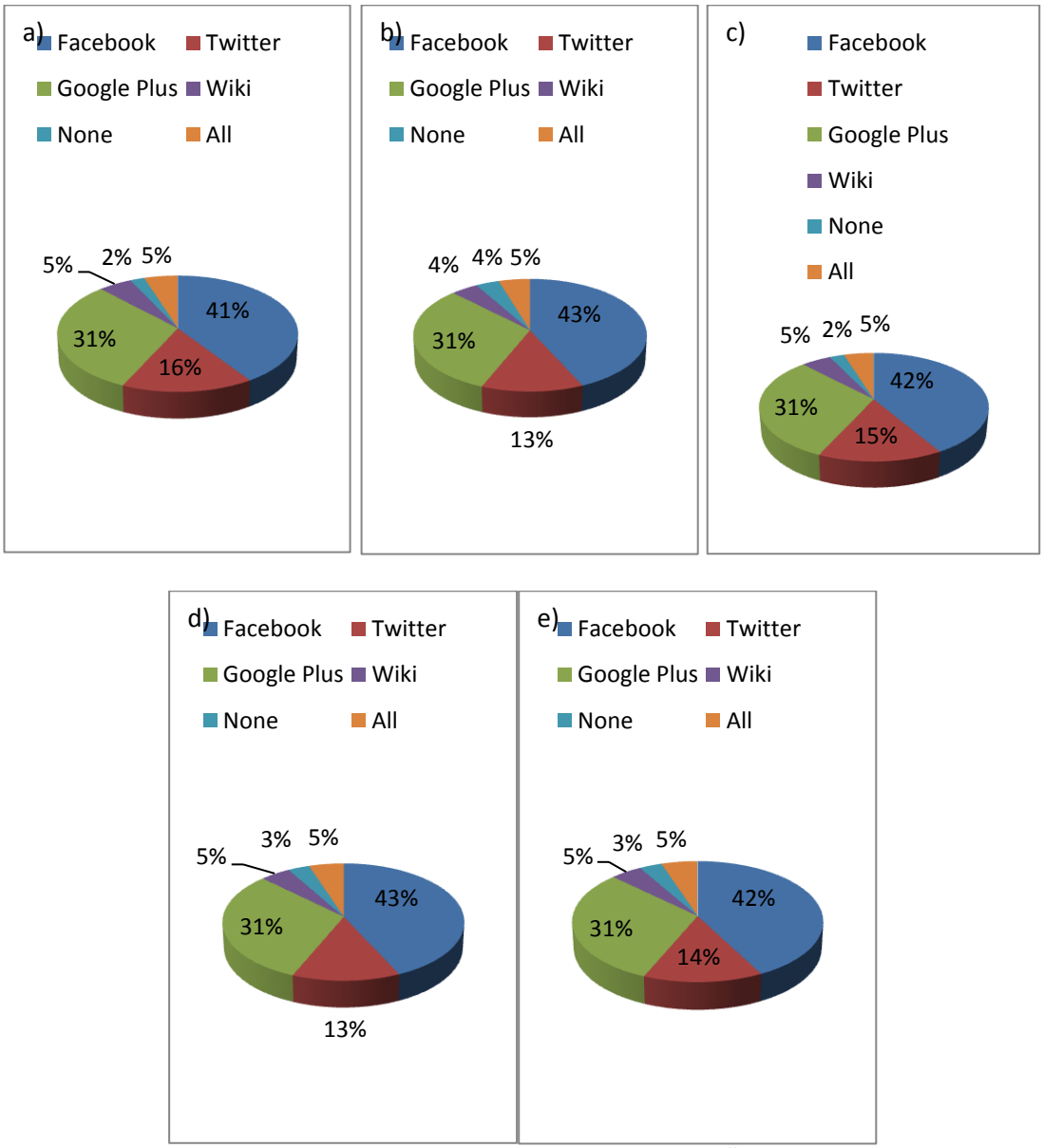

Figure 17: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *social sites.*

Students provided the answer for the 14th question 41% and over facebook, 31% google plus, and 13% and over twitter the social sites. So it can be generalized that,

facebook is a very important social site for the students. But there is no control mechanism, on how the students are using this site. Ministry of Education should determine policies for this problem, and families should also be educated in order to help to their children.

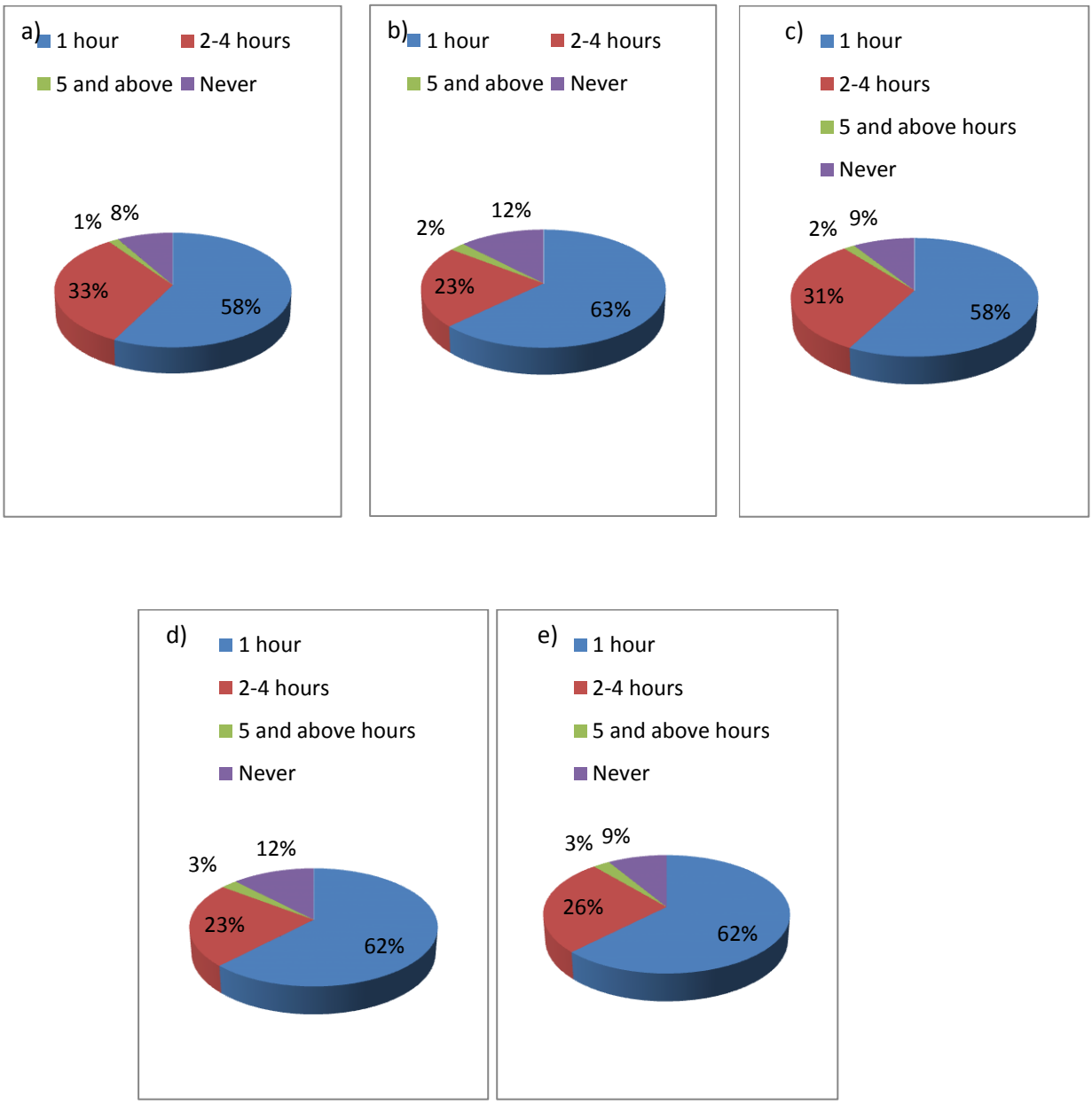

Figure 18: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School e) Şehit İlker Kartel Primary School for *social sites usage (in hrs.).*

Figure 18 can be summarized as, ~60% of the students are using 1 hour internet, ~30% of them are using 2-4 hours and only 10% of them are not using the internet. So it can be said that there is a very big number of students which are using daily internet and ~30% of them are using the internet as an addictive level (2-4 hrs.). So, here, ministry educators should be careful about these percentages.

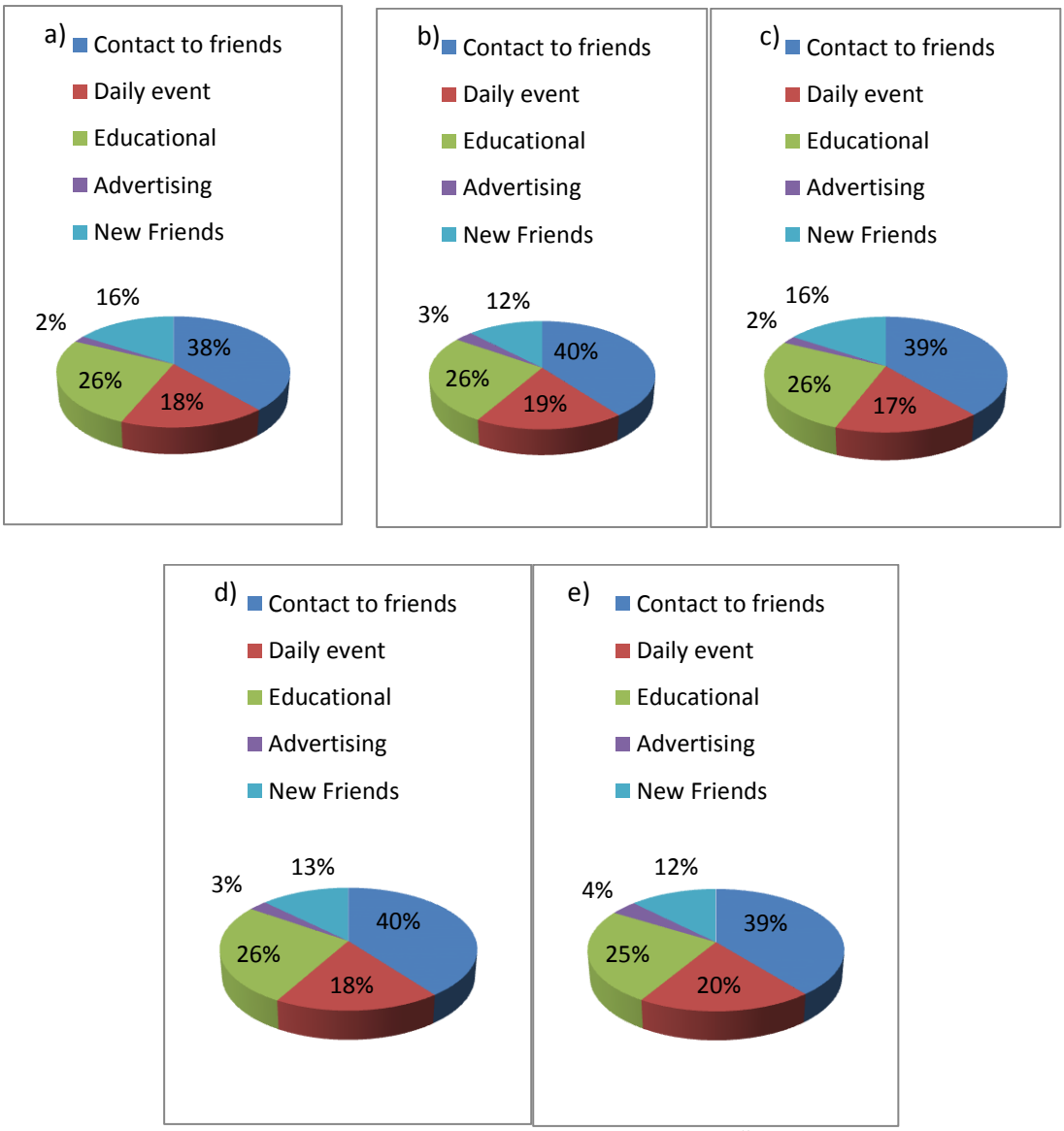

Figure 19: Students Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for *social sites usage purposes.*

By another way, it can be said that (Contact to friends + Daily events + New friend = Outside education), social sites usage purposes which are outside the education is around %75 and just only 25% of the students are using for educational purposes. Social sites usage purposes of the students were analyzed as: ~40% of them are using social sites as “contact to friends”, ~20% for educational, ~20% for daily events and ~15% for getting new friends purposes.

4.2.2 Teachers Survey Results for Primary School

Computer education surveyed as no in Alasya and Şehit Hasan Cafer Primary Schools. Computer education surveyed as yes in Özgürlük, Şehit Ertuğrul and Şehit İlker Kartel Primary Schools. This shows that, computer education among primary school teachers are very common. This rate is high and quite significant. Moreover, most of Alasya and Şehit Hasan Cafer Primary Schools have not been given computer education. In addition, most of Özgürlük, Şehit Ertuğrul and Şehit İlker Kartel Primary Schools have been given computer education.

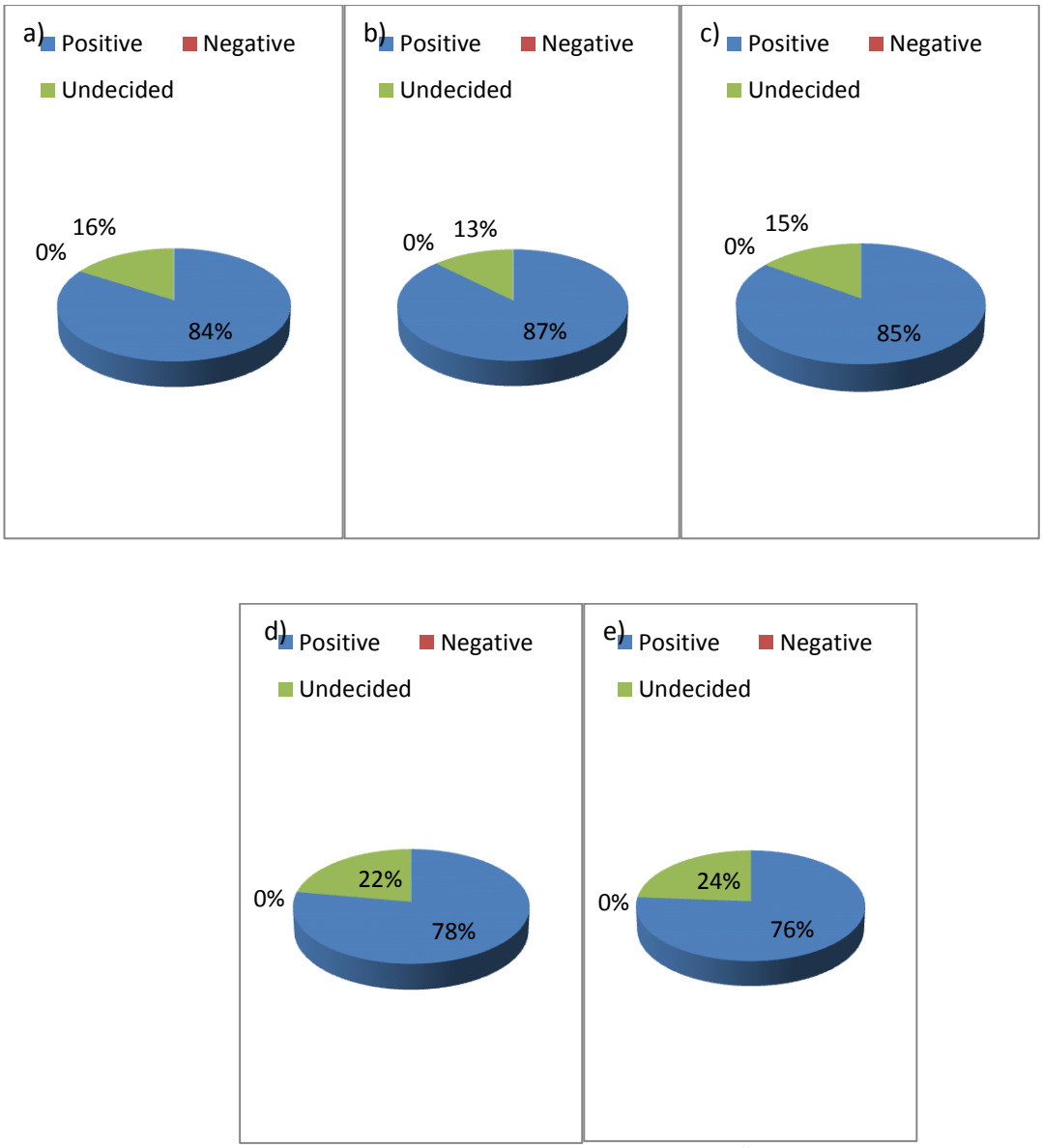

Figure 20: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for teachers' perspectives for *Computer-Aided Education.*

82% of the teacher answered positively and 18% of the teacher surveyed as undecided for Computer-Aided Education in their schools. This shows that, Computer-Aided Education among primary school teachers are very common. This rate is high and quite significant. In other words, the number of teachers determined positive perspectives for Computer-Aided Education. Moreover, taking into account

that the response of the teachers of Computer-Aided Education has become part of their life. See Figure 20 for the statistical results.

100% of the teachers, have computer in their homes. This is quite a big number for primary school teachers. This shows that the computer at home, and school becomes an integral part of life in all areas, and there is a computer almost in every teachers' home.

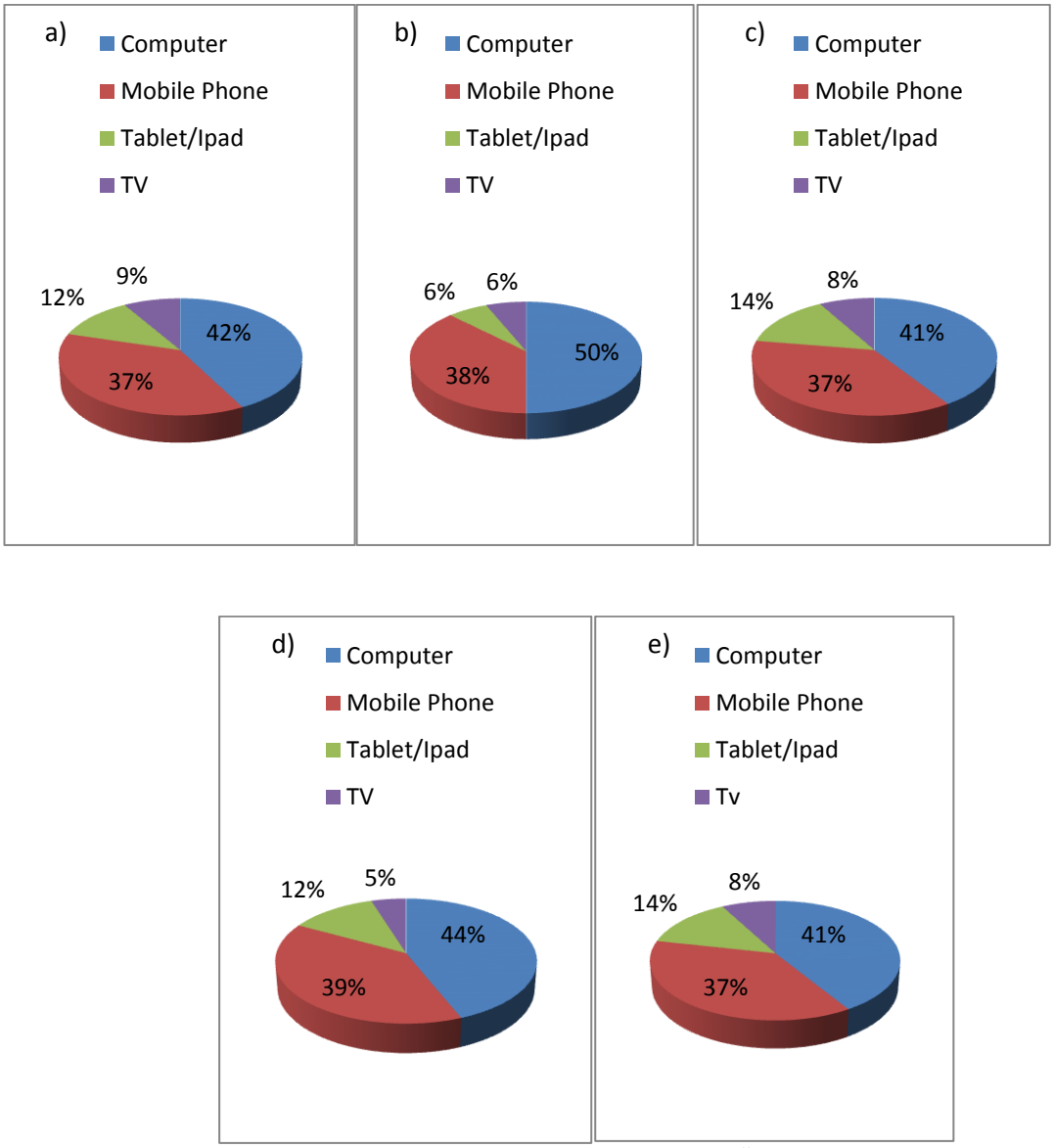

Figure 21: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *internet connection tools.*

Internet connection tools answered are shown in Figure 21. Mostly teachers are connecting with ~43% via computers, then mobile phone around 38% and then tablet/ipad around 10%. These results demonstrate that the results of widespread and mobile phone are similar. Computer and mobile phone, tablet/ipad is followed. Computer, mobile phone and tablet/ipad have also been a part of daily life.

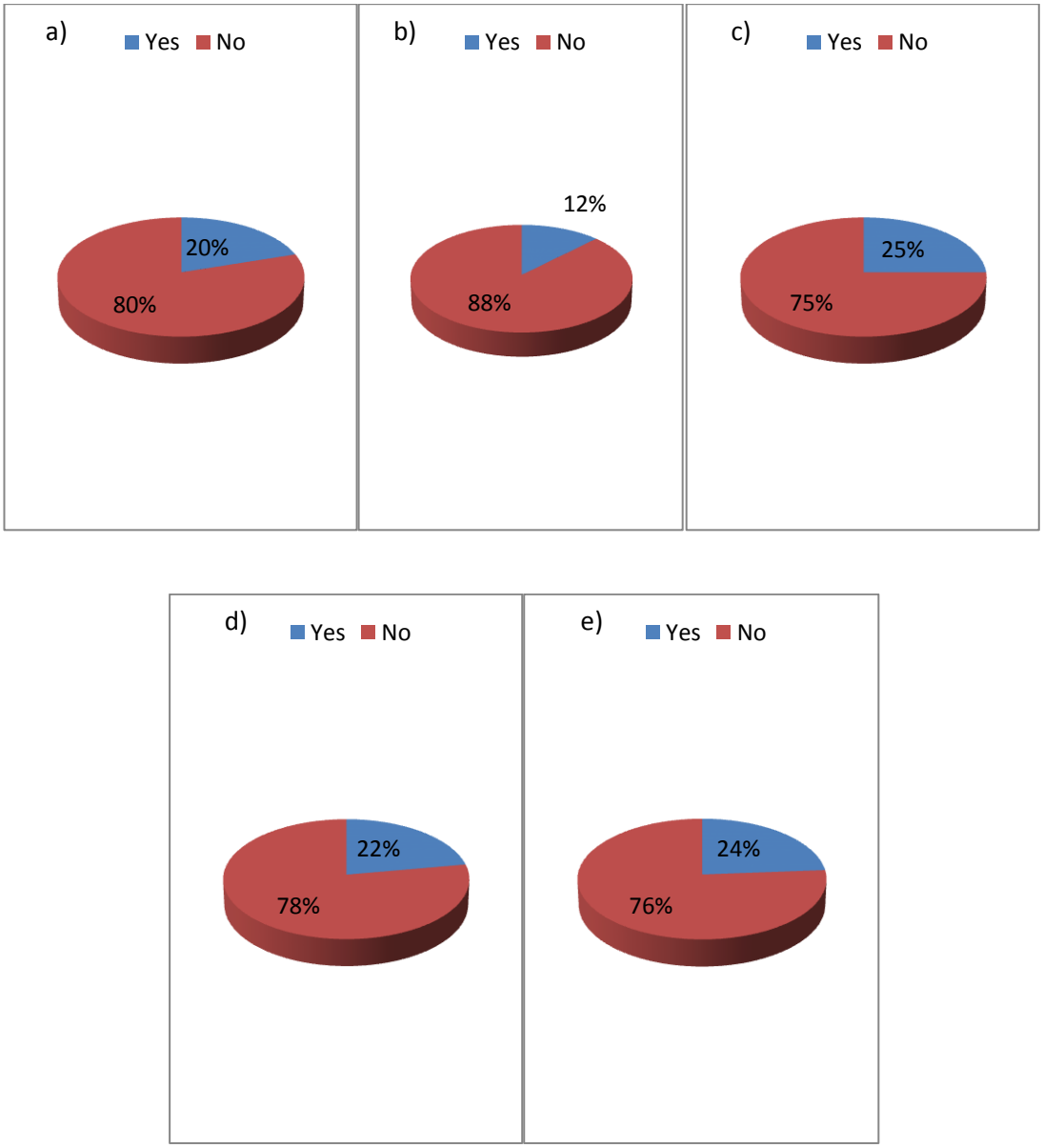

Figure 22: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for teachers' existance of *Internet Access* outside of the school.

Around 78% of the teachers surveyed as ‘no’ option for existance of internet access outside of the school. This shows that, internet access outside the school among primary school teachers are not common. As an overage around 20% of the teachers choose ‘yes’ option for existance of internet access outside the school. These results indicate that teachers have limited internet access outside the school. In other words, they connect to the internet access at school and they are connected to the internet access outside of the school on their own. Few teachers connect to the internet access outside the school.

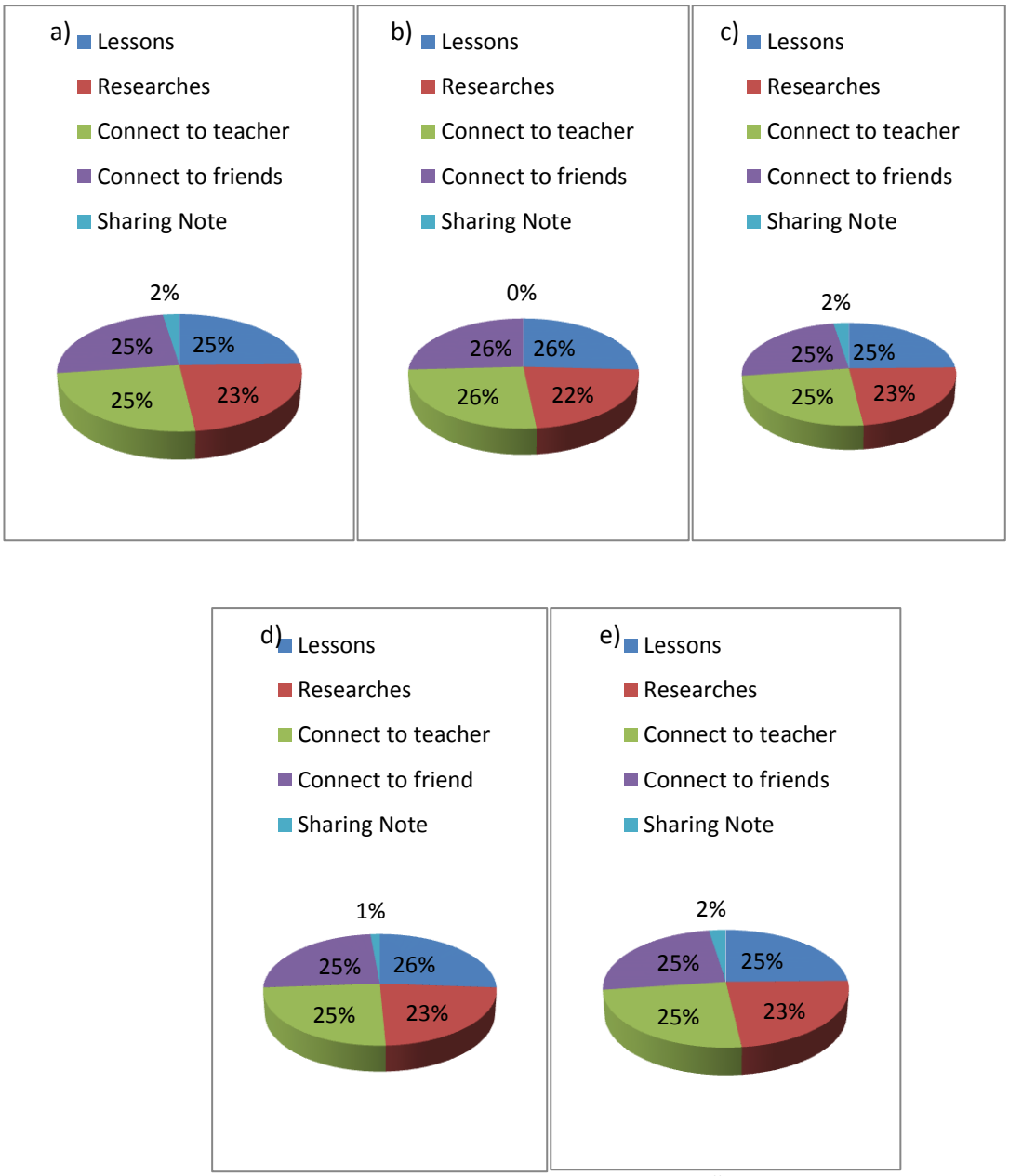

Figure 23: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teachers' results for *internet usage fields.*

Teachers internet usage fields can be resulted as: 25% lessons, 25% communicate with teacher, 25% communicate with friends and 22% for researches. These results demonstrate that the results are similar to each other. In other words, the ratio of stylish worthiness selected to this question is the same as approximate. See Figure 23 for the details.

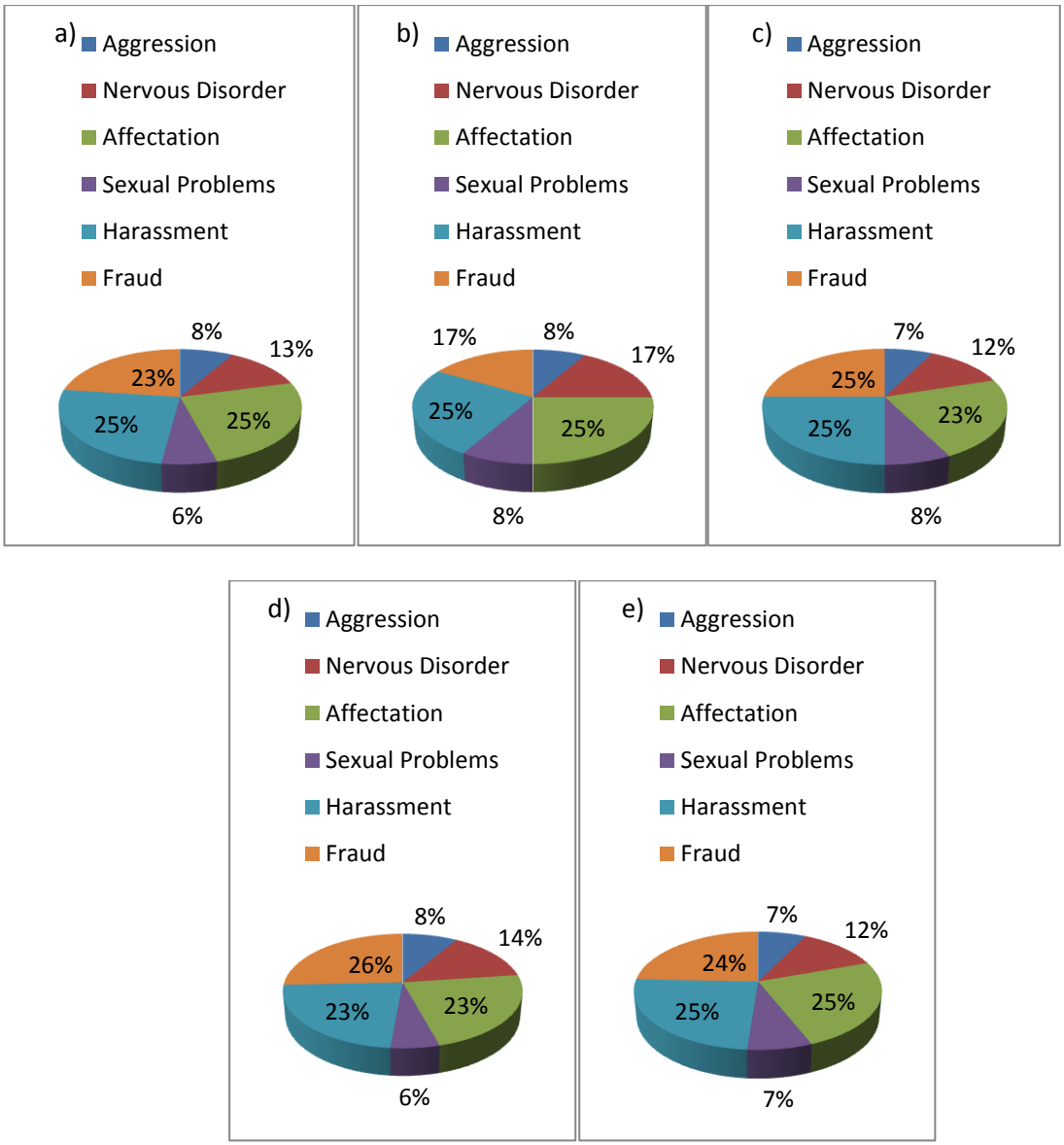

Figure 24: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *negativity of internet.*

Negativity of internet usage can be summarized as; 24% affectation, 24% harassment, 22% fraud and 13% nervous disorder. There is no significant difference between schools. So, most of the teachers have affectation, harassment, fraud and nervous disorder problems through the internet usage. See Figure 24 for the details.

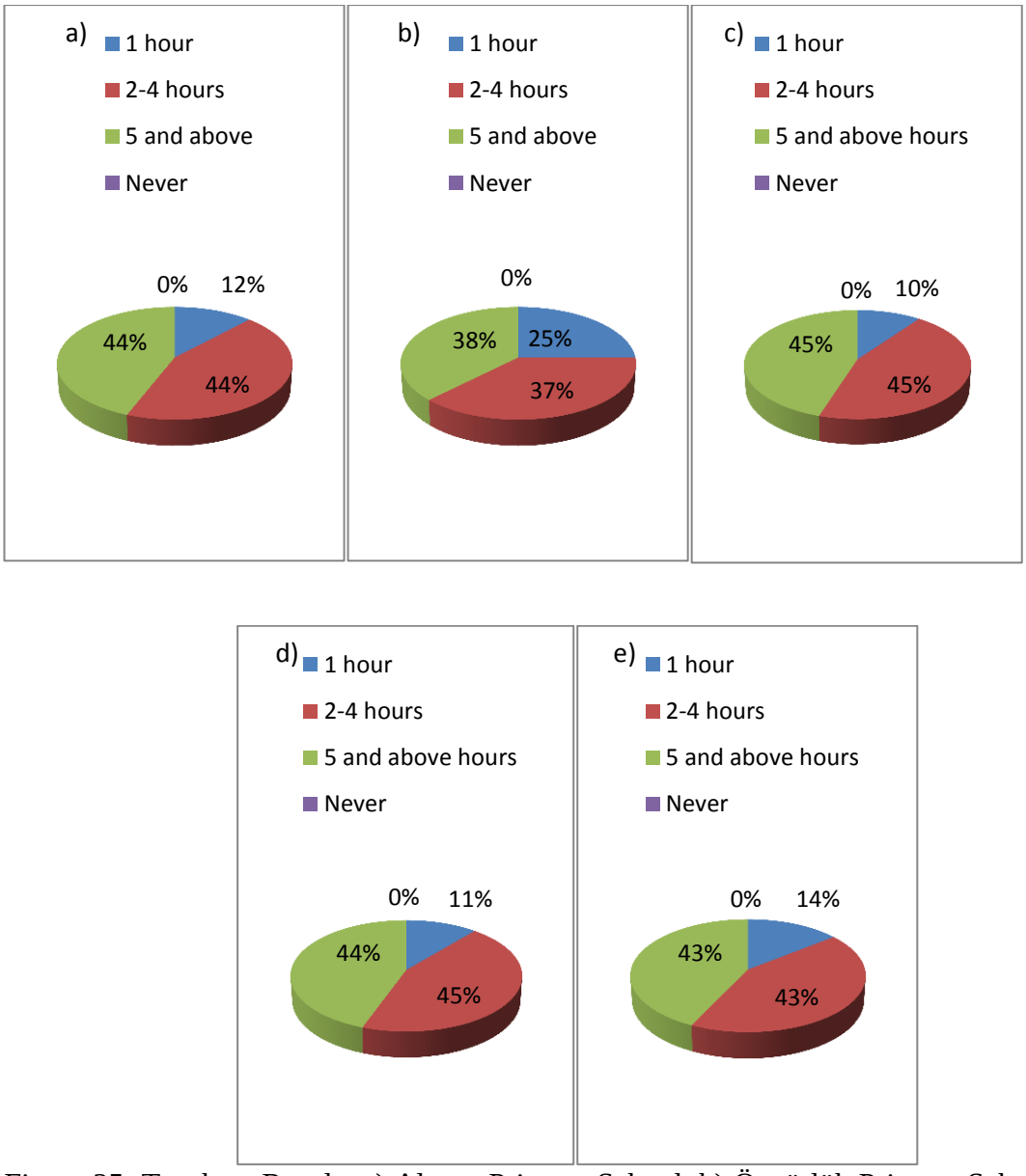

Figure 25: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for i*nternet usage* in hours.

Teachers answer for internet usage, as ~42% 5 hours and over, ~42% 2-4 hours and 15% of them for 1 hour. Results can be analyzed that, all of the teachers are internet users and 5 hours and over are internet users, which can be accepted as, addictive level (~42%). As a result, it can be said that a teacher is normally 5 hours in schools (8:00 am to 12:40 pm) and nearly half of them are 5 hours or more on the internet. It

also shows that once again, the internet has become an integral part of life. Here, Ministry of Education should analyze these results and prepare some policies to use their time as efficient as possible. May be full day (8 hours) education might be a good solution for efficient education. As specified in Figure 25.

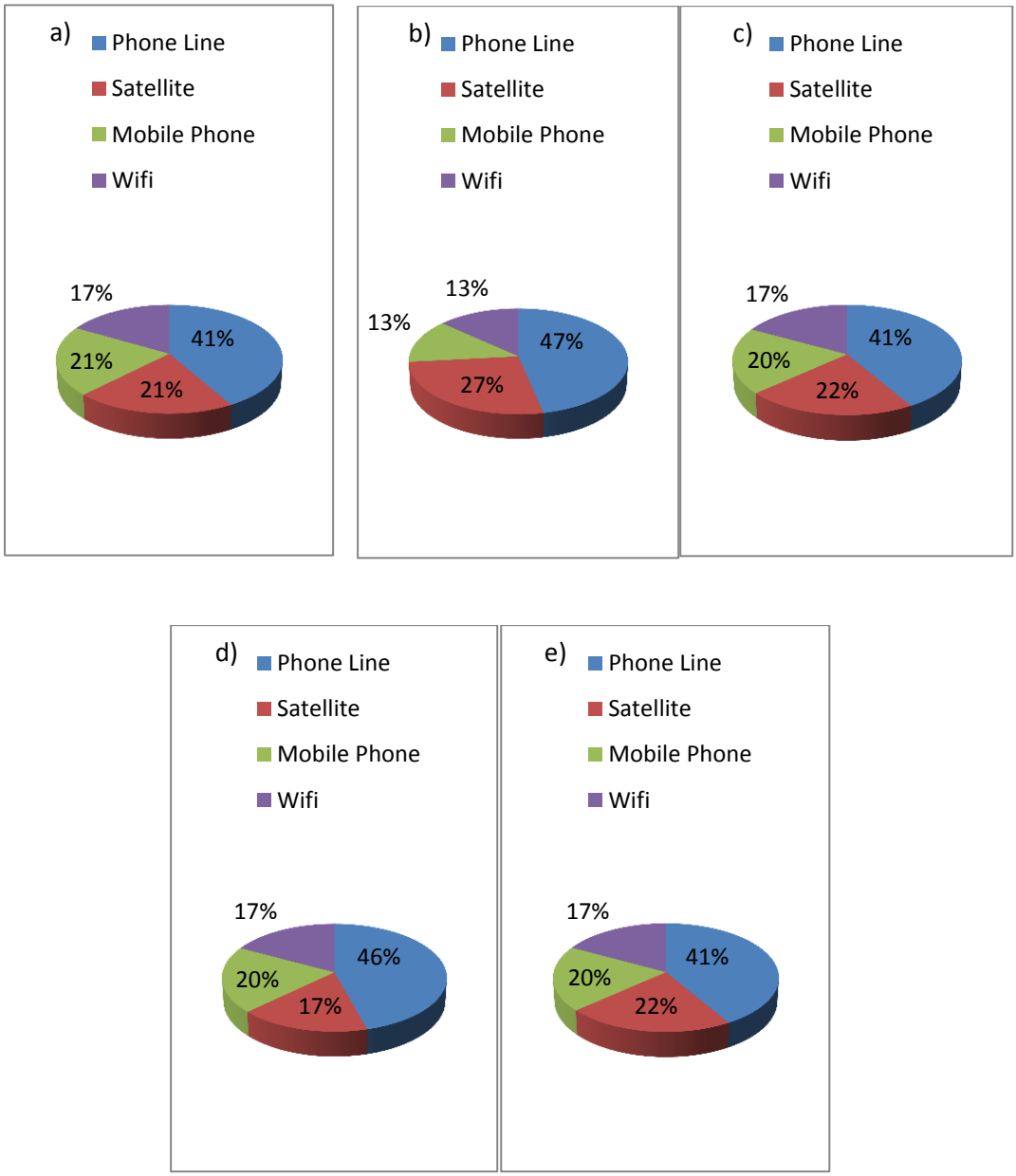

Figure 26: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *internet usage* at home.

Internet usage at home has been answered; 43% phone line, 22% satellite, 17% mobile phone and 15% through out wifi. So, most of them connect to the internet through phone line. This follows by satellite, mobile phone and wifi respectively. See Figure 26 for the details.

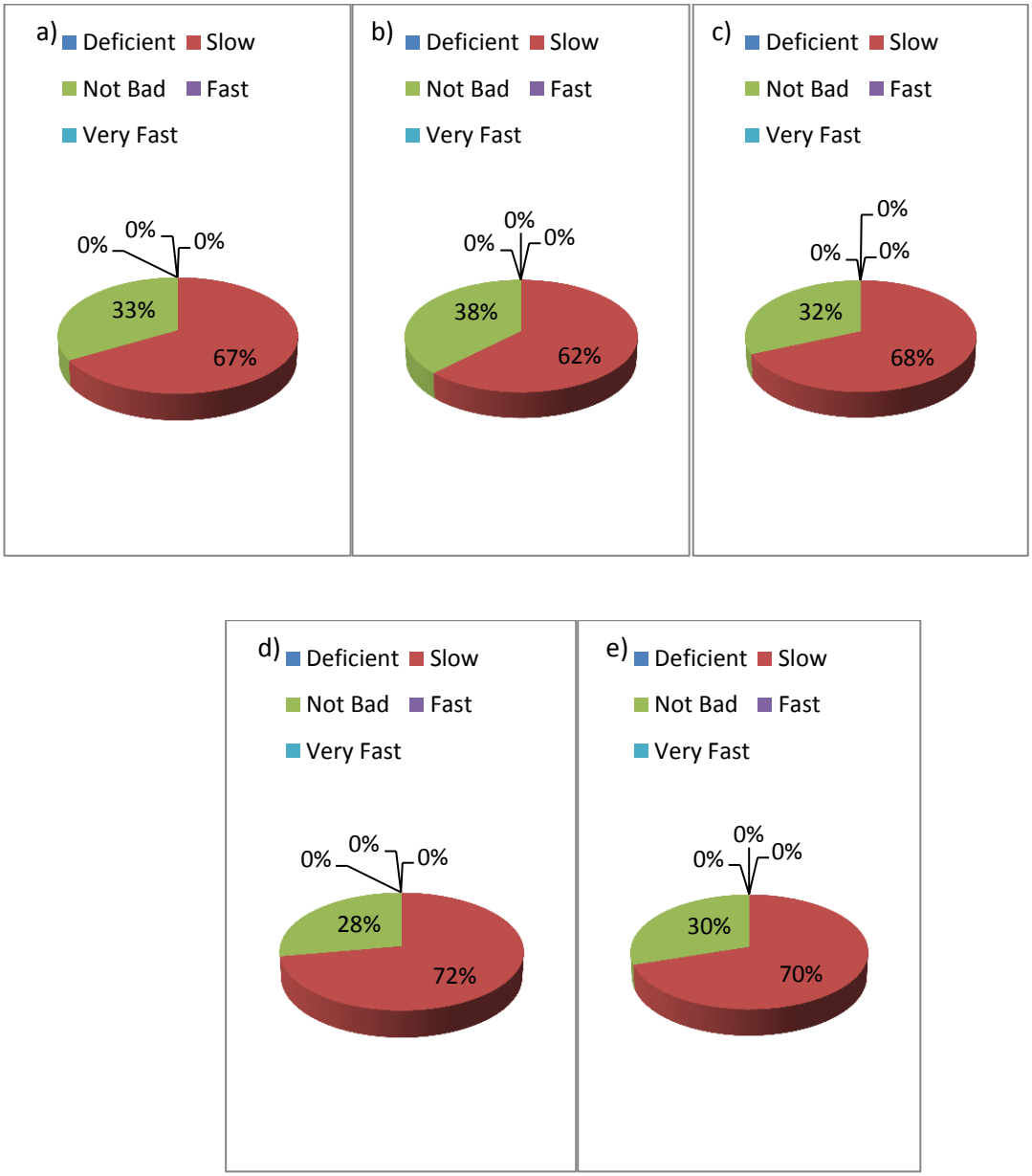

Figure 27: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *internet access speed.*

Around 70% of the teachers are not happy about the internet speed only 30% of them says it is not bad. Results are quite similar and proportional in every teacher, as shown in Figure 27.

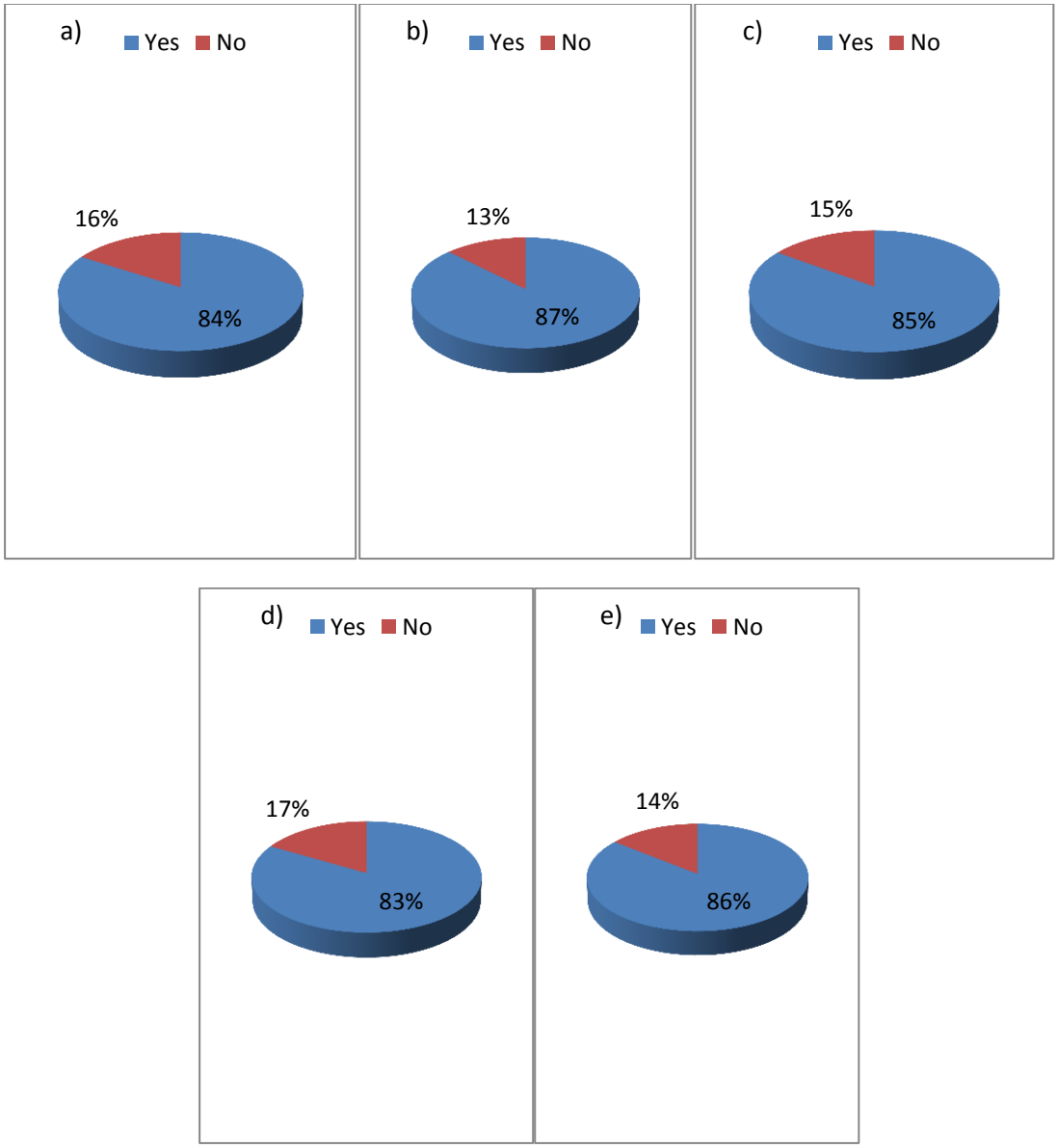

Figure 28: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for existance of *useful internet usage.*

Nearly 85% of the teachers believe that their students are using internet efficiently, only 15% do not believe to this reality. These results show that the majority of teachers are positive about the internet usage of their students. Since the teacher's

perspective is positive in the primary schools, technological improvement is very easy for the primary school students.

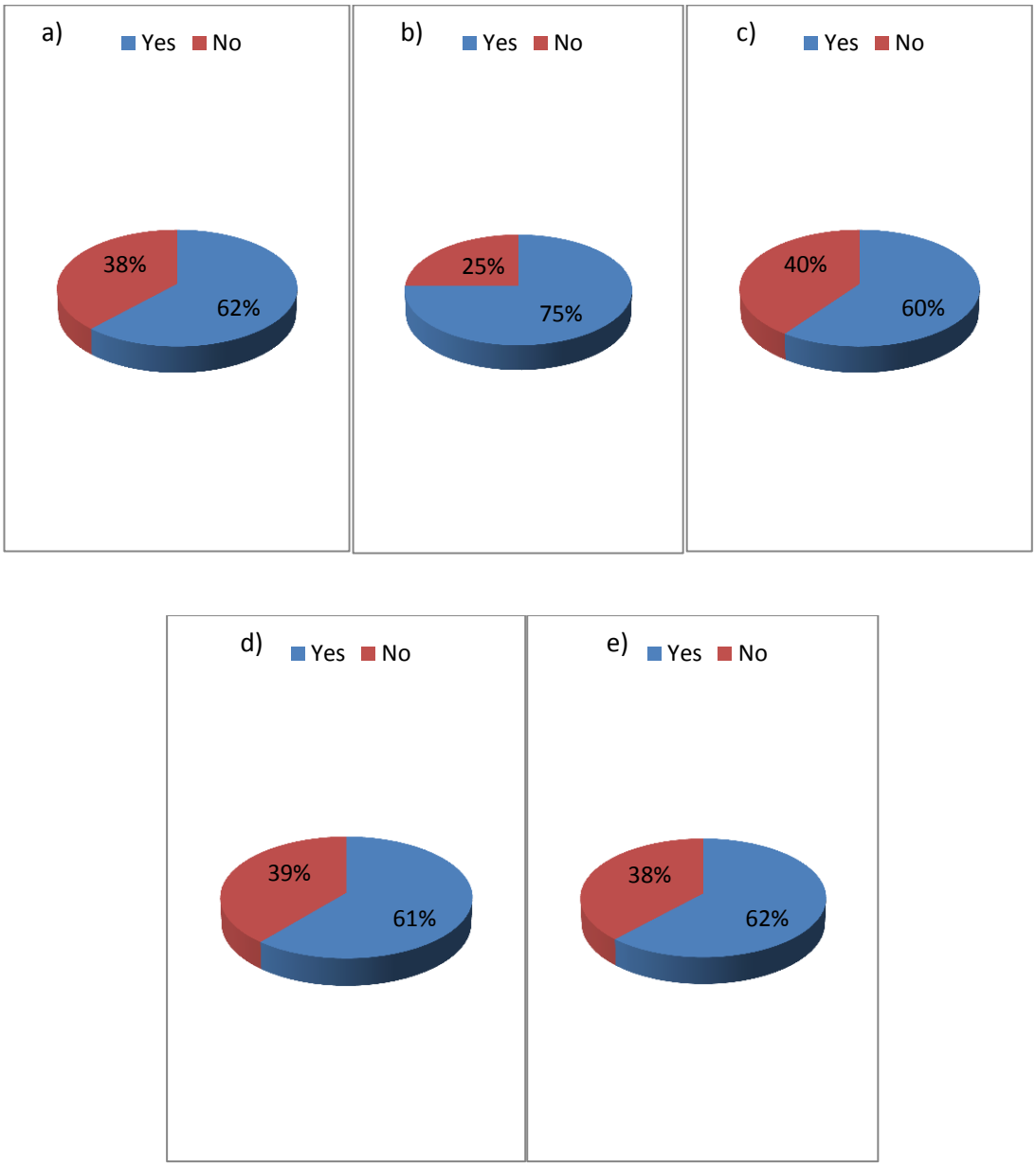

Figure 29: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for taking *effective internet usage education*.

Approximately 65% of the teachers took effective internet usage education, but 35% of the teachers did not. All the teachers have effective internet usage education. So

we can generalize that majority of teachers have been trained for the effective usage of internet, 35% is also a countable number for the Ministry of Education to educate teachers on internet. Effective internet usage has become an integral part of the information age, in daily life.

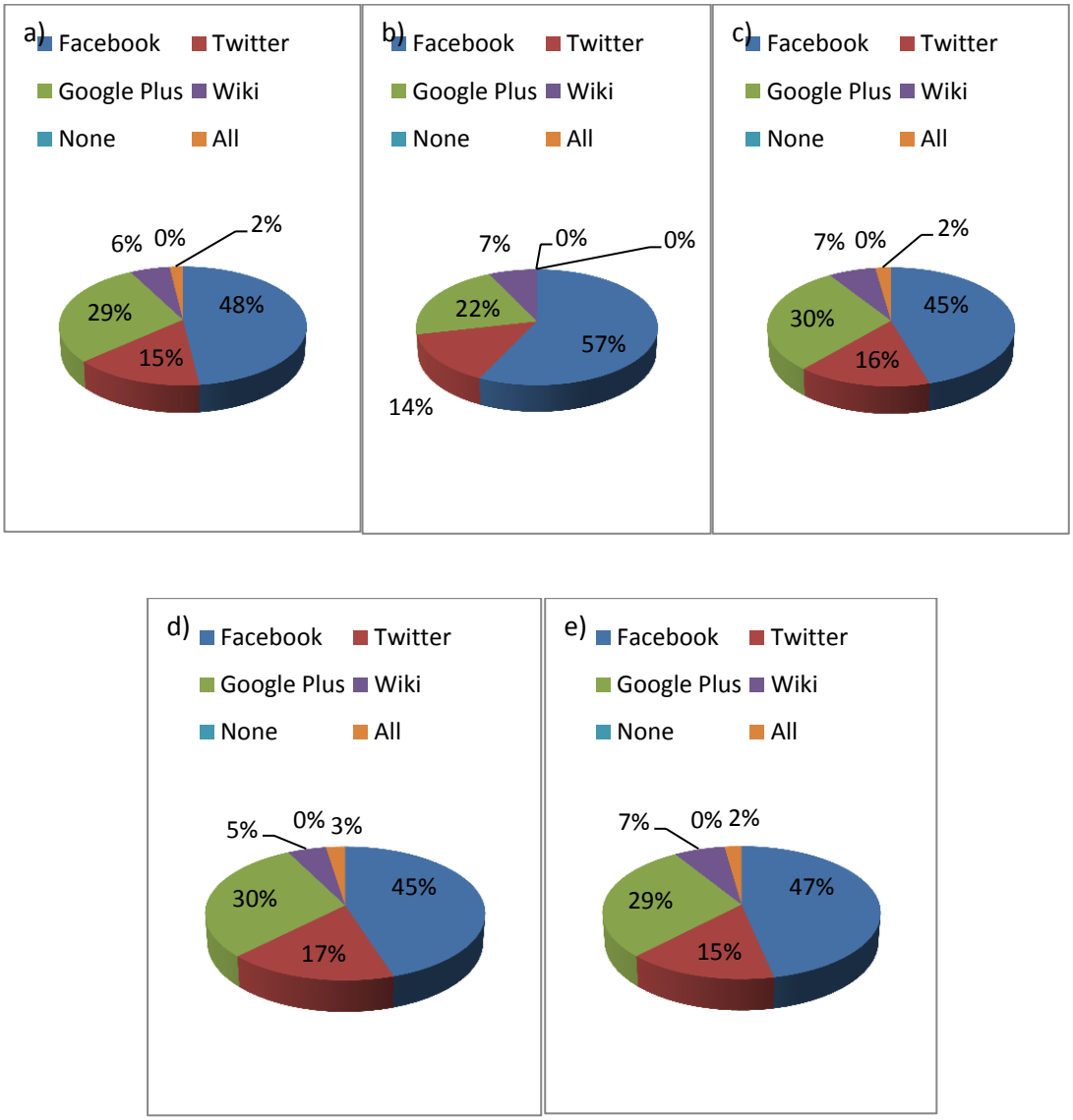

Figure 30: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *widely used social sites.*

Approximately ~50% of the teachers are using facebook, ~30% google plus, ~15% twitter as a social sites. So, most of them use facebook, google plus and twitter use social sites. Results show that half of the teachers are facebook users, one third of the teachers are mainly google plus users. See Figure 30 for details.

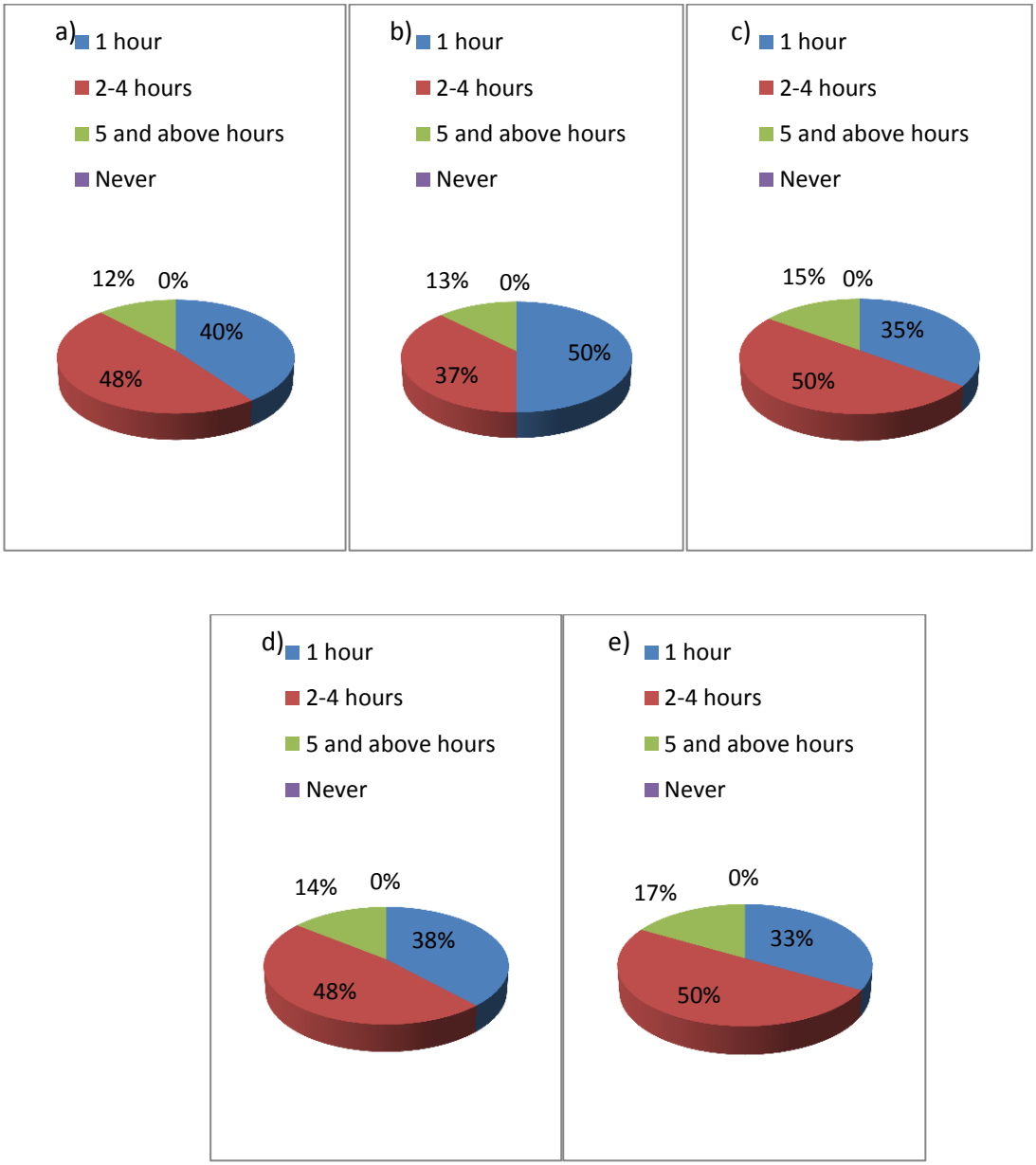

Figure 31: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *social sites in hours.*

Social sites usage has been questioned as shown in Figure 31. Around 45% of the teachers connect 2-4 hours/day, around 40% 1 hour/day, around 15% 5 hours or more (addictive level) connect into social sites per day. Nearly half of teachers spend their times on social sites. Statistically this is a very countable percentage for Ministry of Education or for the government. All teachers are social sites users, so social sites are integral parts of teachers' daily life.

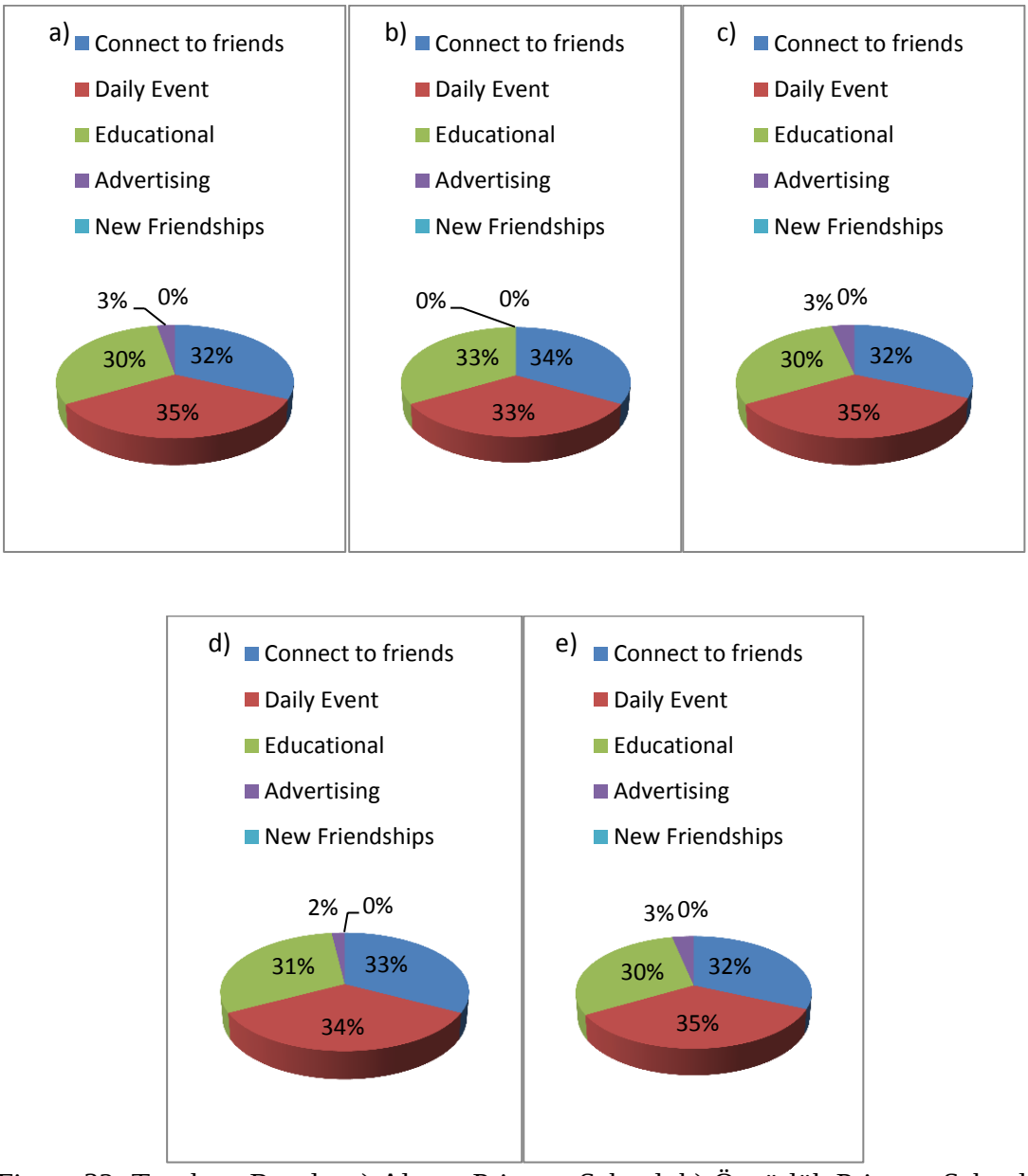

Figure 32: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *social sites purposes.*

By another way, it can be said that (Contact to friends + Daily events = Outside education), social sites usage purposes which are outside the education is around 70% and just only 30% of the teachers have been using for educational purposes. Social sites usage purposes of the teachers were analyzed as: ~34% for daily events, ~33% for "contact to friends" and ~31% for educational purposes.

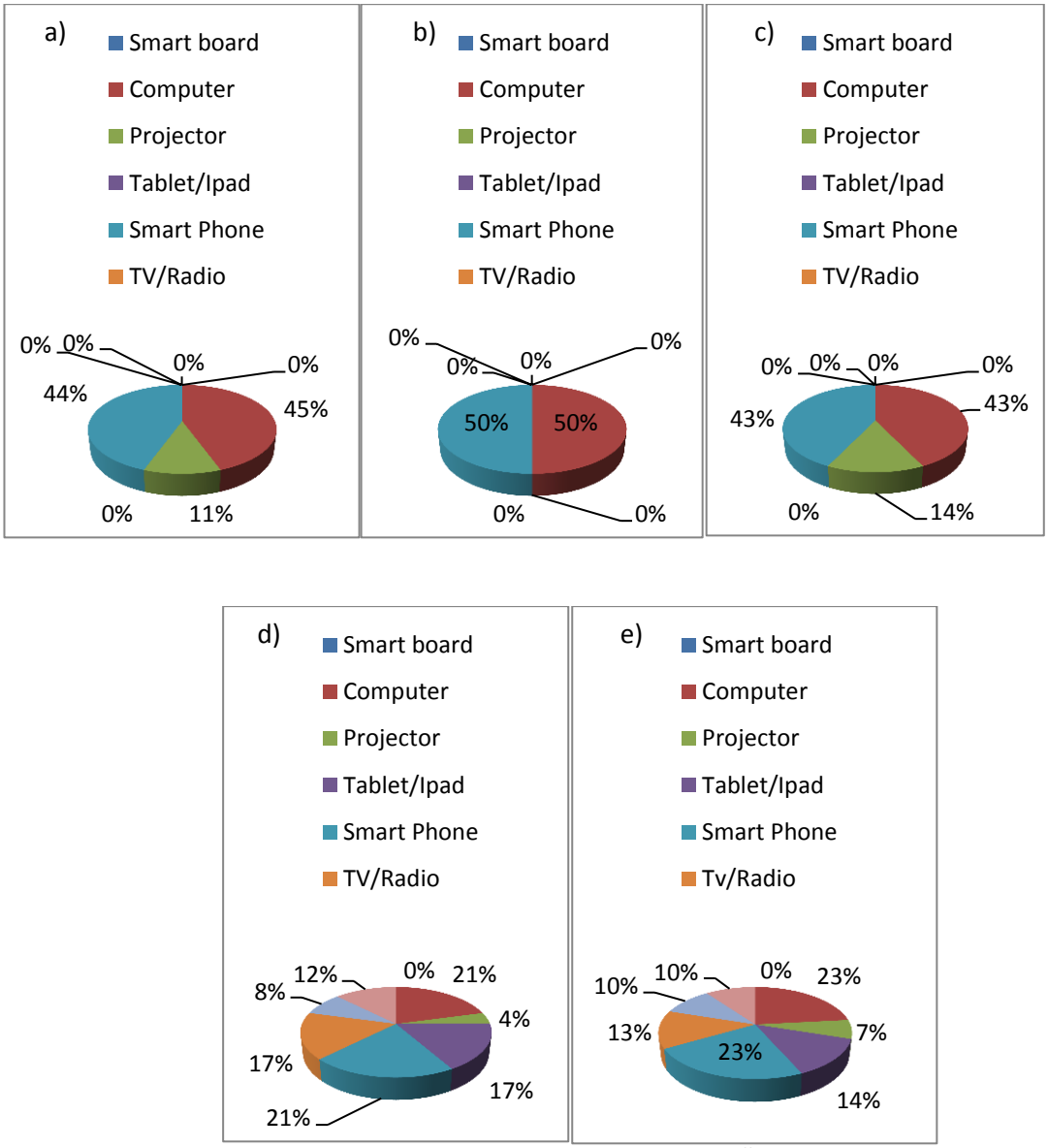

Figure 33: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *technological devices usage.*

As shown in Figure 33 in schools a,b,c 45% are using computer technology and 45% smart phone technologies are used respectively. For schools d,e this percentage decrease into 22% respectively. In reality, computer technologies and smart phone technologies are essential for part of primary schools teachers life.

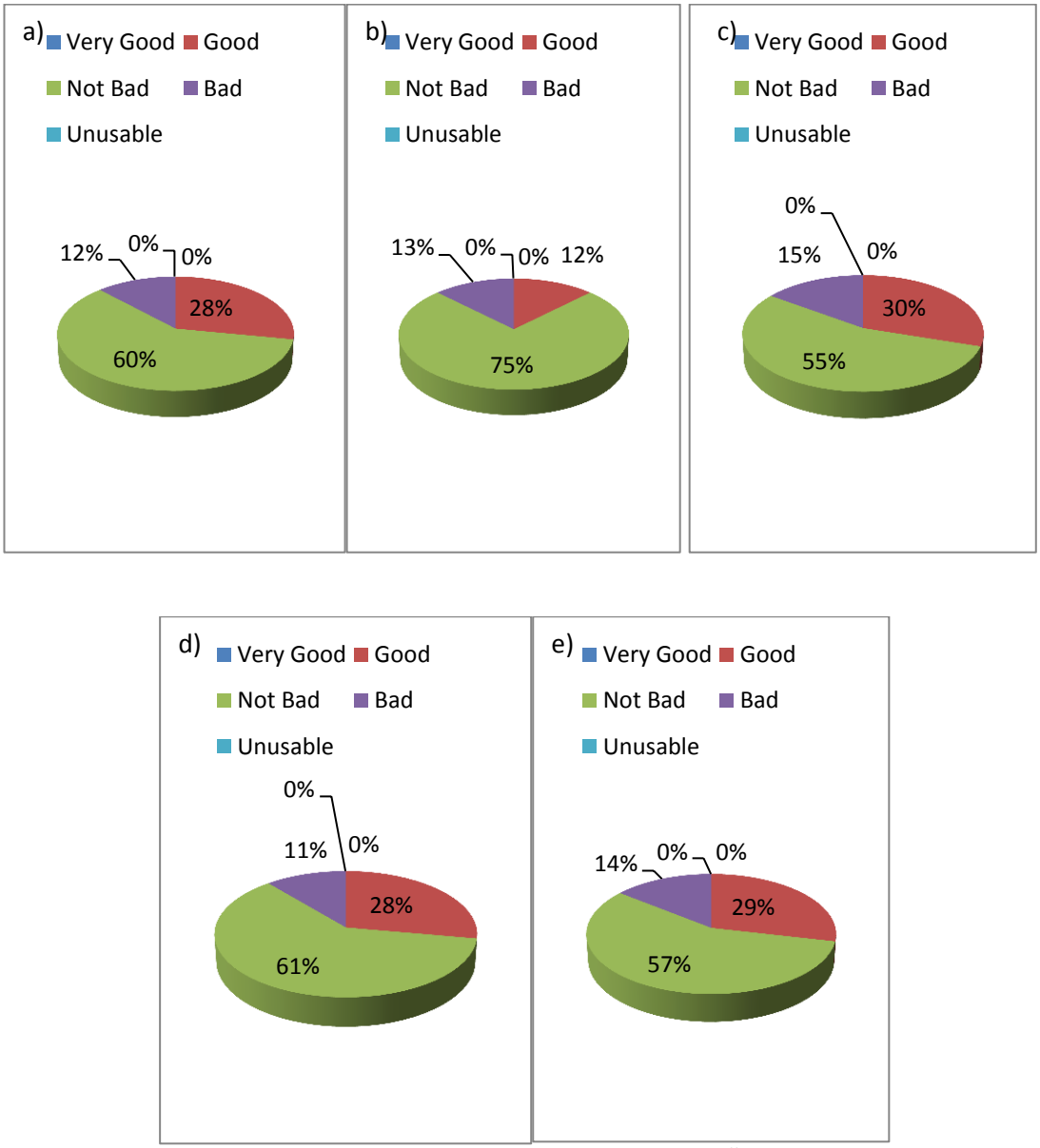

Figure 34: Teachers Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School teacher's results for *measuring usability of their existing computers.*

Approximately 60% of the teachers say ‘not bad’ for their current computers, ~25% say ‘good’, ~13% say ‘bad’. As a result, it can be said that, nearly 85% of the teachers are positive about their computers, only ~15% of them feel negative. So, current computers of the primary schools can be think up to date into today’s conditions. See Figure 34 for details.

4.2.3 School Administrator Survey Results for Primary School

School administrator surveyed as yes for the existance of computer education (100% Özgürlük, Şehit Ertuğrul, Şehit Hasan Cafer and Şehit İlker Kartel Primary Schools), except Alasya. This shows that, computer education among primary schools are very common. This rate is high and quite significant. So, it can be generalized that for the primary schools 5^{th} class existance computer education is very common.

None of the chosen schools have any smart class. 100% of the school administrators responded as no for smart class. These results show that, Ministry of Education does not have sufficient budget for smart classes. This training system is essential to compete with the world. Smart class rate is about ~90% in the USA. This clearly shows that the most developed country give much importance to the smart class in the world.

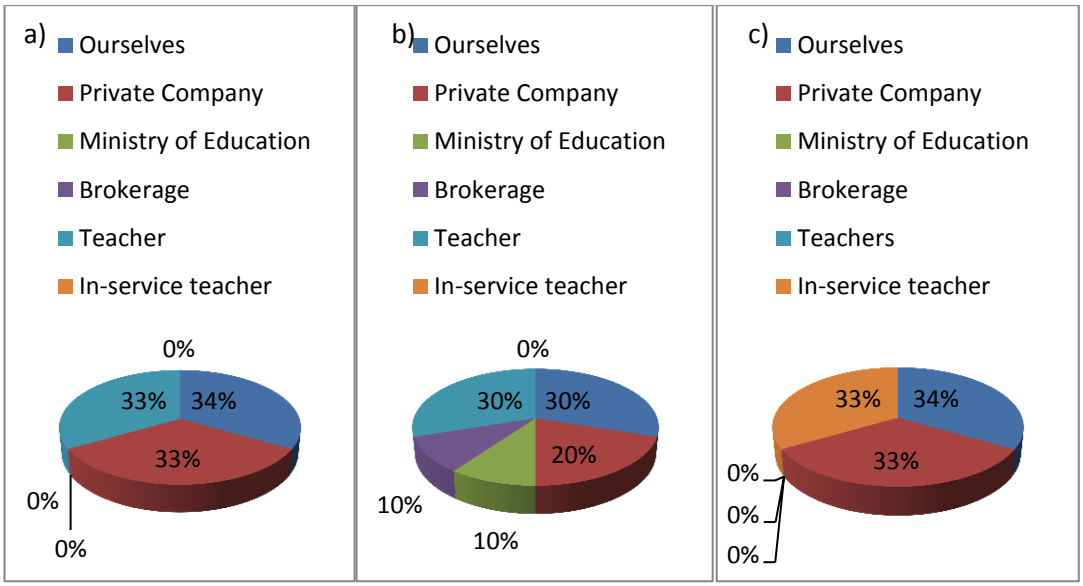

Figure 35: Administrators Results a) Özgürlük Primary School, b) Şehit Ertuğrul Primary School, c) Şehit İlker Kartel Primary School for *Information Technology problems solution methodology*.

As shown in Figure 35, around ~32% of the schools solve their IT problems by themselves, ~32% by teachers and ~28% by private companies. Alasya and Şehit Hasan Cafer Primary Schools solve their IT problems by private companies in their school. Şehit İlker Kartel Primary School ~33% solves its IT problems by in-service teachers. Şehit Ertuğrul Primary School ~10% by brokerage and 10% by Ministry of Education. It should not be ignored that, there is no policy for IT problems solution methodology, so how effective they are using this technology is a big trouble for the Ministry of Education.

There is no computer/technology class in any chosen primary schools. Ministry of Education does not supply and any budget for the computer technology classes in TRNC. To accomplish this, school administrators parent-teacher associations, private companies should work in coordination in order to create opportunities for the technology classes.

Fifth question was about if technology/computer classes, the budget, hardware and software etc. Since the answer is no the question for the technological class in any school, is not countable for now on. School administrators should take necessary action for the technology class by the help of Ministry of Education, in the age of technology.

As administrators discuss, Ministry of Education unfortunately does not have "technology education policy" for the schools. The world has been changing everyday and technology becomes a vital part of the life, so integrating technology to primary schools are the responsibility of teachers, administrators, parents and Ministry of Education.

None of the five schools have any computer education in their curriculum. This can be seen that technological infrastructure is not suitable for computer education in the curriculum of the Northern Cyprus. Since teachers are educated in the fields of technological usage, it is very easy to integrate computer education into primary schools curriculum by the Ministry of Education. This is vital to adapt into worlds technology.

Şehit İlker Kartel Primary School has only computer education in their curriculum. All the other schools do not have any computer education. In Şehit İlker Kartel, all main classes have computer education, from 1^{st} classes to 5^{th} classes. Since Şehit İlker Kartel manages to integrate computer education into their classes, so all of the schools can also manage this.

Alasya, Şehit Ertuğrul and Şehit Hasan Cafer Primary Schools administrators have been communicating with their graduated students through the help of communication technologies but Şehit İlker Kartel and Özgürlük Primary Schools do not communicate with their graduated students. Here, all the schools could be encouraged to communicate with their graduated students, in order to get a feedback in their education system.

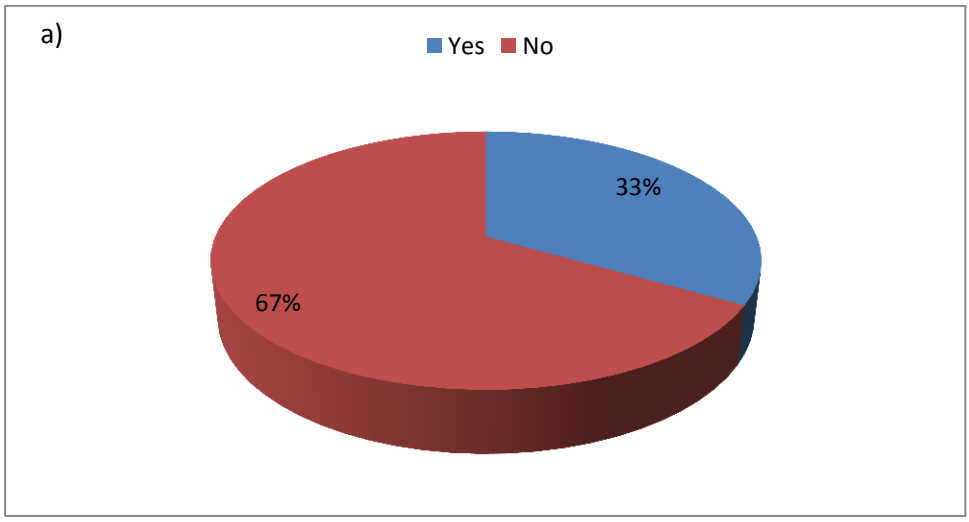

Figure 36: Administrators Results a) Şehit Ertuğrul Primary School for *Information Technology Specialist Requirements.*

Information Technology Specialist Requirements of the schools were questioned and, Alasya and Şehit Hasan Cafer Primary Schools do not need IT specialist, but Özgürlük and Şehit İlker Karter Primary Schools need IT specialist. Since Şehit İlker Kartel Primary School has technology classes and education, so this requirement is quite expected. On the other hand, most probably Özgürlük Primary School is planning to integrate technology education into their curriculum and since they have not had any specialists, this integration is a problem for them. Other schools, most

probably needs helping from the Ministry of Education. Without IT specialist, this integration is not sustainable.

When it is looked at the best world education systems in Finland, Canada and Switzerland; computer education is given to the whole classes in the primary schools. So, technological improvements should be suggested to the Ministry of Education in TRNC primary schools.

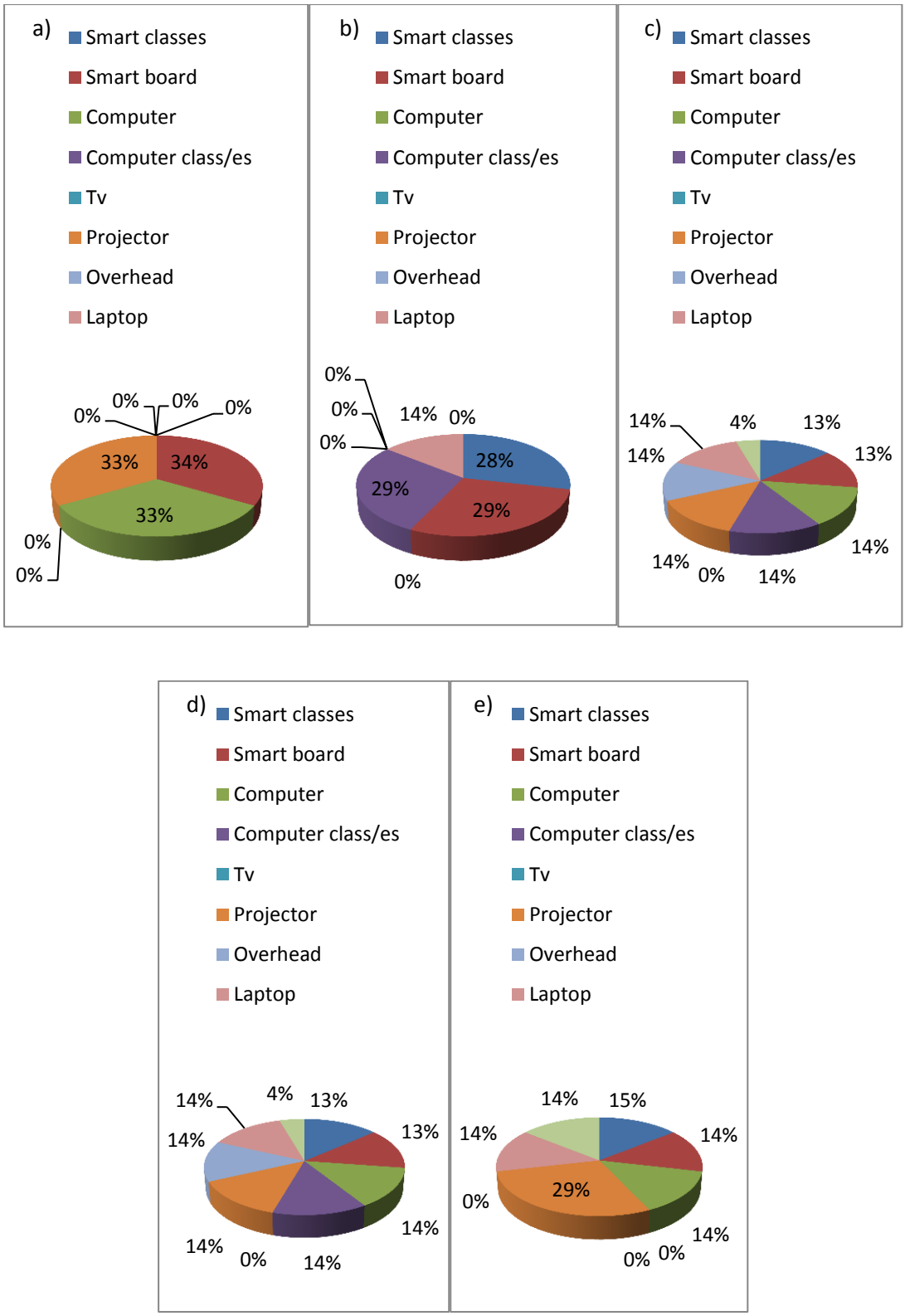

Figure 37: Administrators Results a) Alasya Primary School, b) Özgürlük Primary School, c) Şehit Ertuğrul Primary School, d) Şehit Hasan Cafer Primary School, e) Şehit İlker Kartel Primary School for the requirements of *Technological Devices/Classes.*

In order to determine the primary schools requirements for technological devices/class administrators surveyed, Alasya needs smart board, projector and computers, Özgürlük needs smart board, smart classes, computer class/es and projector, Şehit Ertuğrul needs smart classes/board, computer, computer class/es, tv, projector, tablet/ipad, laptop, Şehit Hasan Cafer needs computer, computer classes, projector, laptop, smart classes/board, Şehit İlker Kartel needs smart classes/board, computer, projector, laptop, tablet/ipad.

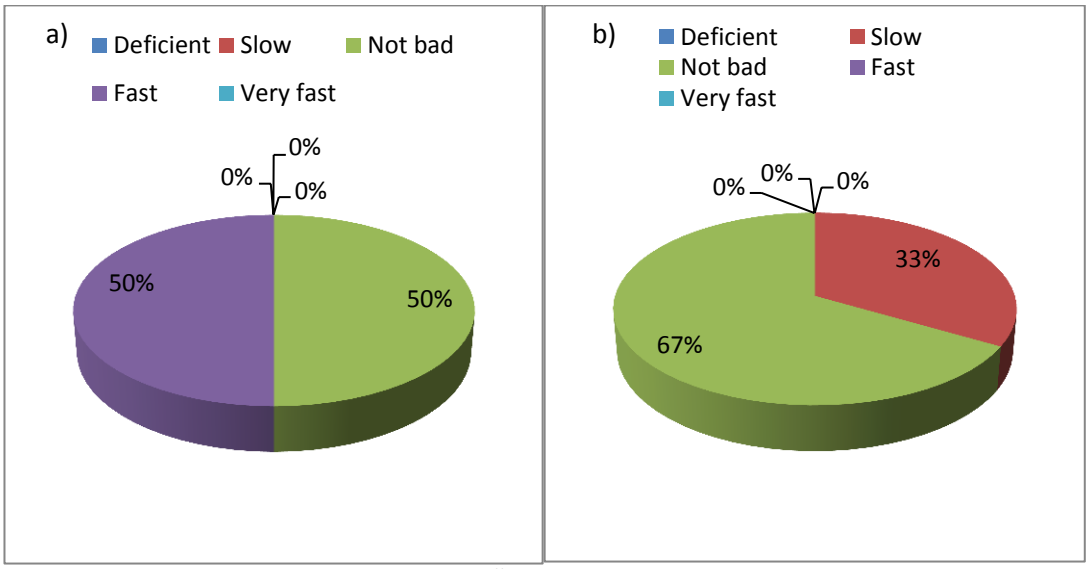

Figure 38: Administrators Results a) Özgürlük Primary School, b) Şehit İlker Kartel Primary School for the *internet access speed.*

Through the administrators internet access speed answered; Alasya, Şehit Ertuğrul and Şehit Hasan Cafer not bad, Özgürlük 50% fast, 50% not bad, Şehit İlker Kartel 67% not bad and 33% slow. As a conclusion, it can be said that administrators feel positive about their internet access speed, but all of them are not 100% optimistic.

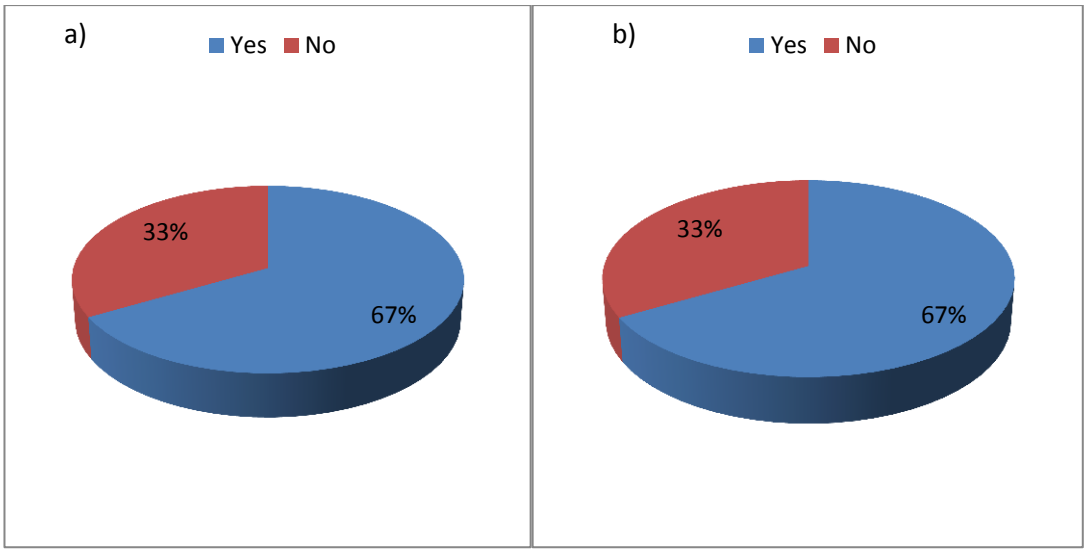

Figure 39: Administrators Results a) Şehit Ertuğrul Primary School, b) Şehit Hasan Cafer Primary School for the taking and education on *effective internet usage*.

Alasya, Özgürlük and Şehit İlker Kartel Primary Schools answered 'no' for effective internet usage. On the other hand, Şehit Ertuğrul and Şehit Hasan Cafer Primary Schools 67% answered 'yes' and 33% answered 'no'. These results show that, school administrators in Northern Cyprus have not taken effective internet education. Technology is extremely important in the area of effective internet usage.

In the chosen schools, administrators did not take any in-service training on IT technologies in education. To keep pace with advances in technology, it should be the main task of the Ministry of Education. Technology renews itself everyday, so primary schools in Northern Cyprus and in particularly their current ICT technologies should be developed in their fields with in-service training.

Alasya, Özgürlük, Şehit Hasan Cafer and Şehit İlker Kartel Primary Schools do not have any family portal. Şehit Ertuğrul Primary School only has family portal. Family portal is a very important application for students tracking system. Family portal is

available in all developed countries. The Ministry of Education should supply a budget for the family portal. Family portal is an emerging technology for current ICT technologies in education.

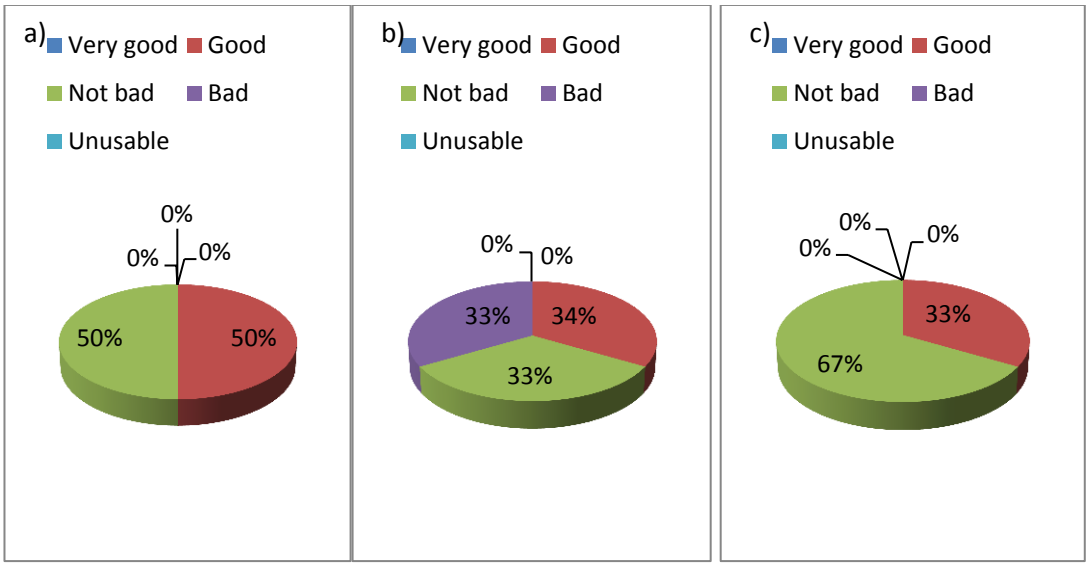

Figure 40: Administrators Results a) Özgürlük Primary School, b) Şehit Ertuğrul Primary School, c) Şehit Hasan Cafer Primary School *measuring usability of their existing computers.*

Alasya and Şehit İlker Kartel Primary Schools answered not bad for the usability of their existing computers. Özgürlük is 50% not bad and 50% good, Şehit Ertuğrul Primary School is 34% good, 33% not bad and 33% bad, Şehit Hasan Cafer Primary School is 67% not bad and 33% good. As a result, it can be said nearly whole primary schools are positive except Şehit Ertuğrul's computers. They need improvements on their computer systems. In order to be standardized in education, current ICT technologies should be kept up to date in the primary schools.

Chapter 5

CONCLUSION

5.1 Conclusion

Current thesis is used for the analysis of current ICT technologies in education and their comparisons with the proposed technologies. Totally 522 students, 92 teachers and 11 school administrators attended in this research. Survey has been carried out for the Primary Schools in the Northern Cyprus during Spring Semester, 2014-2015.

The findings revealed that more than 95% of the students in the chosen primary schools are internet users. This shows that, internet usage among 5^{th} classes in primary school students is very common. Among the effective internet usage, 88% of the students reported positive in the survey. This rate is high and quite significant. Moreover, taken into account the response of the students of internet usage and effective internet usage has become part of their life. Approximately ~90% of the students are daily internet users. Educators should think about 1 to 4 hours daily internet usage. It should be considered that, there is no compulsory technology education in schools, so how effective they are using this technology is a big trouble for the families, and Ministry of Education. Internet usage fields answered as; mostly students are using internet for research purposes (~30%), for their lessons around 23%, then around 20% in homeworks, 17% for contact to friends, yet in Alasya 10% of the students reported that they use internet for sharing notes, and 5% contacting with their teacher.

Around 80% of the students answered ‘no’ for the taken effective internet education. This shows that, effective internet education among 5th class of primary school students is not common. Students connect to internet mostly with mobile then with computers then with ipad/tablet, then with tv. Generally, students do not have any internet connection outside of their computers. Internet service providers of the students in their home was surveyed and it was found that service through wifi, satellite, mobile phone and phone line was received by 35%, 29%, 20% and 12% of the students respectively. Around 80% of the students think positively on their internet access speed.

Considering students’ physical health problems as a result of the use of computers, eye pain, headache, neck pain and continuous sleepiness was reported by 25%, 17%, 12% and 7% of the students, respectively. While Özgürlük, Şehit Ertuğrul, Şehit İlker Kartel Primary Schools have computer education; Alasya and Şehit Hasan Cafer Primary Schools do not have computer education in their schools. On the other hand, almost all the students have computer in their home, but there is no computer education in schools is an adverse situation.

Approximately 35% of the students have nervous disorder, ~22% affectation, ~13% agression of the students in Özgürlük, Şehit Hasan Cafer and Şehit İlker Karter have aggression problems, but this percentage is nearly dublicated in Alasya and Şehit Ertuğrul Primary Schools, so that ~10% of them have fraud problems, ~10% have harassment problems. These results demonstrate that the negativity of internet consequences is a significant issue. Mostly students use facebook, google plus and twitter (41, 31, 13)% , respectively. So, it can be generalized that, facebook is a very important social site for the students. But, there is no control mechanism about how

the students use this site. Ministry of Education should determine a policy for this problem, families should also be educated for helping their children. Approximately 60% of the students use internet for one hour, ~30% of them use 2-4 hours and only 10% of them do not the daily internet user. So nearly ~30% of them use the internet as an addictive level (2-4 hrs.). Educators and ministry should give attention to these percentages. In other words, it can be said that (Contact to friends + Daily events + New friend = Outside education), social sites usage purposes which are outside the education is around 75% and just only 25% of the students are using internet for educational purposes. Social sites usage purposes of the students were resulted as: ~40% of them are using social sites as "contact to friends", ~20% for educational purposes, ~20% for daily events and ~15% for getting new friends.

Alasya and Şehit Hasan Cafer Primary Schools do not have any computer education. On the other hand, Özgürlük, Şehit Ertuğrul and Şehit İlker Kartel Primary Schools have. 82% of the teachers surveyed as positive and only 18% of the teachers surveyed as undecided for Computer-Aided Education in their schools. This shows that Computer-Aided Education among primary school teachers is very common. This rate is high and quite significant. In other words, the teachers have positive perspectives for Computer-Aided Education. Moreover, taken into account the response of the teachers of Computer-Aided Education has become part of their life.

Findings showed that 100% of the teachers have computer in their home. This is quite a big number for primary school teachers. This shows that the computer at home, and at school become an integral part of life in all areas. There is a computer almost in every home of the teachers. Internet connection tools survey resulted as

~43% via computers, then mobile phone around 38% and then tablet/ipad around 10%. Computers, mobile phones and tablets/ipads have become a part of the teachers' daily life.

Around 80% of the teachers have access to the internet in their schools, only 20% of the teachers can access the internet outside the school. Teachers' internet usage fields can be summarized as: 25% lessons, 25% communicate with teacher, 25% communicate with friends and 22% for researches. Health problems of internet usage can be summarized as; 24% affectation, 24% harassment, 22% fraud and 13% nervous disorder. So, most of the teachers have affectation, harassment, fraud and nervous disorder problems through the internet usage.

All of the teachers use internet, five hours and more, which can be accepted as, addictive level (~42%). As a result, it can be said that the teacher has been normally 5 hours in schools (8:00 am to 12:40 pm) and nearly half of them are 5 hours or more in the internet. Once again it showed that, the internet has become an integral part of their life. Here, Ministry of Education should analyze these results and prepare some policies to use their time as efficient as possible. May be full day (8 hours) education might be a good solution for efficient education. Internet usage at home is resulted as; 43% phone line, 22% satellite, 17% mobile phone and 15% through out wifi. So, all of them connect to internet through phone line. This is followed by satellite, mobile phone and wifi, respectively. Around 70% of the teachers are not happy about the internet speed. Only 30% of them say that it is not bad.

Nearly 85% of the teachers believe that their students use internet efficiently, only 15% of them do not believe this reality. These results show that the majority of

teachers are positive about the internet usage of their students. Approximately 65% of the teachers took effective internet usage education, but 35% of the teachers did not. All the teachers have effective internet usage education. So, the majority of teachers have training on the effective usage of internet, 35% is also a remarkable number and these teachers need to be trained.

Approximately 50% of the teachers use facebook, ~30% google plus, ~15% twitter as social sites. So, most of them use facebook, google plus and twitter users. The results show that half of the teachers are facebook users, one third of the teachers are mainly google plus users. Around 45% of the teachers are connecting 2-4 hours/a day, around 40% 1 hour/a day, around 15% five hours or more (addictive level) connecting into social sites per day. Nearly half of the teachers spend their times on social sites. Statistically, this is a remarkable percentage for the Ministry of Education or for the government. All the teachers are social sites users, so social sites are an integral part of teachers' daily life.

Social sites usage purposes which are non-pedagogic purposes is around 70% and just only 30% of the teachers use social sites for educational purposes. Most of the schools use computer and smart phone technologies in their schools but they have insufficient smart boards, projectors technologies in their schools. Statistically 85% of the teachers say that current computers of the primary schools are up to date into today's conditions.

Computer education exists in most of the chosen schools, except Alasya Primary School. None of the chosen schools has any smart classes. This shows that the Ministry of Education does not have sufficient budget for smart board or smart

classes. In the development countries intelligent classes percentage is quite high (~90% in the USA).

Schools are solving their IT problems mostly by themselves, teachers, private companies and in-serviced training teachers. It should be considered, there is no policy for IT problems solution methodology, so how effective they are using this technology is a big trouble. There is no computer/technology class in primary schools chosen. Ministry of Education does not supply and provide any budget for the computer technology classes in TRNC. To accomplish this, school administrators parent-teacher associations, private companies should work in coordination, in order to create opportunities for the technology classes.

All of the school administrators reported that "there is no technology education for the Ministry of Education in the schools". Any country without technology education policy cannot be successfully survived, so the Ministry of Education should think about this policy. None of the five schools have any computer education in their curriculum. This can be seen that technological infrastructure is not suitable for computer education in the curriculum in Northern Cyprus. Since teachers have been educated in the fields of technological usage, it is very easy to integrate computer education into primary schools curriculum by the Ministry of Education. This is vital to adapt into worlds technology. While Şehit İlker Kartel Primary School has only computer education in their curriculum, all the other schools do not. All main classes in Şehit İlker Kartel have computer education, from 1st classes to 5th classes. Since Şehit İlker Kartel manage to integrate computer education into their classes, all of the schools can manage this.

Alasya, Şehit Ertuğrul and Şehit Hasan Cafer Primary Schools administrators communicate with their graduated students through the helping of communication technologies but Şehit İlker Kartel and Özgürlük Primary Schools do not get any feedback from their graduated students. In the light of this idea, all schools should have graduate student communication and cooperation for their improvements. Özgürlük Primary School is planning to integrate technology education into their curriculum and they need IT specialist for this integration. In the world education systems in Finland, Canada and Switzerland computer education is given to the whole classes in the primary schools. So, suggestions can be made for the improvement of technological equipments in primary schools in TRNC to the Ministry of Education.

According to the findings, Alasya School needs smart board, projector and computers, Özgürlük School needs smart board, smart classes, computer class/es and projector, Şehit Ertuğrul School needs, smart classes/board, computer, computer class/es, tv, projector, tablet/ipad, laptop, Şehit Hasan Cafer School needs, computer, computer classes, projector, laptop, smart classes/board, Şehit İlker Kartel School needs, smart classes/board, computer, projector, laptop, tablet/ipad. Internet access speed survey revealed that administrators feel positive on their internet access speed, but all of them are not 100% optimistic. Alasya, Özgürlük and Şehit İlker Kartel Primary Schools administrators did not take education on effective internet usage. On the other hand, Şehit Ertuğrul and Şehit Hasan Cafer Primary Schools administrators have education. Technology is extremely important in the era of effective internet usage, so Ministry of Education should organize in-service training on effective internet usage for the administrators.

In the schools, administrators did not take any in-service training on IT technologies in education. Technology renews itself everyday, primary schools in Northern Cyprus and particularly their current ICT technologies should be developed in their fields through in-service training. Alasya, Özgürlük, Şehit Hasan Cafer and Şehit İlker Kartel Primary Schools do not have any family portal. Only, Şehit Ertuğul Primary School answered 'yes' for the family portal. Family portal is a very important application for students tracking system. Family portal is available in all developed countries. Family portal is an emerging technology for current ICT technologies in education.

Şehit Ertuğrul does not believe that their computers are up to date into today's condition but all the other schools feel positive on this. In order to be standardized in education, current ICT Technologies should be kept up to date into today's conditions.

In todays' century, terminating ICT in education is something that is impossible to go back to the traditional education style. Instead, institutions should find every possible way to implement the effective use of ICT into their curriculum under todays' digitalized world.

The structure challenges that it may influence the education are the absence of the computer labs or computer rooms in their schools, shortage of electricity, lack of internet or very slow speed internet, lack of learning softwares, etc. These show that there is still a need to improve the effective use of ICT in education. Building computer labs in school is something that should not be overlooked in today education so that for ICT, it can be implemented effectively in education.

This researches (internet, computer and technology) have served to identify differences in students, teachers and school administrators analysis of current ICT technologies in education and their comparisons with the proposed technologies. The results demonstrated that internet, social media and technology seem participants' difference to be important source current ICT technologies.

The findings of this study show that students, teachers and school administrators need technology, social media, increase internet advantages and decrease internet disadvantages, for their schools in order to educate their students especially in primary schools.

In current ICT technologies, there is no strict rule like online environment and system, so deciding to use ICTs in teaching as an option may directly improve our educational. If teachers decide to take to the use of ICT as an alternative in classroom, it will help to facilitate the process of learning for students and teaching as well.

5.2 Recommendation and Future Trends

Technology creators always pay their attention for the development of students. So in order to educate the new generations from children, educators should be well trained on the use of todays' technology, administrators should facilitate teachers development on ICT technologies, and parents should be well informed about student tracking system.

Integration of ICT technologies in education is of great importance for the development of technology in education. Therefore, to apply their learning and teacher education programs an elective course on improving existing ICT

technologies is recommended and should be prepared according to the type of ICT course content up to date.

Şehit Ertuğrul Primary School needs improvement as regard to their computer system.

In the age of technology that every single technological improvement in the education system is a big investment for the country needs to be considered by the Ministry of Education.

This means integrating ICT technologies is very easy for the primary schools but there must be a technology policy for the Ministry of Education to facilitate the teachers. Further, that there is a need for developing a policy on the integration of technology in education is another critical issue to be considered by the Ministry of Education.

Besides, further studies made in order to improve preservice and in-service teachers' competences in using current ICT technologies and dealing with the problems arising while they are using them.

Currently, "how ICT technologies such as; internet, social media and technological equipments effects education?" were done and analyzed. The review of literature reveals limited research on this. Future studies should be done to evaluate if teachers' sensitivity and their awareness current ICT technologies change according to their use of internet, technology, social media and technology equipments. Future research is also recommended to examine preservice teachers' awareness and sensitivity level

in other schools, with a larger population in the current context.

The educational system is developing with consistent innovations, so students' perceptions need to be studied to help identify their needs and how best to address and improve them. This study establishes a significant discourse on students', teachers' and school administrators' perceptions for further researchers who wish to adopt similar methodology or concentrate on one type to support findings. By so doing, there will be a larger sample size that will be selected, in which students' perception can be examined separately from that of teachers. This means that ICT experience of students can be studied separately, so is that of teachers.

The innovations of technology are changing everyday and computer-mediated learning is gradually being introduced in both IT and current ICT technologies learning. An extended study from the findings in this discourse will make it possible for new techniques to improve the already existing structure. This will make it possible for students to reconcile the differences they hold and adopt both forms of learning.

There is also a need to conduct further research because additional data on the perception of students will be used to promote programmes of study for institutions of higher learning. In this study, the main focus is on the primary schools of Northern Cyprus. It can be suggested to incorporate other schools after this research.

Additionally, teachers' current ICT technologies could be compared in a future research.

Finally, students, teachers, administrators, Ministry of Education and parents are indispensable parts of education. It is believed that their impact on education could be maximized with well integrated and up-to-date ICT technologies.

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APPENDICES

Appendix A: Student Survey

ANKET

Sevgili öğrenciler,

Bu anketin amacı farklı ortamlarda ve sıkça kullanılan İnternet, Bilgisayar ve Teknolojinin kullanım düzeyleri ve amaçları doğrultusunda görüşlerinizi almaktır. Anketteki sorulara vereceğiniz yanıtlar bu çalışmanın başarılı sonuçlara ulaşması açısından önemlidir. Doğu Akdeniz Üniversitesinde yürütülen bir Yüksek Lisans tez çalışması için veri toplamak üzere hazırlanmıştır. Anket 16 sorudan oluşmaktadır. Vereceğiniz yanıtlar yalnızca araştırma amacıyla kullanılacak başkalarıyla paylaşılmayacaktır.

Yardımınız ve katılımınız için çok teşekkür ederiz.

Cinsiyet: **Erkek:** ☐ **Kız:** ☐

Araştırmacı: Armağan BOYRAZ
Eğitimde Bilgi ve İletişim Teknolojileri Tezli Yüksek Lisans Programı
armaganboyraz44@gmail.com

Sizin için en uygun olan cevabı seçiniz. (X)

Not: Çoklu seçeneklerde birden fazla seçenek işaretlenebilir.

1) İnternet kullanıyor musunuz? ☐ Evet ☐ Hayır
2) İnterneti etkin (yararlı bir şekilde) kullanabiliyor musun? ☐ Evet ☐ Hayır
3) İnternete günde kaç saat bağlanıyorsunuz?
☐ 1 saat ☐ 2-4 saat ☐ 5 ve üzeri ☐ Hiç
4) İnternetin derslerine sağladığı olumlu katkılar nelerdir?

☐ Derslerimde

☐ Araştırma yapınca

☐ Ödevlerimi yaparken

☐ Öğretmenimle iletişime geçerken

☐ Arkadaşlarımla iletişime geçerken

☐ Arkadaşlarımla not paylaşımı yaparken

☐ Diğer varsa belirtiniz. ☐

5) Etkin internet kullanımı ile ilgili herhangi bir eğitim aldınız mı? ☐ Evet ☐ Hayır
6) Evinizde internete nasıl bağlanıyorsunuz?

Bilgisayar kullanarak ☐

Cep Telefonundan ☐

Tabletten/ IPAD ☐

Televizyondan ☐

7) Okulunuzda bilgisayar dışında internet erişimi var mı? ☐ Evet ☐ Hayır
8) Evinizde internet erişimini nasıl sağlıyorsunuz?

Telefondan Hattından (Dial Up/ ADSL) ☐

Uydu (kablolu/kablosuz) ☐

Mobile Phone (Erişim Paketi/ Telsim/ Turkcell) ☐

Wifi Üzerinden ☐

9) İnternet erişim hızını nasıl buluyorsunuz?

☐ Yetersiz ☐ Yavaş ☐ İdare Eder ☐ Hızlı ☐ Çok Hızlı

10) Bilgisayar kullanımından dolayı karşılaştığınız fiziksel sağlık sorunları hangileridir?

☐ Göz Ağrısı ☐ Bel Ağrısı ☐ Parmaklarda uyuşma

☐ Kas Ağrıları ☐ Boyun Ağrısı ☐ Beslenme Bozuklukları

☐ Baş Ağrısı ☐ Bilek Ağrısı ☐ Psikolojik Sorunlar ☐ Sürekli Uyku Hali

☐ Diğer, varsa belirtiniz. ☐

11) Okulunuzda bilgisayar eğitimi veriliyor mu? ☐ Evet ☐ Hayır

12) Evinizde Bilgisayar var mı? ☐ Evet ☐ Hayır

13) İnternetin sağladığı olumsuzluklardan hangileri ile karşılaşıyorsunuz?

Saldırganlık ☐

Sinir Bozukluğu ☐

Özenti ☐

Dolandırıcılık ☐

Cinsel Sorunlar ☐

Taciz ☐

14) Hangi sosyal site/siteleri kullanıyorsunuz?

☐ Facebook
☐ Twitter
☐ Google Plus
☐ Wiki
☐ Hiçbiri
☐ Hepsi

15) Sosyal sitelere günde ne kadar sıklıkla bağlanıyorsunuz?

☐ 1saat ☐ 2-4 saat ☐ 5 ve üzeri ☐ Hiç

16) Sosyal siteleri hangi amaçlı kullanıyorsunuz?

Arkadaşlarımla İletişim ☐

Güncel Olayları Takip Etmede ☐

Eğitim Amaçlı ☐

Reklam Amaçlı ☐

Yeni Arkadaşlıklar Edinmede ☐

Diğer varsa belirtiniz ☐

Appendix B: Teacher Survey ANKET

Sayın Meslektaşlarım,

Bu anketin amacı farklı ortamlarda ve sıkça kullanılan İnternet, Bilgisayar ve Teknolojinin kullanım düzeyleri ve amaçları doğrultusunda görüşlerinizi almaktır. Anketteki sorulara vereceğiniz yanıtlar bu çalışmanın başarılı sonuçlara ulaşması açısından önemlidir. Doğu Akdeniz Üniversitesinde yürütülen bir Yüksek Lisans tez çalışması için veri toplamak üzere hazırlanmıştır. Anket 17 sorudan oluşmaktadır. Vereceğiniz yanıtlar yalnızca araştırma amacıyla kullanılacak başkalarıyla paylaşılmayacaktır.

Yardımınız ve katılımınız için çok teşekkür ederiz.

KATILIMCILAR
Cinsiyet: Erkek: ☐ **Kız:** ☐

Araştırmacı: Armağan BOYRAZ
Eğitimde Bilgi ve İletişim Teknolojileri Tezli Yüksek Lisans Programı
armaganboyraz44@gmail.com

Sizin için en uygun olan cevabı seçiniz. (X)

Not: Çoklu seçeneklerde birden fazla seçenek işaretlenebilir.

1) Okulunuzda bilgisayar eğitimi veriliyor mu? ☐ Evet ☐ Hayır

2) Bilgisayar destekli eğitime nasıl bakıyorsunuz?

☐ Olumlu ☐ Olumsuz ☐ Kararsız

☐ Diğer, varsa görüşünüz

3) Evinizde bilgisayar var mı? ☐ Evet ☐ Hayır

4) Evinizde internete nasıl bağlanıyorsunuz?

Bilgisayar kullanarak ☐

Cep Telefonundan ☐

Tablet Üzerinden/ IPAD ☐

Televizyondan ☐

5) Okulunuzda bilgisayar dışında internet erişimi var mı? ☐ Evet ☐ Hayır

6) İnternetin sağladığı olumlu katkılar nelerdir?

☐ Derslerde

☐ Araştırmalarım esnasında

☐ Öğretmen arkadaşlarla iletişime geçerken

☐ Arkadaşlarımla iletişime geçerken

☐ Arkadaşlarımla not paylaşımı yaparken

☐ Diğer varsa belirtiniz.

7) İnternetin sağladığı olumsuzluklardan hangileri ile karşılaştınız?

Saldırganlık Sinir Bozukluğu Özenti
Cinsel Sorunlar Taciz Dolandırıcılık

8) İnternete günde kaç saat bağlanıyorsunuz?

1 saat 2-4 saat 5 ve üzeri Hiç

9) Evinizde internet erişimini nasıl sağlıyorsunuz?

Telefondan Hattından (Dial Up/ ADSL)
Uydu (kablolu/kablosuz)
Mobile Phone (Erişim Paketi/ Telsim/ Turkcell)
Wifi Üzerinden

10) İnternet erişim hızını nasıl buluyorsunuz?

Yetersiz Yavaş İdare Eder Hızlı Çok Hızlı

11) Öğrencilerinizin internet kullanımını faydalı buluyor musunuz? Evet Hayır

12) Etkin internet kullanımı ile ilgili herhangi bir eğitim aldınız mı? Evet Hayır

13) Hangi sosyal site/siteleri kullanıyorsunuz?

Facebook
Twitter
Google Plus
Wiki
Hiçbiri
Hepsi

14) Sosyal sitelere günde ne kadar sıklıkla bağlanıyorsunuz?

1 saat 2-4 saat 5-üzeri Hiç

15) Sosyal siteleri hangi amaçlı kullanıyorsunuz?

Arkadaşlarımla İletişim
Güncel Olayları Takip Etme Amaçlı
Eğitim Amaçlı
Reklam Amaçlı
Yeni Arkadaşlıklar Edinme Amaçlı
Diğer varsa belirtiniz.

16) Okulunuzda eğitim amaçlı hangi teknolojik cihazları kullanıyorsunuz?

Smart Board (Akıllı Tahta)
Bilgisayar
Projektör
Tablet / IPAD
Akıllı Telefon
Televizyon / Radyo
Tepegöz
Hepsi

17) Mevcut bilgisayarlarınız günümüz koşullarına uygun durumunda mı?

Çok iyi İyi İdare Eder Kötü Kullanılmaz

Appendix C: Administrator Survey ANKET

Sayın Okul Yöneticileri,

Bu anketin amacı farklı ortamlarda ve sıkça kullanılan İnternet, Bilgisayar ve Teknolojinin kullanım düzeyleri ve amaçları doğrultusunda görüşlerinizi almaktır. Anketteki sorulara vereceğiniz yanıtlar bu çalışmanın başarılı sonuçlara ulaşması açısından önemlidir. Doğu Akdeniz Üniversitesinde yürütülen bir Yüksek Lisans tez çalışması için veri toplamak üzere hazırlanmıştır. Anket 17 sorudan oluşmaktadır. Vereceğiniz yanıtlar yalnızca araştırma amacıyla kullanılacak başkalarıyla paylaşılmayacaktır.

Yardımınız ve katılımınız için çok teşekkür ederiz.

KATILIMCILAR
Cinsiyet: Erkek: ☐ **Kız:** ☐

Araştırmacı: Armağan BOYRAZ
Eğitimde Bilgi ve İletişim Teknolojileri Tezli Yüksek Lisans Programı
armaganboyraz44@gmail.com

Sizin için en uygun olan cevabı seçiniz. (X)

1) Okulunuzda Bilgisayarlı Eğitim veriliyor mu? ☐ Evet ☐ Hayır

2) Okulunuzda Teknoloji Destekli Akıllı Sınıf/Sınıflar mevcut mu?
☐ Evet ☐ Hayır

3) Okulunuzda Bilişim Teknolojileri sorunlarını nasıl gideriyorsunuz?

Kendi içimizde ☐

Özel firmalardan destek alarak ☐

Milli Eğitim Bakanlığı aracılığıyla ☐

Tanıdıklar Aracılığı ile ☐

Bilgisayar/ Teknoloji Eğitimi almış öğretmenlerimiz aracılığıyla ☐

Teknoloji alanında hizmet içi eğitim almış öğretmenlerimiz aracılığıyla ☐

Diğer (Varsa Belirtiniz) ☐

4) Okulunuzda ayrı kurulmuş Bilgisayar / Teknoloji sınıfı var mı?
☐ Evet ☐ Hayır

5) 4.soru evet ise / Teknolojik sınıflarınız nasıl oluşturuldu?

MEB aracılığı ile ☐

Bağış yolu ile ☐

Okul aile birliği aracılığı ile ☐

Okulun kendi bütçesi ile ☐

Diğer (Varsa Belirtiniz) ☐

6) MEB'nın Teknoloji Eğitimi Politikası okulunuz için yeterli buluyor musunuz?
☐ Evet ☐ Hayır

7) Okulunuzda Bilgisayar Eğitimi müfredatı var mı? ☐ Evet ☐ Hayır

8) Hangi sınıflarınız Bilgisayar Eğitimi alıyor?

Okul öncesi (4 yaş/Ana sınıf) 1. 2. 3. 4. 5.

9) Okulunuzdan mezun öğrencileriniz ile Bilgisayar ve İletişim Teknolojileri aracılığı ile iletişiminiz oluyor mu? Evet Hayır

10) Okulunuzda Bilişim Teknolojileri Mezunu Uzmanına ihtiyacınız var mı?

Evet Hayır

11) Okulunuzda Bilgisayar Eğitimi Müfredatı zorunlu mu? Evet Hayır

12) Okulunuzda ne tür Teknolojik cihazlara veya sınıflara ihtiyacınız var?

Akıllı sınıflara

Akıllı tahta

Bilgisayar

Bilgisayar sınıf/sınıflarına

Televizyona

Projektör

Tepegöz

Laptop

Tablet/ IPAD

Diğer (Varsa Belirtiniz)

13) İnternet Erişim Hızını nasıl buluyorsunuz?

Yetersiz Yavaş İdare Eder Hızlı Çok Hızlı

14) Etkin internet kullanımı ile ilgili herhangi bir eğitim aldınız mı? Evet Hayır

15) Teknoloji alanında hizmet içi eğitim veriliyor mu? Evet Hayır

Hangi alanlarda belirtiniz.

16) Okulunuzda Aile Portal var mı? Evet Hayır

17) Mevcut bilgisayarlarınız günümüz koşullarına uygunluk derecesi nedir?

Çok iyi İyi İdare Eder Kötü Kullanılmaz