OPINIONS TOWARD IMPLEMENTING COMPUTER TECHNOLOGY INTO K-12 EDUCATION IN THE STATE OF KUWAIT

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by

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CHAPTER I

INTRODUCTION

Purpose of the Study

Technology is everywhere around us. It is a part of every career and personal application. In this manner technology is said to be integrated throughout our lives. Technology must, therefore, be integrated throughout children's school lives as well. In other words, technology is important for every student and every adult as apart of life in a technological society.

Put somewhat differently, it is impossible to deny the tremendous effect rapid technological growth has had on our society. This explosion of new technologies has changed the way we live-from the way we do business to the way we communicate with each other. Technological advancements are also affecting the way we teach and learn. New skills needed in the workplace are catalysts that spur technology use in the classroom (NCATE, 1997).

Therefore, technology must never be separated from teaching and learning. In this manner, the children of any community will go forward into success in a high-tech, information-based society.

As a result, of implementing technology into education, students will possess a strong academic understanding and appreciation of the technology, arts, communication, mathematics, history and the social sciences, natural sciences, languages, and values deemed important by the community, such as honesty, respect for people and property, and work ethics (Xenia Schools: Technology Long Range Plan, 1996).

As we approach the twenty first century, schools and communities across the globe

are embarking with renewed determination to restructure K-12 education. Many educators, parents, and students already believe that technology should be an integral part of K-12 education. To them, the reasons seem obvious that they feel everyone should recognize them. This "common sense rationale" for using technology is based on two major points: number one, technology is everywhere; and number two, technology has been shown to be effective (Roblyer et al., 1997).

The fundamental purpose of incorporating technology into our schools is to enhance the education of the students. Technology that does not advance a student's learning has little value in the classroom. Technology used in conjunction with the most recent research and development findings on learning, however, may help all students achieve more in school (NCREL, 1995).

Computers have the potential to revolutionize teaching and learning. They have this potential for the same reason that they have already revolutionized many other aspects of modern living-because they are uniquely effective tools whose power is so flexible that it can be applied to an almost unlimited variety of important problems across an array of human endeavors (Maddux, Johnson, & Willis, 1997).

According to Sumner, computers have been so well-integrated into daily life that they are becoming more invisible. Computers are used in banking, business, transportation, manufacturing, design, retailing, health, medicine, research, government, legal fields, and education. No matter what career you choose, no matter where you live, your future will involve computers and computing. An important place in that future belongs to people who can operate computers and interpret computer-generated information (1988).

Indeed, computer knowledge and skills will be needed for a growing population of tomorrow's work force. In the past decade, according to the United States presidential

task force's report, the number of jobs requiring computer skills has increased from 25 percent of all jobs in 1983 to 47 percent in 1993. By 2000, the report estimates, 60 percent of the nation's jobs will demand these skills -and pay an average of 10 to 15 percent more than jobs involving no computer work (Oppenheimer, 1997).

According to Maddux, Johnson, and Willis the computer has the potential to be education's single most useful teaching and learning tool. All areas of education can benefit from the use of computer technology. Many students find interactive learning interesting, informative, and enjoyable; therefore, using the computer as a tool greatly benefits the learning process (1992).

All in all, most of the literature substantiates computer technology as a reality in the educational and social environment. It also uncovers a wide array of evidence relating to the effectiveness of computer technology on student's education.

The economic and technological playing field is not always level. The advantage seems to favor those schools and countries that have technological advantages-if not now, surely in the not too distant future. As a result of this assumption, the writer felt this issue was of paramount importance to the educational process in his own country, the State of Kuwait.

This study was undertaken in an effort to help better understand administrators, teachers, students, parents, and community members opinions toward the idea of implementing computer technology in K-12 education in the State of Kuwait. One of the purposes of this study was to provide insight on how the Kuwaiti people value computer technology. The main purpose of this study was to evaluate the technology climate in the State of Kuwait.

Problem Statement

The purpose of this study was to analyze the opinions of administrators, teachers, students, parents, and community members in the State of Kuwait regarding the issue of implementing computer technology in K-12 education. One specific question was, if computers were advocated, should they be used as an independent discipline area, or should they be integrated into all other subject matters, or both.

Assumptions

Several assumptions were made in this study. First, it was assumed that all the subjects answered the Likert scale survey truthfully, thoughtfully, and honestly. Second, it was assumed that all the subjects were aware of computer technology.

Limitations

One of the limitations of the study was the inability to survey a large population of subjects (i.e., administrators, teachers, students, parents, and community members) due to the fact the the writer was residing in the United States during the data gathering period of this project. Findings might have been more representative with larger number of participants. Another limitation of the study was the limited amount of knowledge that the Kuwaiti people (i.e., participants) had about the issue of computer technology and its implementation in K-12 education.

The writer chose the Likert scale questionnaire format as the tool to gather the pertinent information for the study. A limitation of the Likert scale questionnaire was the vulnerability of the variance to biasing response sets. For example, Isaac & Michael claim

that educational research demonstrated the individuals had tendencies to rate high in one response on the rating scale (1995). A fourth limitation was that the terminology computer technology may have been interpreted differently by the subjects surveyed. My last limitation was one of having limited time to complete this project.

Definition of Terms

Achievement is the amount of gain or difference in pre and post test scores as measured by the computer or standardized test.

Attitude is a feeling towards something. A positive attitude may be indicated by an individuals's enthusiasm, while a negative attitude may be indicated by an individual's frustration or anger (P. Heller, M. Padilla, B. Hertel & R. Olstad, 1988).

Attitude refers to the participant's positive or negative reactions or feelings toward a topic

CAI (computer-assisted instruction) software designed to help teach information and/or skills related to a topic; also known as computer-based instruction (CBI), or as courseware (Roblyer, Edwards, & Havriluk, 1997).

CAI (computer-assisted instruction) most current term for teaching with computers; using programs (e.g., drill and practice, tutorial, and simulations) that either teach students new information, reinforce concepts they have learned previously, or change their attitudes in some predetermined way (Simonson & Thompson, 1997).

CIPP model this model provides a basis for making decisions by delineating, obtaining, and providing useful information for judging decision alternatives. Put somewhat differently, the CIPP model provides a service function by supplying data to administrators and decision-makers charged with conduct of program. The CIPP model is

divided into four evaluation research. They are consequently as follow: context evaluation, input evaluation, process evaluation, and product evaluation research. This model also called STUFFLEBEAM model. (Isaac, & Michael, 1995).

Computer an electronic device, controlled by commands stored in its internal memory, that can accept and store data, perform arithmetic and logic functions, and output information without the need for human intervention. Or any device that can receive and store a set of instructions in a predetermined and predictable fashion. The definition implies that both the instructions and the data on which the instructions act can be changed; a device whose instructions cannot be changed is not a computer (Simonson & Thompson, 1997).

Computer literacy term coined by Arthur Luehrmann in the 1960s to mean a set of basic abilities everyone should have with computer systems; now has variable meanings (Roblyer, Edwards, &Havriluk, 1997).

Computer literacy general skills and perceptions needed to function effectively in a society or segment of society that is dependent on computer and information technology. Being able to make the computer do what one wants or needs it to do (Merrill et al., 1996).

Computer literacy is knowledge and skills about computers and any machine, object or item that is used with computers.

Computer technology for this paper computer technology, unless specifically stated other wise, will refer to computer literacy.

Disciplines is the different academic areas, including but not limited to computer application, computer literacy, language arts, math, science, and social studies.

Drill and practice an instructional software function that presents items for students

to work (usually one at a time) and gives feedback on correctness; designed to help users remember isolated facts or concepts and recall them quickly (Roblyer, Edwards, & Havriluk, 1997).

Education to create favorable opportunities enabling individuals to grow on all levels: spiritually, morally, intellectually, socially and physically in as much as their aptitudes and abilities could permit relevant to the nature, philosophy and aspirations of the Kuwaiti society and in accordance with the principles of Islam, Arab and contemporary culture. The aim is to strike a balance between individual's interests and the society needs for positive participation in the progress of the Kuwaiti society in particular, the Arab society and the world in general (Ministry of Education in the State of Kuwait, 1976).

Electronic mail (e-mail) a type of software that provides for the easy sending and receiving of messages (e.g., letters or notes) from one computer to another, or from one person to one or more other people via telecommunications (Simonson & Thompson, 1997) (Roblyer, Edwards, & Havriluk, 1997).

Governorate One of five equal regions in the State of Kuwait. It is roughly equivalent to counties or parishes in the United States.

Integration is the combining of two or more curriculum into the same lesson or project.

Internet a complex interconnection of networks which links millions of computers in thousands of networks on all continents. Networks connected through the Internet use a particular set of communications standards to communicate, known as TCP/IP (Simonson & Thompson, 1997).

Likert scale survey refers to a simple and widely used survey to measure attitudes.

Low-ability/aptitude student is defined, for the purpose of this study, as a student

who has been assigned, by reason of previous achievement and/or standardized test scores, to a homogeneously grouped "low-track" or fundamental level class.

Multimedia a computer system or computer system product that incorporates text, sound, pictures/graphics, and/or video (Roblyer, Edwards, &Havriluk, 1997).

Simulation type of software that models a real or imaginary system in order to teach the principles on which the system is based (Roblyer, Edwards, &Havriluk, 1997).

STUFFLEBEAM model this model provides a basis for making decisions by delineating, obtaining, and providing useful information for judging decision alternatives. Put somewhat differently, the STUFFLEBEAM model provides a service function by supplying data to administrators and decision-makers charged with conduct of program. The STUFFLEBEAM model is divided into four evaluation research. They are consequently as follow: context evaluation, input evaluation, process evaluation, and product evaluation research. This model also called CIPP model. (Isaac, & Michael, 1995).

Technology is the use of computer hardware and software (Dyrli & Kinnaman, 1995).

Technology reveres to tools that can be used by the teacher to instruct, supplement, or enhance lessons with the use of computers, scanners, CD-ROM's, laser discs, televisions, video cameras, presentation equipment, graphic calculators, or on-line services.

Telecommunications communications over a distance made possible by a computer and a modem or a distance learning system such as broadcast TV (Roblyer, Edwards, &Havriluk, 1997).

Tutorial a form of CAI, or CBI, where the computer carries on a dialogue with the

student, presenting new information and giving the student a chance to practice becoming proficient at the new skill or concept (Simonson & Thompson, 1997).

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Computer technology has almost forty year history in education since it was first introduced as an educational tool in the late 1950s and the beginning of 1960s. Since then, a myriad of research and conceptual papers have documented the paramount importance of computer technology on students education. For instance, research in this section will indicate that computer technology has the potential to increase student achievement in standardized tests, increase student motivation toward learning, and increase student engagements in schools.

Because of the large number of studies undertaken in the last forty years since the first appearance of computers as an educational tool, the review of literature that the writer will present in this section is divided into three sections; (a) the effects of Computer-Assisted Instruction (CAI) on student education, (b) computer technology and the teaching environment, and (c) data supporting the need for teaching computer technology knowledge and skills.

The Effects of Computer-Assisted Instruction (CAI) on Student Education

A myriad of studies and conceptual papers have documented the significant role that CAI has had on student education in all disciplines and among all grade levels in the last four decades. Many researchers have undertaken studies which show computers help increase test scores. In addition, many students seem to spend more time-on-task even though there is a decrease in the amount of time necessary to learn. Finally, students seem to have a more positive attitudes toward subject matter (Kulik, 1983). One can thus

imagine that such developments might well build higher self-esteem.

In 1977, Hartley used a meta-analysis, a study that reviews other studies, of CAI as it impacted on mathematics education in elementary and secondary schools. This analysis reported that the effect of CAI in mathematics raised student achievement scores 16 percent. She also concluded in her study that elementary students did better than secondary students with CAI (Hartley, 1977).

Burns and Bozeman (1981) conducted a meta-analysis of forty studies to determine the effectiveness of CAI mathematics in elementary and secondary schools. They also investigated the relationship between CAI and academic achievement. Their review indicated that CAI should be used for either the tutorial or drill-and-practice mode or as a supplement to instruction. CAI mathematics is not a replacement for traditional classroom instruction. Among other findings in support of CAI, drill-and-practice and tutorials CAI were more effective than the use of traditional methods alone. CAI also seemed more effective at the elementary than at the secondary level.

The results reported in Kulik, Bangert, and Williams (1983) indicated that 51 previous studies of CAI in various content areas in grades six through twelve were similar to those of Burns and Bozeman (1981). They examined five variables in their study: drill-and-practice, tutorial, computer-managed teaching, simulations, and programming. Both of these studies of CAI, 39 of the 48 studies, found a positive effect on student learning, student retention, and student attitudes. These effects seem to be "especially clear in studies of disadvantaged and low-aptitude students" (p.25). A total of 23 studies favored CAI, and only two favored traditional teaching methods. Twenty-seven of their studies involved mathematics classes. Thus, while the studies were not unanimous the edge clearly appears to support the use of CAI.

In 1983, Bradley conducted a study of high school students studying United States history using CAI. He used the computer to help assist his instruction in class. Bradley used a standardized pre- and post-test to assesses student achievement. He noted that there were no substantial differences in the attitudes of the group using CAI compared to a control group that received only traditional instruction. He concluded that student achievement was better with the group using CAI compared to the control group (Bradley, 1983).

Simulations offer the opportunity for the learner to gain content knowledge by virtue of their high level of involvement in the simulation experience. In a 1985 review of college business simulations, Joseph Wolfe concluded that a positive correlation existed between academic achievement levels and participation in simulation games, partially as s result of this interactive element. Research has demonstrated also that simulations are helpful in increasing interest in learning. Students with low academic achievement scores report much greater interest in learning when simulations are utilized (Butler, 1988). Other students reported that they enjoy learning more from simulations as opposed to other teaching methods because of the novelty factor of simulations (Klein & Freitag, 1975).

In 1986, Marsh examined a group of 30 college prep students. He wanted to study the effects of CAI on student achievement scores. An experimental and a control group were created to determine if computerized instruction had an effect on student achievement scores compared to that of a regular teaching methods in social studies. The experimental group used only CAI. The control group received traditional social studies instruction. The results of Marsh's study concluded that CAI was effective and better than traditional teaching methods (Marsh, 1986).

A study by Dalton and Hannafin (1988) examined the relationship between CAI and

traditional instruction with respect to remediation in mathematics. Their subjects were divided into four groups. Half of the students initially received traditional instruction, the other half were taught by CAI. For remediation purposes each group was then subdivided so that half of them were given CAI remediation and half received traditional worksheets. An analysis of variance indicated that neither method of initial instruction was better than the other but "there was significant interaction between initial instruction and remedial strategy" (p. 30). Put somewhat differently, students benefited more when the delivery system for remediation was different from the one employed for initial instruction. It did not appear to matter whether the initial instruction was traditional taught or presented using CAI. Using a variety of remedial systems seemed to result in higher achievement.

A later review and analysis carried out by Roblyer (1989), used more recently developed methods of calculating effect sizes (measures of impact) to examine the results of 81 previous studies. His study cast doubt on the differential effect of CAI on students of different abilities noted by Kulik et al. (1983), nevertheless it did support the positive effect on computer-use on student achievement and on attitude toward school and subject matter.

In 1989, The Office of Technology Assessment reported that elementary children who used computers showed gains in achievement between one and eight months higher than non computer using peers (Marsh, 1993).

Furthermore, when using a self constructed computer attitudes study, Knight & Hawes (1990) found that practicing reading at the computer ranked second and reading stories on the computer ranked sixth among their second graders when comparing attitudes toward 27 different reading instruction strategies.

In a different type of study done using third grade students CAI was used as an aid in

learning music reading skills. This study used the pre- and post-test method. The music reading skills included staff identification, pitch identification, and duration identification. Two different elementary schools were used in this study, one urban and one rural. Since a standardized test was not available to test these areas, the researcher had to design her own test. There was also a control group utilized in this test. Data was analyzed using a series of 2 x 2 analyses of variance, as well as a t-test. Although both groups achieved gains, the results showed significant gains of the CAI groups over the control group (Roach, 1990). This study appears to indicate that CAI not only can be used effectively in the traditional classroom areas, but also in other areas.

Houghton (1990) reported increases in student achievement and attitudes among second graders when she incorporated computer activities designed to aid visual memory of spelling words and heighten student motivation during a ten week practicum intervention.

Over three year period, Beyer, Richard & Lancaster (1991) looked at small rural schools in Maryland, Pennsylvania, and New Jersey to examine the potential of CAI in improving academic performance and attitude. Attitude surveys at the ends of the first and second school years showed that students attitudes were consistently positive as they indicated they found computers fun to work with and easy to use, and they reported that they learned a lot on computers. Perhaps one of the most important aspects to their research was that the survey conducted at the end of the third year indicated that students perception of the positive impact and exposure to CAI had not dissipated over time.

Several researchers have conducted multi-school-analysis on the attitudes of students using CAI. Gilman (1991) compared pre- and post-measurements of student attitudes in four elementary schools in Mount Vernon, Indiana involving students in grades 1-6. His

study found that highly significant increases in positive attitudes toward instruction technology occurred in all grades except first between the beginning and the end of the school year with the use of integrated CAI.

In 1992, Despot reported that the computers used by second graders in a low socioeconomic suburban school for authentic literacy experiences, such as developing the writing process and word processing, resulted in 90.3 percent of participants expressing positive attitudes and feelings in their writing logs.

In 1992, Boone and Higgins adapted a social studies textbook to a hypermedia format. They wanted to increase the quality of instruction time, decrease the demand for individualized teacher instruction, and promote a change in which the way their subject was taught. The study consist of two groups, the experimental group and the control group. The experimental groups used either a combination of classroom lecture and computerized instruction, or a computerized instruction only, whereas, the control group only received traditional classroom lecture. Boone and Higgins concluded that student achievement increases with a combination of lecture and computerized instruction on social studies tests and quizzes, in comparison to groups that received only lecture or just used computerized instruction (Boone, & Higgins, 1992).

In meteorology, Gardner (1992) conducted a study on third grade students in the Atlanta, Georgia area. She concluded that a combination of "hands-on" and CAI activities appeared to increase both her students' knowledge and positive attitudes toward this area of study.

Student education has been affected by the computer-assisted instruction not only in the United Sates, but also internationally (e.g., Japan, Germany, Netherlands, Austria, and Greece). For instance, in the Netherlands, Doornekamp (1993) reported that

students had positive enthusiasm for using computers in the classroom. He also discovered that secondary students who were not interested in an academic subject matter when presented in ordinary lessons reported that they enjoyed learning about the same subject matter when doing so by computer.

In 1994, Rock and Cummings conducted a study of fifteen schools of different ethic, socioeconomic status, and grade levels to see if videodiscs could improve student outcomes in science. The students who participated in this study ranged from grade 1 to 12. The schools that were involved in this study were from urban, suburban, rural areas, and from eight different states. All 15 schools collected their data by using standardized tests. Scores were compared with schools that were not using videodisc instruction with similar characteristics. Comparisons were made after the first semester of instruction. The results showed no significant standardized score difference between the scores of the two groups. This was interesting because the groups using the videodisc were of lower achievement and socioeconomic status, and the high achieving group was taught by traditional teaching methods. The results illustrated that lower achieving students' scores increased after using videodiscs in science, and that their rate of growth in achievement was better than that of the high achieving group. Also, positive changes in student achievement had a direct relationship in students' attitudes toward videodisc instruction. The researchers concluded that videodisc can improve student outcome (Rock & Cummings, 1994).

Several studies have addressed the attitudes of specific groups of students toward CAI including students at-risk of dropping out of school, gifted students, low ability learners, those diagnosed with reading difficulties, and students for whom English was a second language. In general, studies with these specific groups have indicated positive

attitudes toward CAI. Specifically, Newman (1995) found positive attitude changes in 86 percent of the students in grades 1-5 diagnosed with reading difficulties who read one or more levels below their grade level after a three-year study of reading intervention techniques employing CAI at a Cincinnati, Ohio public school.

Another study conducted by Zoni on seventh grade at-risk students (i.e., disinterested, unmotivated, and likely to leave school). The results of the study showed that attitudes toward writing and written assignments by seventh grade at-risk students improved when microcomputers, word processing, and telecommunications technology, such as e-mail, were incorporated into language arts assignments. An additional benefit was a dramatic improvement in the amount of time the students spent on-task (Zoni, 1992). Furthermore, Su (1990) conducted a 30-week study. He concluded that gifted fourth grade mathematics students reported that the inclusion of CAI in the introduction and review of math concepts to be both motivational and confidence-building.

Proponents of CAI are confident that the integration of computers into the classroom will, with proper use of the appropriate drill-and-practice or tutorial software, improve student academic achievement and, at the same time, acclimate them to the use of technology which is playing an ever-increasing role in society (Burns & Bozeman, 1981; Garrett, 1995).

Another study in which CAI served as a supplement to traditional classroom instruction involved urban high school students in two business education classes (Din, 1996). The two classes received five-to-ten minutes of daily lecture followed by individual work. Each class was divided in half, with one half using drill-and-practice CAI while the other half read the text and did related assignments. After twenty-five minutes, the students who had been using the computers went to their seats and the other students

went to the computers. Din looked at two variables. First, he compared the achievement of students in each group, then, he compared the amount of time each student spent off-task. Achievement was measured by comparing grades received on-seat work assignments with those received on CAI. Off-task behavior was measured by recorded observations. Din concluded that student achievement with CAI was significantly higher and off-task time for the CAI group consistently shorter. Students also exhibited fewer disruptive behaviors during CAI, although no causal relationship was proven.

Likewise, Enix (1996) conducted a similar study with sixth grade creative writing students with the results showing a similar positive influence in attitudes toward the writing process when students were given the opportunity to work on computers.

Summary of the Effects of CAI on Student Education

There is no longer a question about whether the CAI will be used in schools. Nearly everyone agrees that CAI has had a significant role on students education in all disciplines and among all grade levels in the last four decades. Research indicates that CAI seems to have the potential to increase student achievement in standardized tests, increase student motivation toward learning, and increase student engagement in schools.

Computer Technology and the Teaching Environment

The word computer is a recent addition to the English language, but it is now used with great frequency. The objects that this word refer to are examples of how technology is changing us, not only in the way we speak but in the way we work and live each day. Computer technology is an expression of the commitment to the ongoing pursuit of knowledge via disciplined inquiry into the uses of computers and related technology as

tools for teaching and learning.

There is an overall consensus that technology is having an impact on our world (Robert & Ferris, 1994). David (1994) stated that ever since microcomputers came on the scene more than a decade ago, there have been claims of how technology holds promise for revolutionizing education.

Technology has become an important tool in education. It has become an integral part of learning, of curriculum development, and of staff development. We use technology to deliver services, engage learners, and promote collaboration and communication. To use technology effectively we must consider its uses and its potential in our schools.

Not only does technology represent an area of mastery for students, but it also represents a tool whereby the learning environment of the subjects areas can be improved whether through remediation, enrichment, or just additional practice in basic concepts. The use of technology for these purposes is specially important in the core curriculum.

Through familiarity with and mastery of school based technologies, students seem to become more responsible, capable, self actualizing citizens prepared to have the opportunity to function in a technology society and to meet the challenges of the twenty-first century. Advanced technology will help students improve in basic academic and aesthetic areas (reading, computing, writing, speaking, listening, plus art and music), as well as in enhanced creativity and self-esteem. In other words, computer technology actually encourages the students to collaborate more than in traditional classrooms. Students also learn to explore and represent information dynamically and creatively; utilize critical thinking skills for problem-solving and decision-making; possess effective communication skills; become independent learners and self-starters; and become more socially aware and confident.

Put somewhat differently, students switch from passive to more active learning. One important student role is an explorer. Students discover concepts, connections, apply skills by interacting with the physical world, materials, technology, and other people. Such discovery-oriented exploration provides students with opportunities to make decisions while figuring out the components/attributes of events, objects, people, or concepts (ISBE, 1995).

Educators believe that technology that does not advance a student's learning has little value in the classroom. Technology used in conjunction with the most recent research and development findings on learning, however, can help all students achieve in school (NCREL, 1995). Technology in education is an effective tool for teaching and learning. The fundamental purpose of incorporating technology into the school systems is to enhance the education of the students. In other words, to use the current available technology for the betterment of their lives and for life-long learning.

Today around the globe, there are schools and classrooms where learning is happening differently than in most other schools and classrooms. There are places where students and their teachers are using networking technologies to find what few learners are capable of imagining (Pedroni, 1996).

In the United States, the majority of leading educators believe that computer technology has the potential to be an integral part of the teaching-learning environment at all levels. Hence, the use of available and emerging technology by teachers to improve instruction in schools is of particular interest as nation moves toward the next century and the implementation of GOALS 2000. This is of specific importance in addressing Goal 4: The nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge

and skills needed to insure and prepare all American students for the next century; and Goal 6: Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibility of citizenship (GOALS 2000: Educate America Act, 1994).

The Office of Technology Assessment (1995b) estimates that the number of computers in K-12 schools increased by 300,000 to 400,000 a year during the past decade. The total number of computers in schools is estimated to reach 5.8 million during 1995, one for every nine students.

Thus, over the past decade an estimated $20 billion has been spent on more than 5.8 million computers for America's classrooms. That is not surprising. We constantly hear from Washington that the schools are in trouble and that computers are a godsend (Gelernter, 1996). Even the President of the United States has launched a national effort to make every young person technologically literate by the dawn of the 21st century. President Clinton stated that in American schools, every classroom must be connected to the information superhighway with computers and good software and well-trained teachers (Winters, 1996).

At one time, computers in many schools appeared to go unused. Now, however, there is no subject in school that is untouched by a computer, and computers are a very powerful educational tool as much as a wonderful communications tool that are too useful to ignore. So, what has changed? Today, there is no subject in school that is untouched by a computer, from drawing programs in art classes, midi programs for music, translation programs for language classes, word processors for English classes, spreadsheets and data base programs for mathematics and science classes, CAD for design and tech classes to CD-ROMS, CDIs and Laser discs in the library and elsewhere (Bonavent, 1996). There is

the Internet where technology is speeding its way into society in general and schools in particular by bringing with it endless amounts of information. Let students turn on that computer and let them turn on the world.

It is clear that computer technology has undeniable value and an important instructional role to play in America's classrooms of the future (Roblyer, Castine, & King, 1988). There is no denying that computer technology has the potential to perform inspiring feats in the classroom. It improves both teaching practices and student education. Therefore, computers should be in schools. They have the potential to accomplish great things in schools. With the right software, they could help make science tangible or teach neglected topics like art and music. They could help students form a concrete idea of society by displaying on-screen a version of the city in which they live -- a picture that tracks real life moment by moment (Gelernter, 1996).

In practice, however, computers can help to create educational nightmares. While we bemoan the decline of literacy, computers discount words in favor of pictures and pictures in favor of video. While we fret about the decreasing cogency of public debate, computers dismiss linear argument and promote fast, shallow romps across the information landscape. While we worry about basic skills, we allow into the classroom software that will do a student's arithmetic or correct his/her spelling (Gelernter, 1996).

Teachers are in the business of communicating. Teachers teach students how to communicate through reading, writing, listening, and speaking. The computer is a wonderful communications tool. Teachers should learn how to use a word processing program and teach their students how to use one as well. One computer can be used by the students to write all kinds of stories and articles and eventually a classroom newspaper and student books. Teachers are also in the information business. Teachers

teach students how to find, analyze and present information. Teachers should know how to use the Internet to find information and teach their students to do the same. They should know how to keyboard and use a word processor. They should also learn the basics of navigating the Internet. Then, teachers and students can share their writing with others around the world through the Internet (Bonavent, 1996).

There is no denying that computers have the potential to help individuals perform inspiring feats in the classroom. If we are ever to see that potential realized, however, perhaps we might consider Gelernter's three conditions. First, there should be a completely new crop of children's software. More of today's offerings show no imagination. There are hundreds of similar reading and geography and arithmetic programs, but almost nothing on electricity or physics or architecture. Also, they abuse the technical capacities of new media to glitz up old forms instead of creating new ones. Why not build a time-travel program that gives kids a feel for how history is structured by zooming you backward? A spectrum program that lets users twirl a frequency knob to see what happens? (Gelernter, 1996).

Gelernter went on to state that teachers should change the students opinions or thoughts of using computers in classroom. They have to show for their students the basic goals of using computers in schools and the valuable techniques of this technology. The reason why I'm concerning my focus on this topic or issue is that, when I was in school in the 70s and 80s, we all loved educational films. When we say a movie in class, everybody won: teachers did not have to teach, and pupils did not have to learn. I suspect that classroom computers are popular today for the same reasons. So, teachers should play a significant role in creating new generation of students who perceive the objectives of using computers in schools' classrooms. Also, computers should be used during both

the class or teaching and the recess or relaxation periods (Gelernter, 1996).

Most important, educators should learn what parents and most teachers already know: you cannot teach a child anything unless you look him in the face. We should not forget what computers are. Like books--better in some ways, worse in others-- they are devices that help children mobilize their own resources and learn for themselves. Most educators contend that, although the computer's potential to do good is modestly greater than a book's in some areas. However, Its potential to do harm is vastly greater, across the board (Gelernter, 1996).

The use of the Internet can play a significant role as a reference, educational, and communication tool in schools. For example, computers and network technologies, if properly implemented, will offer the greatest potential to right what's wrong with our schools more than any other single measure. Telecommunications and the Internet have been cited as important contributors to educational practice, extending learning and teaching beyond the confines of the four walls of the classroom. Among the suggested uses of telecommunications and the Internet are activities which emphasize pen pal relations with students from diverse settings, access to information resource, and collaborative study and writing (Norton, & Sprague, 1997).

Many educators believe that the Internet is the world's best study aid because it is full of reference materials, research notes, projects, and lesson plans; and it is the most effective way of communicating directly with scientists and professional experts all over the world. Some educators say they encourage their students to surf the Net to socialize with peers in other parts of the world. Others say their students access the Net to publish school information on the World Wide Web, to put out an electronic yearbook, or to reach out to parents, teachers, administrators, and other students who want to know

more about the Net. Educators believe that there is no age limit for Internet access, when students go online, they communicate in real time, pulling in information faster than the news media can get it out. Also, educators contend that the point of using many telecommunication projects in schools through the Internet is not to build up a particular subject area as much as it is to connect the subjects the students learned in schools with information in the real world (Holzberg, 1996).

Teachers can take advantages from this new technology, Internet, in many ways. For instance, in order to ease sixth-grade students into telecommunications, the teacher may begin by asking his/her students to express their point of views regarding a specific subject by having them send e-mail to one another within the classroom. Then after few weeks, youngsters will begin exchanging messages with students of other teachers in other schools or within the same school regarding to the same theme. Another example, the teacher may ask his/her students to compile a list of novels with specific themes (e.g., space, history) by surfing onto the Internet (Holzberg, 1996).

In general, the Internet enhances learning and it is a very important tool that enables children to receive immediate feedback while they communicate with others. It keeps every one (educators, administrators, teachers, parents, and students) in touch with new trends, projects, and teaching methods in education. The Internet can be both a social network and a place for serious research, as long as students are taught the right skills. In other words, networking is not so much a technology as it is a sociology--a means to communicate and share ideas.

Summary of Computer Technology and the Teaching Environment

There is no longer a question about whether computer technology will be used in

schools. Nearly everyone agrees that students must have access to computers, video, and other technologies in the classroom (NCATE, 1997). Furthermore, there is no denying that computer technology has the potential to perform inspiring feats in the classroom. If we are ever to see that potential realized, in other words, in order for the computer technology to best serve the students in the teaching environment. However, we ought to agree on some conditions. First, there should be a completely new crop of children's software. Second, teachers should change the students' opinions or thoughts of using computers in classroom. They have to show for their students the basic goals of using computers in schools and the valuable techniques of this technology. Third, most important, educators should learn what parents and most teachers already know: you cannot teach a child anything unless you look him in the face (Gelernter, 1996). Forth, teachers should know how to keyboard and teach their students to do the same. Fifth, teachers should learn how to use a specific software and teach their students how to use one as well, such as word processing program. Finally, teachers should be aware of their basic roles in the business of communicating and in the information business. In the business of communicating, teachers teach students how to communicate through reading, writing, listening, and speaking. The computer is a wonderful communication tool. In the information business, teachers teach students how to find, analyze, and present information. Teachers should know how to use the Internet to find information and teach their students to do the same (Bonavent, 1996).

Instructors using networked communications and infrastructure resources benefit from the convenience of desktop communications and from the availability of mechanism to guide and stimulate interaction among students. Students benefit from exposure to the wealth of knowledge available to them through the global information networks. The

overall educational process benefits from the implementation of network resources which keep students abreast of the latest information in their field, and which help them to establish associations linking education to opportunities in industry, business, and government.

Data Supporting the Need for Teaching Computer Technology

Long ago, John Dewey (1916) recognized that education must be based on reality for the betterment of society. Education should intertwine the process of living with the process of learning because, in essence, they are a joint process. Since Dewey's statement over eighty years ago, many studies have been conducted, particularly in the last four decades, and the results have indicated, either overtly or implicitly, the need for teaching computer technology knowledge and skills, specifically to students.

These studies, along with related research, have shown that computer literacy, computer technology knowledge and skills, is one of the most valuable assets a student could acquire. It would benefit them in their education as well as when they joined the work force (Lammel, 1995). However, in considering the teaching of computer technology, Hope (1996) emphasizes the importance of teaching technology that is not overly complex. A beginning computer user can become frustrated by trying to learn too much too fast.

To help in the process, the government's Goals 2000: Educate America Act, under Title III of the reauthorization of the Elementary and Secondary Education Act, began in 1995 to give $10 million in grants for the development and demonstration of education technology (United States: President, 1996).

Today, in order to prepare students for a society which requires knowledge of

information systems, computer skills are being taught in schools (Brummelhuis, 1994). What some one thought of as a *fad* that would go away with time has taken a firm hold in schools. Now more and more teachers are seeing the need to acquire and teach computer knowledge and skills to students (Eben, 1996).

However, since all children do not learn the same way, a variety of teaching methods have had to be developed (Forest, 1995). In the following section, I would like to examine some of these methods.

The first method is that of training. It is unfortunate that training is not valued by students if it is not connected to subject matter or have immediate instructional purpose (Thomas et al., 1996). Knowledge and training are not the same thing. Training is showing a person how to do a particular task while education is imparting knowledge that will prepare a person for a wide range of possibilities. Teachers with insight must realize that learners must have the knowledge and skills to create their own futures. Technical knowledge and skills must be developed by coordinated activities that support learning throughout a child's education. They must be introduced and reinforced until they are mastered and integrated into the individual's personal learning and social framework (The Nets Project, 1991).

Another approach is to show students what to do, then give them an opportunity. This way, more information is retained because learners can instantly apply the new knowledge they have acquired ("Beyond One-Shot Training," 1996).

Methods tried in computer and technical education can also be applied to other areas of learning. A study in mathematics was done with seven students in second through seventh grades. They attended three different schools in Tel Aviv, Israel, and had varied backgrounds regarding socioeconomic status, type of school, and achievement in

mathematics. Four observers experienced in mathematics studied these students. The data collected included observation; interviews with students, teachers, parents, and siblings; questionnaires of teachers; computer-generated reports; paper and pencil tests; and tutoring.

The study evaluated the effectiveness of CAI with mathematics students of low ability and high ability. The conclusion reached was that higher-achieving students were more able to adjust to the special environment of computer work and drive greater benefits from it. Thus, learning styles seemed to play an integral part in the student's ability to effectively use the CAI (Hativa, 1988).

Another study done with fifth and sixth graders was conducted at Hurst Hills Elementary School in Hurst, Texas. Hurst Hills participated in a nationwide study done by Dr. Henry Jay Becker of Johns Hopkins University. The school was chosen because of its implementation of a high-tech curriculum. They were participating in Apple Computer's model school program.

All fifth and sixth grade students were pretested with the California Achievement Test (CAT). They were then assigned to a CAI group or a control group. Hurst Hills expected that the CAI group would make greater gains than the traditional group, but were surprised by the results. Goode (1988) indicated that both the fifth- and sixth-grade computer groups gained an additional year of achievement over their classmates in the traditional group. Pre- and post-test results also indicated that computer students at both extremes of the ability-level spectrum showed greater gains. This seems to conflict with the conclusion of Hativa (1988), who found that lower-achieving students did not gain as much as higher-achieving ones. The writer felt that because Hurst Hills was a high-tech school, maybe more emphasis was placed on the CAI group with higher expectations.

Also, the type of software used by Hurst Hills may have been more conducive to the learning styles of lower-ability students than the ones used in Hativa's study.

Summary of Data Supporting the Need for Teaching Computer Technology

It is clear that computer technology knowledge and skills should be acquired at an early age, the sooner the better. That is, by understanding computer technology at a young age, children, as they grow and learn, will be better prepared to integrate into adulthood and society.

However, care must be used in determining the correct method for teaching children computer technology knowledge and skills. In fact, what is often overlooked is that there is no "best" teaching method for all children. Each child is different; they must be viewed as individuals, and each one must be placed in the program best suited to him or her.

Although the results of the above studies were contradictory in terms of ability level, the important result was the success of students who had prior computer technology knowledge and skills. The students who were more knowledgeable and computer literate did better than those who did not.

CHAPTER III

METHODOLOGY

The procedure used in the completion of this project is discussed in this chapter. It is divided into four sections. They are: subjects, setting, data collection, and design/methods of analysis.

Subjects

For the purpose of this study the author stratified the sample population, participants, into five main categories that represent the educational system. These categories are: administrators, teachers, students, parents, and community members. Then, the participants were randomly selected for this study from the five governorates of the State of Kuwait (i.e., Al Ahmadi, Al Jahrah, Al Aasimah, Hawalli, and Al Farwaniya) by using random sampling.

For a sample to be random, all possible participants in the population must have the same chance of being selected and all possible samples must have the same chance of being selected. The author used random sampling to produce representative samples. Representative means the characteristics of the sample accurately reflect the characteristics of the population (Heiman, 1996).

The sample breakdown was as follow: 10 kindergarten schools (2 from each governorate), 20 elementary schools (4 from each governorate), 20 middle schools (4 from each governorate), 20 high schools (4 from each governorate), and 253 community members from all governorates.

Put somewhat differently, a total of 14 schools from each governorate, of the five

governorates of the State of Kuwait, took part in this study. The schools breakdown in each governorate was as follow: 2 kindergarten schools, 4 elementary schools, 4 middle schools, and 4 high schools.

The participants were broken down in each kindergarten school as follow: 1 principal, 1 associate principal, 5 teachers, and 5 parents. This means the total number of participants in each kindergarten school was 12 participants. Therefore, the overall number of participants in all kindergarten schools, in all five governorates, was assumed to be 120 participants.

The participants in each elementary, middle, and high school were broken down as follow: 1 principal, 1 associate principal, 5 teachers, 5 students, and 5 parents. This means the total number of participants in each elementary school, or middle school, or high school was 17 participants. Therefore, the overall number of participants in all elementary schools, or middle schools, or high schools, in all five governorates, was supposed to be 340 (elementary schools 340, middle schools 340, and high schools 340) participants.

The total number of community members, from the five governorates, who participated in this study was 253 members. Thus, the overall number of participants who received the survey questionnaire was 1393 (See either Figure 1 located in Appendix A or Table 1 located in Appendix B for more details about the participants).

Setting

The State of Kuwait. Located in Middle East, bordering the Persian Gulf, between Iraq and Saudi Arabia. The capital is Kuwait, and the type of the government is nominal constitutional monarchy. The total area of the State of Kuwait is 17,820 square km. In

other words, it is slightly smaller than New Jersey. The climate is dry desert; intensively hot summers; short, cool winters. According to the 1996 estimate, Statistical Glimpse, the population is approximately 1,950,047 (The World Factbook, 1997).

The ethnic divisions is as follow: Kuwaiti 45 percent, other Arab 35 percent, South Asian 9 percent, Iranian 4 percent, others 7 percent. The fundamental religion of the State of Kuwait is Islam. Muslims are considered 85 percent (Shi'a 30 percent, Sunni 45 percent, other 10 percent) of the entire population, Christian, Hindu, Paris, and others are considered the remaining 15 percent of the population. Although Arabic is the official language of the State of Kuwait. However, English is widely spoken as the second language (The World Factbook, 1997).

According to 1995 estimate, Statistical Glimpse, the total population of females in the State of Kuwait is 651,721 (Kuwaitis 343,257 and non Kuwaitis 308,464), and the total population of males is 1,038,814 (Kuwaitis 351,099 and non Kuwaitis 687,715).

The administrative divisions of the State of Kuwait is divided into 5 governorates; Al Ahmadi, Al Jahrah, Al Aasimah, Hawalli, and Al Farwaniya. According to 1995 estimate, Statistical Glimpse, the total population in each governorate is as follow: Al Ahmadi 283,902 (Kuwaitis 147,824 and non Kuwaitis 136,078); Al Jahrah 228,457 (Kuwaitis 72,456 and non Kuwaitis 156,001); Al Aasimah 276,915 (Kuwaitis 129,779 and non Kuwaitis 147,136); Hawalli 449,554 (Kuwaitis 187,659 and non Kuwaitis 261,895); and Al Farwaniya 451,707 (Kuwaitis 156,638 and non Kuwaitis 295,069).

Education in the State of Kuwait is connected with the nature of the Kuwaiti society, its philosophy, future prospects, and the contemporary educational trends to cope with the nature of this change. It is also connected with the needs of the educated and their characteristics. From this point of view, the Ministry of Education in the State of Kuwait

has reached the general principle as an emblem by which the general educational objectives have to abide.

According to the document issued (in Arabic) in March 1976 by the Ministry of Education, the general educational objectives (education) in the State of Kuwait is defined as follows: to create favorable opportunities enabling individuals to grow on all levels: spiritually, morally, intellectually, socially and physically in as much as their aptitudes and abilities could permit relevant to the nature, philosophy and aspirations of the Kuwaiti society and in accordance with the principles of Islam, Arab and contemporary culture. The aim is to strike a balance between individual's interests and the society needs for positive participation in the progress of the Kuwaiti society in particular, the Arab society and the world in general.

Schools. According to 1995 estimate, Statistical Glimpse, in 1994/1995 school year the total number of schools in the State of Kuwait is 864 schools; the total number of classrooms is 12,012 classrooms; the total number of students is 383,864 students; the total number of teachers is 30,569 teachers.

Public Schools. According to 1995 estimate, Statistical Glimpse, in 1994/1995 school year the total number of public schools is 574 (138 kindergarten schools, 174 elementary schools, 155 middle schools , and 107 high schools) schools; the total number of classrooms is 8,408 (1,275 kindergarten schools, 3,007 elementary schools, 2,734 middle schools, and 1,392 high schools) classrooms; the total number of students is 279,104 (37,264 kindergarten schools, 91,376 elementary schools, 86,387 middle schools, and 64,077 high schools) students; the total number of teachers is 23,898 (2,461 kindergarten schools, 6,678 elementary schools, 7,139 middle schools, and 7,620 high schools) teachers.

Private Schools. According to 1995 estimate, Statistical Glimpse, in 1994/1995 school year the total number of private schools is 256 (55 kindergarten schools, 72 elementary schools, 74 middle schools , and 55 high schools) schools; the total number of classrooms is 3,344 (367 kindergarten schools, 1,282 elementary schools, 1,035 middle schools, and 660 high schools) classrooms; the total number of students is 101,824 (10,632 kindergarten schools, 40,828 elementary schools, 32,042 middle schools, and 18,322 high schools) students; the total number of teachers is 5,988 (538 kindergarten schools, 2,137 elementary schools, 1,870 middle schools, and 1,443 high schools) teachers.

Vocational & Special Schools. According to 1995 estimate, Statistical Glimpse, in 1994/1995 school year the total number of public schools is 34 (5 religious schools or institutions, 29 special education schools and institutions) schools; the total number of classrooms is 260 (62 religious schools or institutions, 198 special education schools and institutions) classrooms; the total number of students is 2,936 (1,381 religious schools or institutions, 1,555 special education schools and institutions) students; the total number of teachers is 683 (215 religious schools or institutions, 468 special education schools and institutions) teachers.

Educational and Cultural Care in the State of Kuwait. Following are examples of the constitutional principles of educational care in the State of Kuwait:

Article 13: Education is a fundamental requisite for the progress of society, assured and promoted by the State.

Article 14: The State shall promote science, letters and the arts and encourage scientific research therein.

Article 40: Education is the right of Kuwaitis, guaranteed by State in accordance with

law and within the limits of public policy and morals. Education in its preliminary stages shall be compulsory and free in accordance with law.

- Law shall lay down the necessary plan to eliminate illiteracy.
- The State shall devote particular care to the physical, moral and mental development of youth.

Literacy. According to 1995 estimate, Statistical Glimpse, 78.6 percent of the total population are literate. Put somewhat differently, every person at age 15 and over can read and write. Furthermore, gender in the State of Kuwait does not play a significant role regarding to literacy. As a matter of fact, 82.2 percent of all males are literate, and 74.9 percent of all females are literate. By looking to the figures we can say that males and females are almost close to each other regarding the issue of literacy (The World Factbook, 1997).

Data Collection

Construction of the Data Collecting Instrument. The questionnaire was the primary vehicle for data collection. The questionnaire was designed to find out a value judgments for such an important issue as either implementing computer technology as an independent subject in K-12 schools in the State of Kuwait, or integrating computer technology in all other subjects, or both.

The measurement instrument used in this study was a Likert scale survey questionnaire. The Likert scale used is a valid measure in educational opinion gathering research (Best & Kahn, 1993).

In developing this survey the researcher investigated several other instruments formulated by other researchers and incorporated some of their ideas into his survey's

design. Put somewhat differently, the instrument was constructed by the author using information gathered from the review of the literature which established content validity for the statements in the questionnaire. Ten statements were composed of the questionnaire (See Appendixes C, D, and E for a copy of the survey). These statements pertained to feelings, beliefs, and opinions toward computer technology.

The author also submitted a pilot version of this survey to several faculty members at the University of Dayton involved in research design in order for them to provide a feedback on the instrument before the actual data was gathered. The researcher-developed survey was then modified somewhat in order to construct the survey presented in appendixes C (English version), D (Arabic version), and E (the translation of the Arabic version).

Responses to the series of questions were given using a five-point Likert scale (strongly agree [1], agree [2], undetermined [3], disagree [4], and strongly disagree [5]). All questions were stated positively and points were assessed from 1 to 5. Accordingly, the lower the score, the more positive attitude toward computer technology.

Administration of the Data Collecting Instrument. The survey was faxed to a community leader, Dr. Hassan H. Safar, a expert in the Kuwait National Commission for Education, Science, and Culture, and a visiting professor in college of education at Kuwait University. The survey was translated to Arabic language and hand carried by the community leader to all participants of the sample population.

Instructions to Dr. Safar were to submit and then gather as many surveys as he can. The participants were stratified into five main categories (i.e., administrators, teachers, students, parents, and community members) that represent the educational system. Then, the participants were selected randomly from the five governorates of the State of Kuwait

(i.e., Al Ahmadi, Al Jahrah, Al Aasimah, Hawalli, and Al Farwaniya) by using random sampling. There supposed to be a total of 140 administrators, 350 teachers, 300 students, , 350 parents, and 253 community members surveyed. Then, the results were mailed to the researcher who resides in the United States.

Thus, a total of 1393 surveys were distributed. Of these 1393 distributed questionnaires, 1359 were returned which yielded a return rate of 97.56 percent. Upon closer examination of the returned questionnaires, 1330 were completely returned, which yielded a return rate of 95.47 percent. A total of 63 questionnaires were rejected for analysis because they were incomplete (29 questionnaires) or because they were not returned (34 questionnaires). More precisely, of the complete surveys returned, 1330 questionnaires, usable data could be derived from between 1247 and 1274 responses depending on the statement. This yielded to a return rate from between 89.52 percent and 91.46 percent that was reported and used throughout the analysis process.

Design/Methods of Analysis

The study was a educational context evaluation. Evaluation research can be considered close to applied research, because evaluation research results aid in decision making in a specific situation as with applied research (Wiersma, 1995).

Educational evaluation research, like any evaluation, involves make value judgments about the worth of something-something educational such as a curriculum or a program. Put somewhat differently, typically, the function of educational evaluation research is to assess the merits of a practice or program in a specific situation (Wiersma, 1995).

Educational research and educational evaluation research have considerable overlap in methodology. Evaluators use many of the same methods, designs, measurement tools, and

analyses, both qualitative and quantitative, as researchers. When the term evaluation research is used, it means using research procedures for the process of evaluation, that is, collecting data and making decisions (value judgments) about some educational program, policy, phenomenon, or the like (Wiersma, 1995).

Indeed, the study was a part of an educational evaluation research model called "STUFFLEBEAM" model or "CIPP" model. This model provides a basis for making decisions by delineating, obtaining, and providing useful information for judging decision alternatives. Put somewhat differently, the CIPP model provides a service function by supplying data to administrators and decision-makers charged with conduct of program. The three most valuable contributions of the CIPP model are: (1) it is sensitive to feedback; (2) it allows for evaluation to take place at any stage of the program; (3) it is a holistic. The CIPP model is divided into four evaluation research. They are consequently as follow: context evaluation, input evaluation, process evaluation, and product evaluation research (Isaac, & Michael, 1995).

Particularly, the study was actually the first part of the CIPP model which is educational context evaluation research. This kind of research provides information to develop systematic rationale for objectives largely through analysis of unrealized needs and unused opportunities and through diagnosis of those difficulties preventing needs being met and contributing to discrepancies between intentions and actualities. In other words, the researcher who would conduct context evaluation research face at least three challenges: (1) to define the operating context; (2) to identify and assess needs and opportunities in the context; and (3) to diagnose problems underlying the needs and opportunities. Put somewhat differently, educational context evaluation research was used in this study to yield information regarding needs (the extent to which discrepancies

exist between what is and what is desired relative to certain value expectations, areas of concern, difficulties, and opportunities) in order that goals and objectives may be formulated. Thus, it serves the planning decisions stage which influence selection of goals and objectives (Isaac, & Michael, 1995).

There are several methods for implementing context evaluation research. These methods are as follow: (1) by describing the context; (2) by comparing actual and intended inputs and outputs; (3) by comparing probable and possible system performance; and (4) by analyzing possible causes of discrepancies between actualities and intentions (Isaac, & Michael, 1995).

For this study, the author used a selected aspect of a context evaluation method. While context evaluation involves all aspects of the situation (e.g., materials, guidelines, resources, and individuals) this study focused on only the perceptions of people. Thus, it must be viewed as being the first step in a series of investigations.

CHAPTER IV

RESULTS

Presentation and Organization of the Results Chapter

In chapter IV the results of the computer technology survey questionnaire are presented in tables 6.1 to 11. Each table was labeled to indicate the type of data being analyzed. The tables included the number of responses and the percentages for the Likert scale responses to each statement.

The ten major statements on the survey questionnaire were analyzed using a statistical program called "SYSTAT for Windows" (version 7.0). These statements were analyzed according to the five main categories (i.e., administrators, teachers, students, parents, and community members) and the five governorates of the State of Kuwait (i.e., Al Aasimah, Al Ahmadi, Al Farwaniya, Al Jahrah, and Hawalli). The data were expressed in frequencies and percentages which have been rounded and were placed under the appropriate response categories.

The tables were accompanied with simple frequency polygons (Figures 2.1 to 6.10) showing the frequencies of of the responses to each of the ten major statements on the computer technology survey questionnaire according to the five main categories (i.e., administrators, teachers, students, parents, and community members) and the five governorates of the State of Kuwait (i.e., Al Aasimah, Al Ahmadi, Al Farwaniya, Al Jahrah, and Hawalli). These tables and their accompanied figures are located throughout this chapter. These tables are presented with the narrative of this chapter so that readers can more easily follow the points presented.

Each group or category was presented, analyzed and discussed, separately based on

the total responses for each of the ten major statements of the survey questionnaire. Then comparisons among the research categories and groups were also conducted.

Presentation of the Results

The survey questionnaire was distributed with the help of a community leader, Dr. Hassan Safar, an expert in the Kuwait National Commission for Education, Science, and Culture, and a visiting professor in college of education at Kuwait University. The questionnaire was sent to 1393 participants in the five governorates (i.e., Al Aasimah, Al Ahmadi, Al Farwaniya, Al Jahrah, and Hawalli) of the State of Kuwait. The completed surveys were then mailed to the researcher who resides in the United States.

Of these 1393 distributed questionnaires, 1359 questionnaires were returned which yielded a return rate of 97.56 percent. Upon closer examination of the returned questionnaires, 1330 were complete enough for analysis. This yielded a return rate of 95.47 percent. A total of 63 questionnaires were rejected for analysis because they were incomplete (29 questionnaires), or because they were not returned (34 questionnaires). Of the complete surveys returned 1330 questionnaires contained usable data. This yielded from 1247 to 1274 usable questionnaires. Put somewhat differently, all tables and figures were based on the return rate from between 89.52 percent and 91.46 percent depending on the statement being analyzed.

The main purpose of this study was to investigate and analyze the attitudes of administrators, teachers, students, parents, and community members toward the issue of implementing computer technology in K-12 education in the State of Kuwait either as an independent curricula, or by integrating it into all other content areas, or both. The results and discussions were based on the responses found in tables 6.1 to 11 and their

accompanied simple frequency polygons (Figures 2.1 to 6.10) that are located starting on page 50.

The comparisons presented in this chapter provide clarification of various constituencies currently felt toward computer education. These comparisons can help administrative and technology leaders determine appropriate next-steps that will meet perceived needs.

Prior to this study it was anticipated that there would be a definite distinction in the results among the five main categories of the research, in the five governorates of the State of Kuwait. This did not occur mostly. The results were similar in all five categories and in all five governorates. There were, however, minor specific differences in some statements of the survey questionnaire. These results will be discussed in a more detail in this section of the paper. Each statement will be presented, analyzed and discussed, consecutively.

Presentation of Administrators' Attitudes

Item 1 addressed the administrators' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE TAUGHT AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS.** The administrators' responses to this item provided information that could help determine their opinions toward implementing computer technology as an independent subject. Approximately 94 percent of the responding administrators (n= 75) affirmed this statement. These administrators either strongly agreed (n= 51, 63.7 percent) or agreed (n= 24, 30 percent). Similar response rates were found in all five governorates regarding computer technology subject in K-12 schools. See Table 6.1, and Figure 2.1 on page 50 for additional tabular and graphic information. Of the 80 total administrators responding to this item, 1 administrator (1.3 percent) remained unaligned in his/her response. Only 4 administrators (5 percent) disagreed to this statement. Of these 4 administrators in disagreement, 2 were from the Hawalli governorate.

Item 2 addressed the administrators' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE INTEGRATED IN ALL SUBJECTS.** The responses of administrators to this item attempted to determine their opinions toward integrating computer technology in all content areas. Approximately 81 percent of the responding administrators (n= 65) validated this statement. These administrators either strongly agreed (n= 31, 38.7 percent) or agreed (n= 34, 42.5 percent). Apparently, only slight dissimilar response rates were found in all five governorates regarding integrating computer technology in all disciplines in K-12 schools. See Table 6.2, and Figure 2.2 on page 51 for additional tabular and graphic information. Of the 80 total administrators responding to this item, 3 administrators (3.7 percent) remained unaligned in their

responses. Only 12 administrators (15.1 percent) disagreed to this statement. Of these 12 administrators in disagreement, 5 were from the Al Farwaniya governorate, and 3 were from the Al Ahmadi governorate. Thus, we can see slightly different opinions based on location.

Item 3 addressed the administrators' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY WILL IMPROVE THE OVERALL EFFECTIVENESS OF OUR STUDENTS' LEARNING.** The responses of administrators to this item helped to discover their opinions toward the effectiveness of computer technology on students' learning. Approximately 96 percent of the responding administrators (n= 77) registered favorable attitudes toward this statement. These administrators either strongly agreed (n= 48, 60 percent) or agreed (n= 29, 36.2 percent). Similar response rates were found in all five governorates regarding the effectiveness of computer technology on students' learning. See Table 6.3, and Figure 2.3 on page 52 for additional tabular and graphic information. Of the 80 total administrators responding to this item, 3 administrators (3.7 percent) remained unaligned in their responses. None of the administrators disagreed to this statement.

Item 4 addressed the administrators' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY DOES A GREAT IMPACT ON EDUCATION, AND IN STUDENTS' ACHIEVEMENT.** The responses of administrators to this item provided a record of their opinions toward the impact of computer technology on education, and in students' achievement. Approximately 99 percent of the responding administrators (n= 78) registered favorable attitudes toward this statement. These administrators either strongly agreed (n= 41, 51.9 percent) or agreed (n= 37, 46.8 percent). Apparently, similar response rates were found in all five governorates regarding

the impact of computer technology on education, and in students' achievement. See Table 6.4, and Figure 2.4 on page 53 for additional tabular and graphic information. Of the 79 total administrators responding to this item, 1 administrator (1.3 percent) remained unaligned in his/her response. None of the administrators disagreed to this statement.

Item 5 addressed the administrators' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS A GOOD IDEA.** The administrators' responses to this item helped to determine their opinions toward the idea of having computer technology as an independent subject. Approximately 98 percent of the responding administrators (n= 77) confirmed this statement. These administrators either strongly agreed (n= 35, 44.3 percent) or agreed (n= 42, 53.2 percent). Similar response rates were found in all five governorates regarding the goodness of having computer technology subject. See Table 6.5, and Figure 2.5 on page 54 for additional tabular and graphic information. Of the 79 total administrators responding to this item, 1 administrator (1.3 percent) remained unaligned in his/her response. Only 1 administrator (1.3 percent) disagreed to this statement. The administrator in disagreement was from the Hawalli governorate.

Item 6 addressed the administrators' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC.** The administrators' responses to this item enabled us to determine their opinions as to how realistic it is to have computer technology as an independent subject. Approximately 69 percent of the responding administrators (n= 52) affirmed this statement. These administrators either strongly agreed (n= 13, 17.3 percent) or agreed (n=

39, 52 percent). Different response rates were found in the five governorates regarding how realistic computer technology subject implementation would be in the schools. See Table 6.6, and Figure 2.6 on page 55 for additional tabular and graphic information. Of the 75 total administrators responding to this item, 8 administrators (10.7 percent) remained unaligned in their responses. Only 15 administrators (20 percent) disagreed to this statement. Of these 15 administrators in disagreement, 5 were from the Al Ahmadi governorate, and 4 were from the Al Aasimah governorate. Not only were these more diverse responses, the administrators clearly were less enthusiastic regarding this item.

Item 7 addressed the administrators' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS POSSIBLE.** The administrators' responses to this item helped to determine their opinions toward the possibility of having computer technology taught as a separate subject. Approximately 83 percent of the responding administrators (n= 66) supported this statement. These administrators either strongly agreed (n= 21, 26.3 percent) or agreed (n= 45, 56.2 percent). Similar response rates were found in all five governorates regarding the possibility of having computer technology subject except for the apparent dissimilarity which is due to 4 individuals (administrators) in the Al Ahmadi governorate. See Table 6.7, and Figure 2.7 on page 56 for additional tabular and graphic information. Of the 80 total administrators responding to this item, 6 administrators (7.5 percent) remained unaligned in their responses. Only 8 administrators (10.1 percent) disagreed to this statement. Of these 8 administrators in disagreement, 4 were from the Al Ahmadi governorate, and 3 were from the Al Aasimah governorate.

Item 8 addressed the administrators' attitudes toward the statement, **UNIVERSITIES,**

COLLEGES, AND OTHER POST SECONDARY INSTITUTIONS SHOULD PREPARE COMPUTER TEACHERS IN ADDITION TO PREPARING COMPUTER TECHNOLOGY SPECIALISTS, MATHEMATICS TEACHERS, SCIENCE TEACHERS, AND ART TEACHERS. The administrators' responses to this item allowed us to determine their opinions toward computer teacher preparation. Approximately 99 percent of the responding administrators (n= 79) registered support for this statement. These administrators either strongly agreed (n= 56, 70 percent) or agreed (n= 23, 28.8 percent). Apparently, similar response rates were found in all five governorates regarding computer teacher preparation. See Table 6.8, and Figure 2.8 on page 57 for additional tabular and graphic information. Of the 80 total administrators responding to this item only 1 administrator (1.3 percent) remained unaligned in his/her response. None of the administrators disagreed to this statement.

Item 9 addressed the administrators' attitudes toward the statement, **CURRENT TEACHERS (BOTH EXPERTS AND NOVICES) SHOULD USE COMPUTER AND ITS RELATED TECHNOLOGY INTO THEIR INSTRUCTION AND CURRICULUMS.** The administrators' responses to this item permitted investigation of their opinions toward integrating computer technology in the schools. Approximately 87 percent of the responding administrators (n= 70) supported this statement. These administrators either strongly agreed (n= 35, 43.7 percent) or agreed (n= 35, 43.7 percent). Similar response rates were found in all five governorates regarding integrating computer technology in K-12 schools. See Table 6.9, and Figure 2.9 on page 58 for additional tabular and graphic information. Of the 80 total administrators responding to this item, 4 administrators (5 percent) remained unaligned in their responses. Only 6 administrators (7.5 percent) disagreed to this statement. Of these 6 administrators in disagreement, 3 were from the Al

Ahmadi governorate.

Item 10 addressed the administrators' attitudes toward the statement, **WE NEED NATIONAL TECHNOLOGY STANDARDS IN ORDER TO IMPLEMENT THE COMPUTER AND ITS RELATED TECHNOLOGY IN OUR SCHOOLS AS AN INDEPENDENT SUBJECT.** The administrators' responses to this item allowed an examination of their opinions toward having national technology standards. Approximately 86 percent of the responding administrators (n= 69) submitted favorable attitudes toward this statement. These administrators either strongly agreed (n= 36, 45 percent) or agreed (n= 33, 41.2 percent). Apparently, similar response rates were found in all five governorates regarding national technology standards in K-12 schools. See Table 6.10, and Figure 2.10 on page 59 for additional tabular and graphic information. Of the 80 total administrators responding to this item, 9 administrators (11.3 percent) remained unaligned in their responses. Only 2 administrators (2.6 percent) disagreed to this statement. Of these 2 administrators in disagreement, 1 was from the Al Aasimah governorate, and 1 was from the Al Ahmadi governorate.

TABLE 6.1

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (1)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 1	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.7	1.0	1.3
D	1.0	9.1	0.0	0.0	1.0	6.2	0.0	0.0	1.0	6.7	3.0	3.7
U	1.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
A	1.0	9.1	10.0	52.6	6.0	37.5	5.0	26.3	2.0	13.3	24.0	30.0
SA	8.0	72.7	9.0	47.4	9.0	56.2	14.0	73.7	11.0	73.3	51.0	63.7
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.1

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (1)

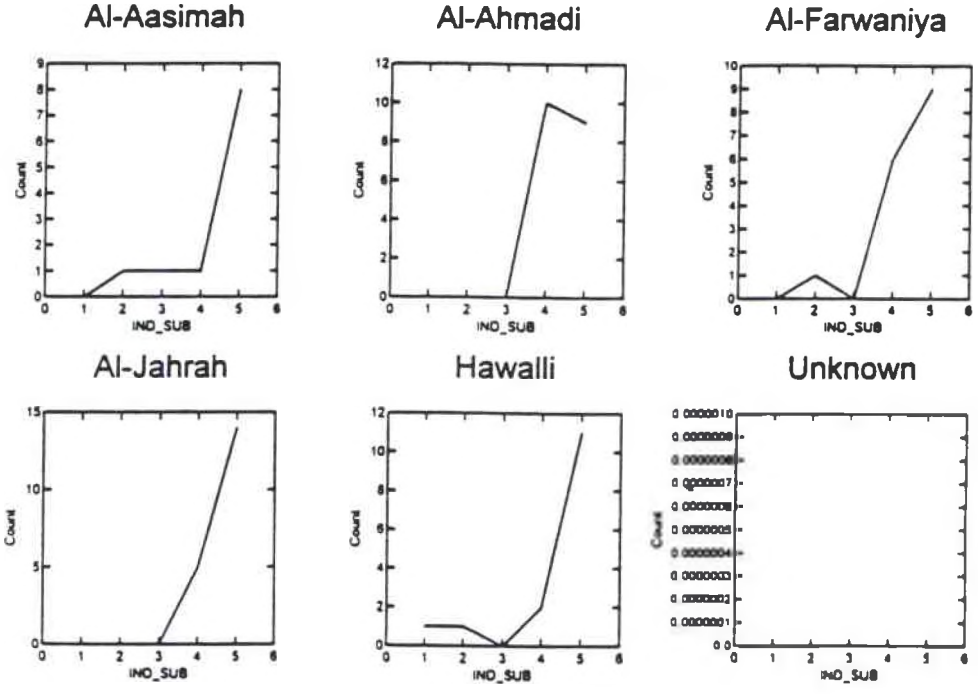


TABLE 6.2

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (2)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 2	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
D	0.0	0.0	3.0	15.8	5.0	31.3	1.0	5.3	2.0	13.3	11.0	13.8
U	1.0	9.1	1.0	5.3	0.0	0.0	0.0	0.0	1.0	6.7	3.0	3.7
A	4.0	36.4	8.0	42.1	7.0	43.7	10.0	52.6	5.0	33.3	34.0	42.5
SA	5.0	45.5	7.0	36.8	4.0	25.0	8.0	42.1	7.0	46.7	31.0	38.7
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.2

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (2)

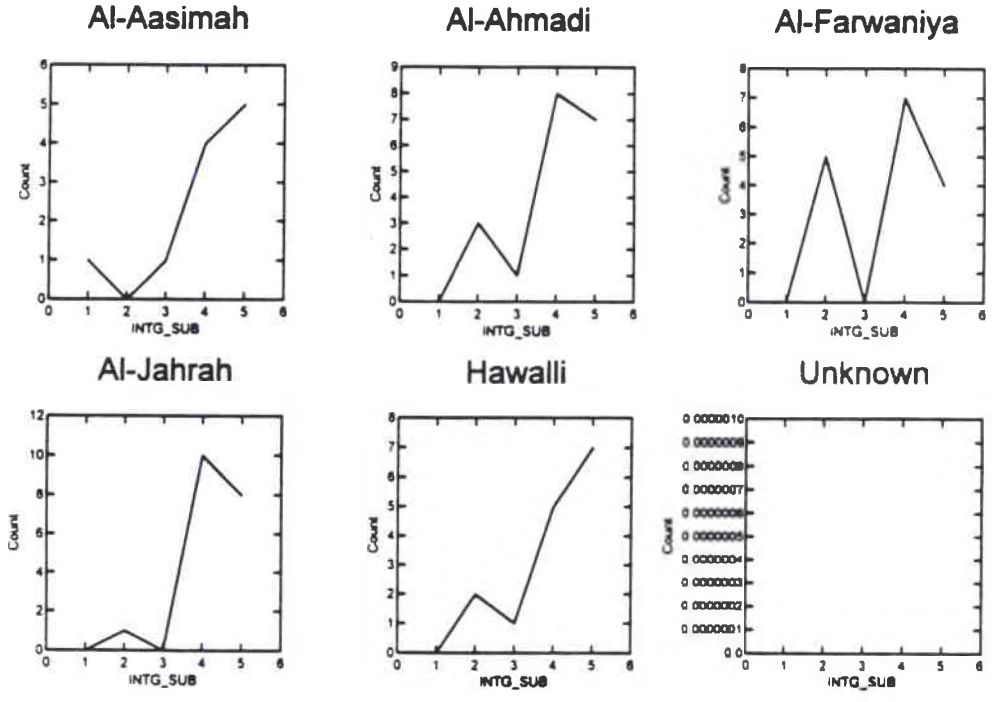


TABLE 6.3

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (3)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 3	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
U	0.0	0.0	1.0	5.3	0.0	0.0	0.0	0.0	2.0	13.3	3.0	3.7
A	3.0	27.3	6.0	31.6	9.0	56.2	6.0	31.6	5.0	33.3	29.0	36.2
SA	8.0	72.7	12.0	63.2	7.0	43.7	13.0	68.4	8.0	53.3	48.0	60.0
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.3

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (3)

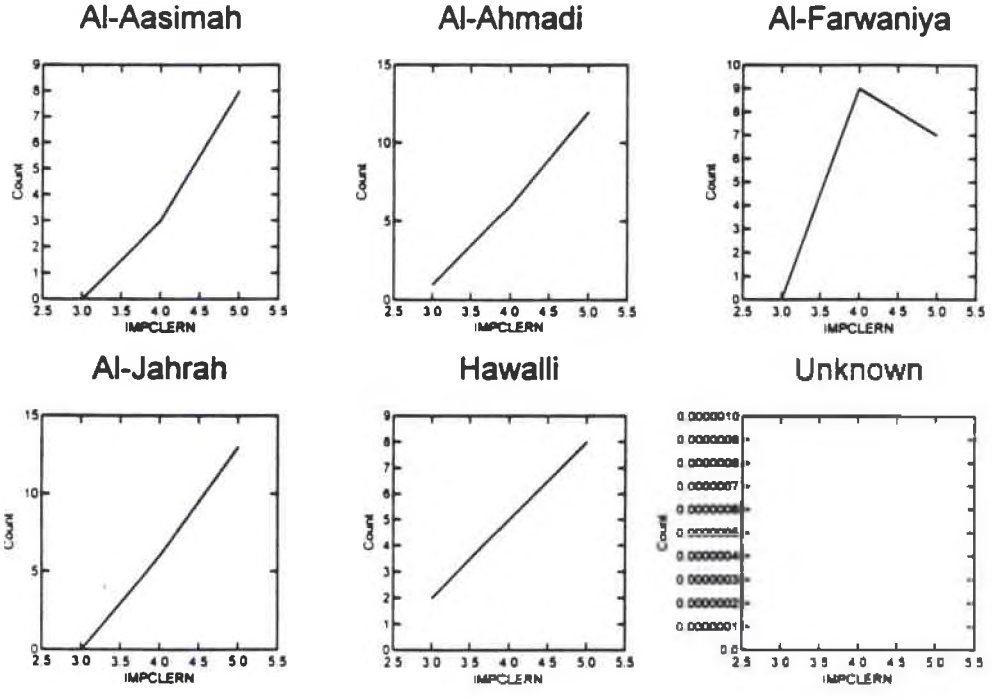


TABLE 6.4

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (4)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 4	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
U	0.0	0.0	1.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
A	5.0	45.5	7.0	36.8	9.0	60.0	9.0	47.4	7.0	46.7	37.0	46.8
SA	6.0	54.5	11.0	57.9	6.0	40.0	10.0	52.6	8.0	53.3	41.0	51.9
Total	11.0	100.0	19.0	100.0	15.0	100.0	19.0	100.0	15.0	100.0	79.0	100.0

FIGURE 2.4

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (4)

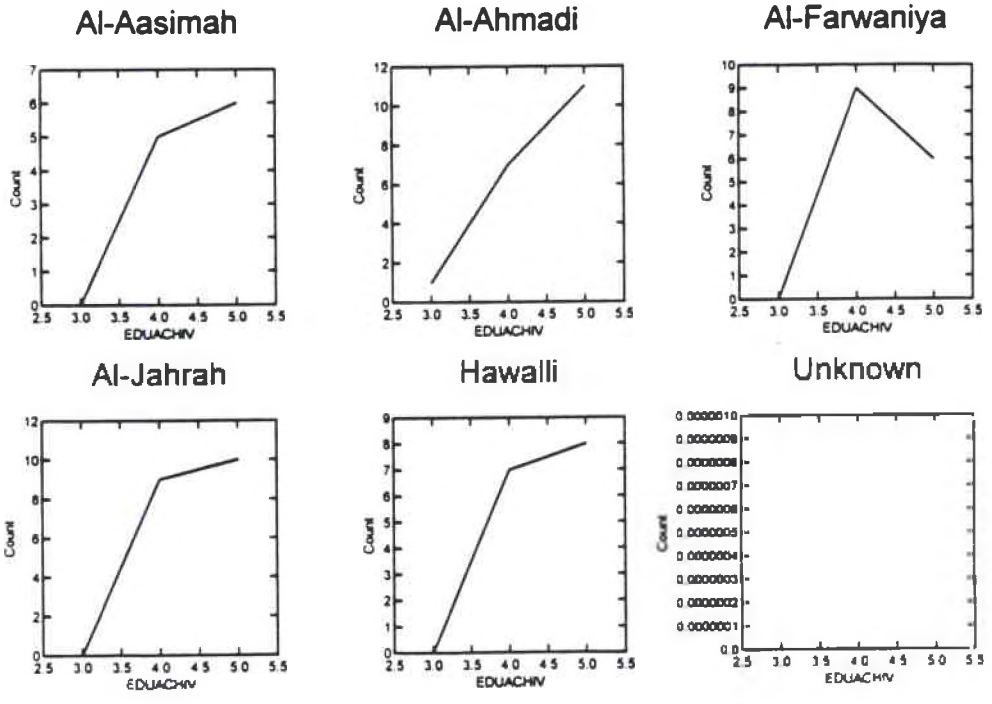


TABLE 6.5

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (5)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 5	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.7	1.0	1.3
U	0.0	0.0	0.0	0.0	1.0	6.7	0.0	0.0	0.0	0.0	1.0	1.3
A	6.0	54.5	9.0	47.4	8.0	53.3	11.0	57.9	8.0	53.3	42.0	53.2
SA	5.0	45.5	10.0	52.6	6.0	40.0	8.0	42.1	6.0	40.0	35.0	44.3
Total	11.0	100.0	19.0	100.0	15.0	100.0	19.0	100.0	15.0	100.0	79.0	100.0

FIGURE 2.5

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (5)

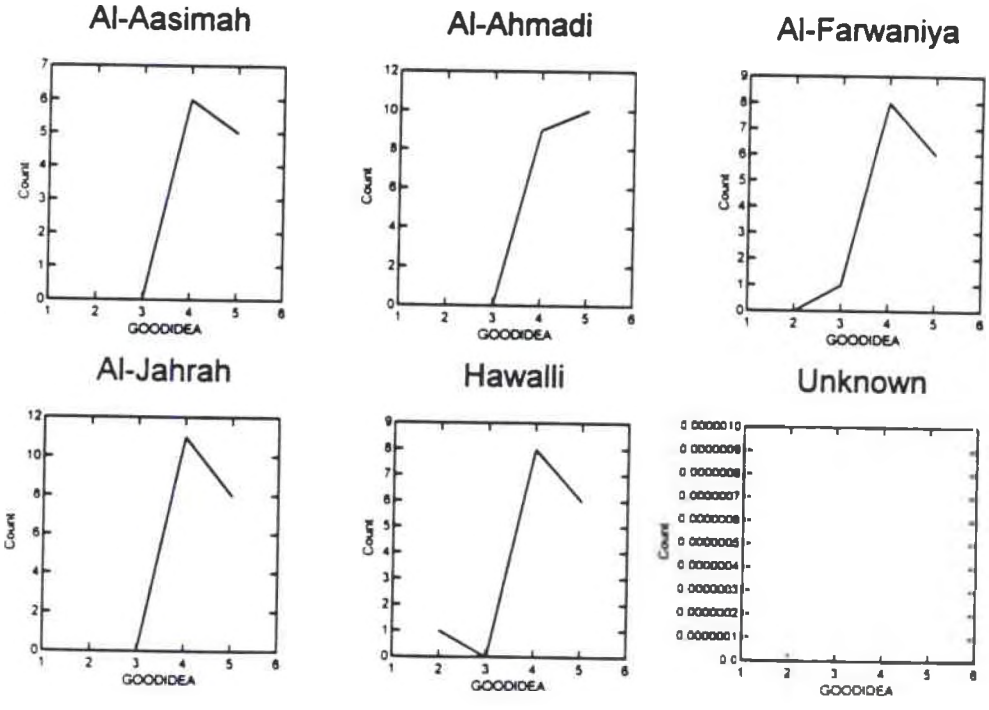


TABLE 6.6

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (6)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 6	N	%	N	%	N	%	N	%	N	%	N	%
SD	3.0	27.3	1.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	4.0	5.3
D	1.0	9.1	4.0	21.1	3.0	23.1	1.0	5.3	2.0	15.4	11.0	14.7
U	1.0	9.1	0.0	0.0	3.0	23.1	2.0	10.5	2.0	15.4	8.0	10.7
A	5.0	45.5	11.0	57.9	6.0	46.2	10.0	52.6	7.0	53.8	39.0	52.0
SA	1.0	9.1	3.0	15.8	1.0	7.7	6.0	31.6	2.0	15.4	13.0	17.3
Total	11.0	100.0	19.0	100.0	13.0	100.0	19.0	100.0	13.0	100.0	75.0	100.0

FIGURE 2.6

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (6)

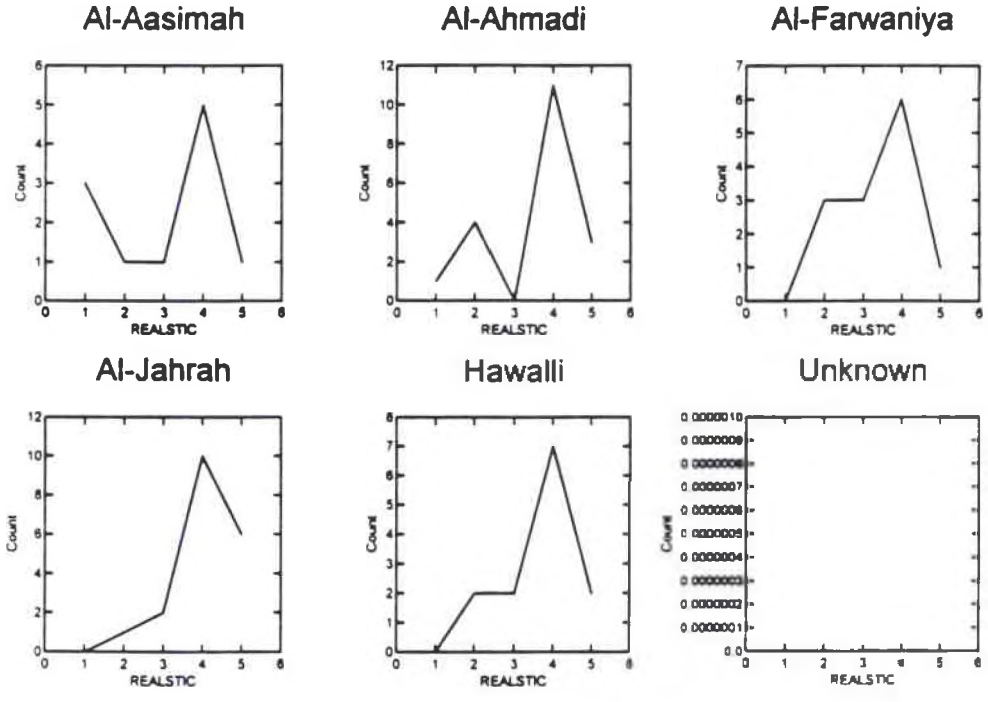


TABLE 6.7

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (7)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 7	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
D	2.0	18.2	4.0	21.1	0.0	0.0	0.0	0.0	1.0	6.7	7.0	8.8
U	2.0	18.2	0.0	0.0	1.0	6.2	2.0	10.5	1.0	6.7	6.0	7.5
A	4.0	36.4	10.0	52.6	12.0	75.0	11.0	57.9	8.0	53.3	45.0	56.2
SA	2.0	18.2	5.0	26.3	3.0	18.8	6.0	31.6	5.0	33.3	21.0	26.3
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.7

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (7)

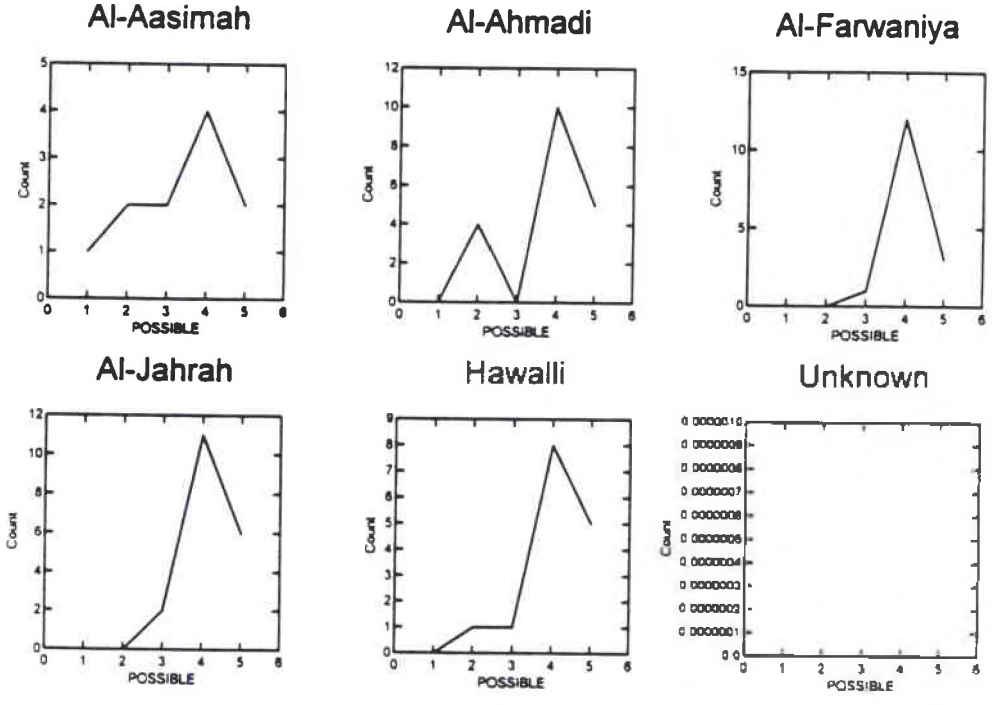


TABLE 6.8

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (8)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 8	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
U	1.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
A	5.0	45.5	5.0	26.3	8.0	50.0	2.0	10.5	3.0	20.0	23.0	28.8
SA	5.0	45.5	14.0	73.7	8.0	50.0	17.0	89.5	12.0	80.0	56.0	70.0
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.8

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (8)

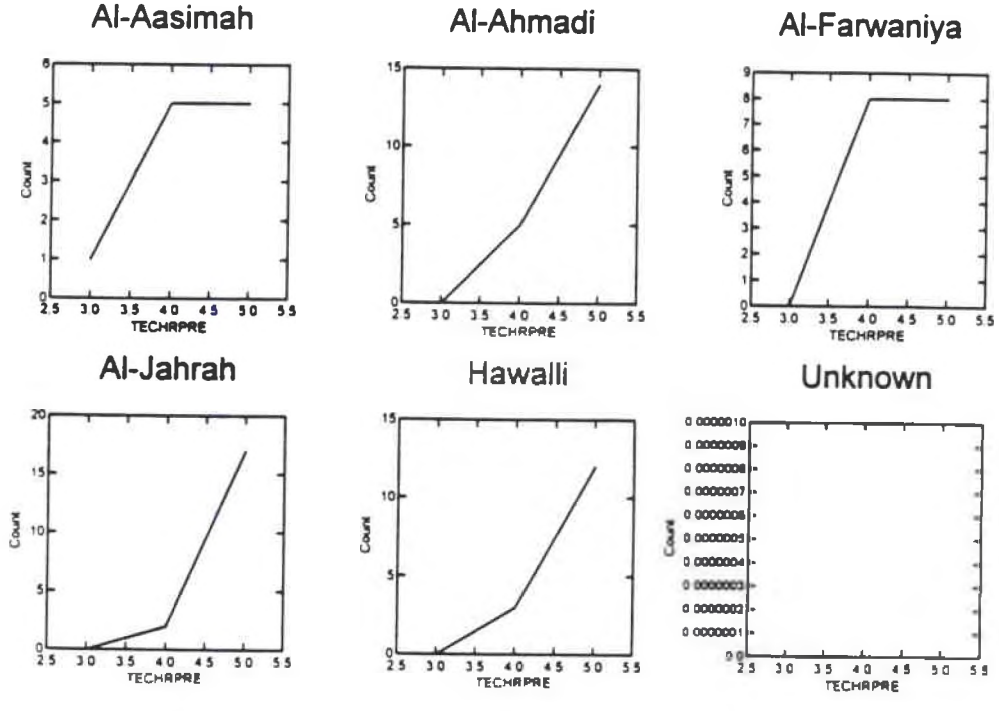


TABLE 6.9

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (9)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 9	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	1.0	9.1	3.0	15.8	0.0	0.0	1.0	5.3	1.0	6.7	6.0	7.5
U	0.0	0.0	1.0	5.3	0.0	0.0	1.0	5.3	2.0	13.3	4.0	5.0
A	6.0	54.5	7.0	36.8	8.0	50.0	8.0	42.1	6.0	40.0	35.0	43.7
SA	4.0	36.4	8.0	42.1	8.0	50.0	9.0	47.4	6.0	40.0	35.0	43.7
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.9

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (9)

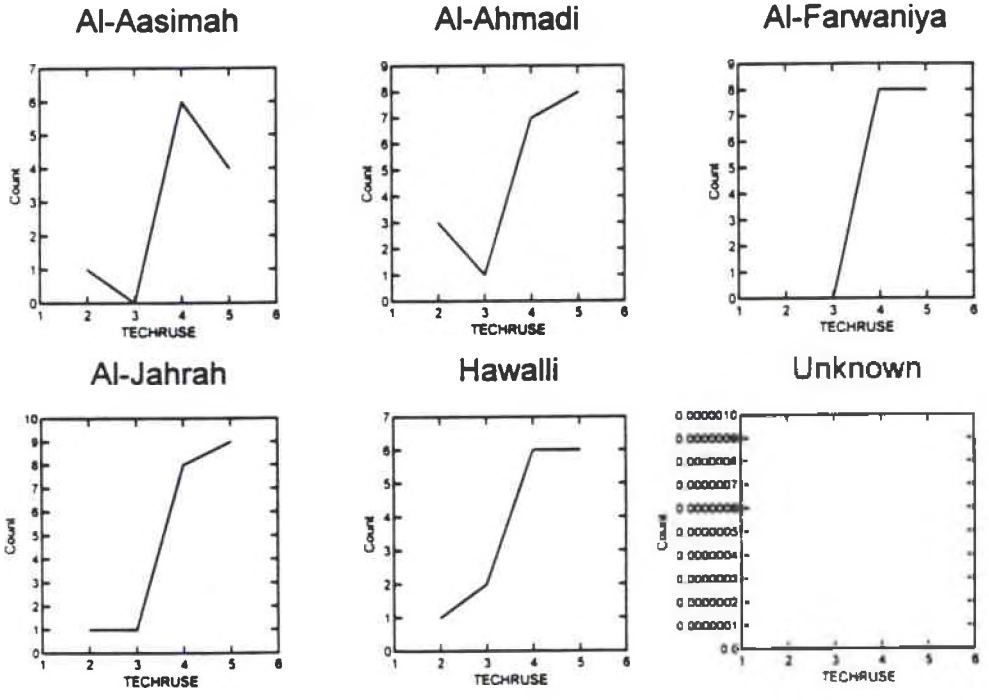


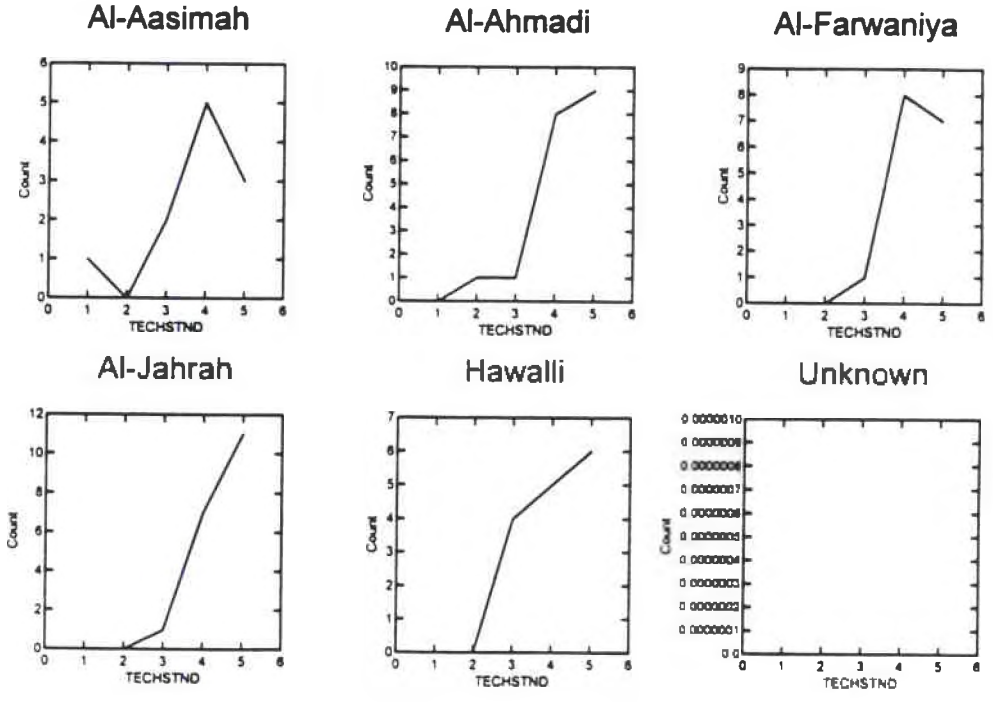
TABLE 6.10

THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (10)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 10	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
D	0.0	0.0	1.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3
U	2.0	18.2	1.0	5.3	1.0	6.2	1.0	5.3	4.0	26.7	9.0	11.3
A	5.0	45.5	8.0	42.1	8.0	50.0	7.0	36.8	5.0	33.3	33.0	41.2
SA	3.0	27.3	9.0	47.4	7.0	43.7	11.0	57.9	6.0	40.0	36.0	45.0
Total	11.0	100.0	19.0	100.0	16.0	100.0	19.0	100.0	15.0	100.0	80.0	100.0

FIGURE 2.10

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF ADMINISTRATORS RESPONSES TO QUESTION NO. (10)



Presentation of Students' Attitudes

Item 1 addressed the students' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE TAUGHT AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS.** The students' responses to this item provided in formation that could help to determine their opinions toward implementing computer technology as an independent subject. Approximately 77 percent of the responding students (n= 146) registered favorable attitudes toward this statement. These students either strongly agreed (n= 96, 50.8 percent) or agreed (n= 50, 26.5 percent). Similar response rates were found in all five governorates regarding computer technology subject in K-12 schools. See Table 7.1, and Figure 3.1 on page 66 for additional tabular and graphic information. Of the 189 total students responding to this item, 26 students (13.8 percent) remained unaligned in their responses. Only 17 students (9 percent) disagreed to this statement. Of these 17 students in disagreement, 8 were from the Al Farwaniya governorate.

Item 2 addressed the students' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE INTEGRATED IN ALL SUBJECTS.** The responses of students to this item attempted to determine their opinions toward integrating computer technology in all content areas. Approximately 60 percent of the responding students (n= 113) supported this statement. These students either strongly agreed (n= 64, 33.9 percent) or agreed (n= 49, 25.9 percent). Apparently, only slight dissimilar response rates were found in all five governorates regarding integrating computer technology in all disciplines in K-12 schools. See Table 7.2, and Figure 3.2 on page 67 for additional tabular and graphic information. Of the 189 total students responding to this item, 48 students (25.4 percent) remained unaligned in their responses. Only 28 students (14.8 percent)

disagreed to this statement. Of these 28 students in disagreement, 8 were from the Al Farwaniya governorate, and 5 were from the Al Ahmadi governorate. Examination of Table 7.2 appears to indicate slightly different opinions based on location.

Item 3 addressed the students' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY WILL IMPROVE THE OVERALL EFFECTIVENESS OF OUR STUDENTS' LEARNING.** The responses of students to this item helped to discover their opinions toward the effectiveness of computer technology on students' learning. Approximately 90 percent of the responding students (n= 170) endorsed this statement. These students either strongly agreed (n= 122, 64.9 percent) or agreed (n= 48, 25.5 percent). Similar response rates were found in all five governorates regarding the effectiveness of computer technology on students' learning. See Table 7.3, and Figure 3.3 on page 68 for additional tabular and graphic information. Of the 188 total students responding to this item, 13 students (6.9 percent) remained unaligned in their responses. Only 5 students (2.7 percent) disagreed to this statement. Of these 5 students in disagreement, 2 were from the Al Farwaniya governorate, and 2 were from the Al Ahmadi governorate.

Item 4 addressed the students' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY DOES A GREAT IMPACT ON EDUCATION, AND IN STUDENTS' ACHIEVEMENT.** The responses of students to this item allowed us to determine their opinions toward the impact of computer technology on education, and in students' achievement. Approximately 88 percent of the responding students (n= 187) expressed support toward this statement. These students either strongly agreed (n= 96, 51.3 percent) or agreed (n= 68, 36.4 percent). Apparently, similar response rates were found in all five governorates regarding the impact of computer technology on education,

and in students' achievement. See Table 7.4, and Figure 3.4 on page 69 for additional tabular and graphic information. Of the 187 total students responding to this item, 13 students (7 percent) remained unaligned in his/her response. Only 10 students (5.3 percent) disagreed to this statement. Of these 10 students in disagreement, 4 were from the Al Farwaniya governorate.

Item 5 addressed the students' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS A GOOD IDEA.** The students' responses to this item helped to determine their opinions toward the idea of having computer technology as an independent subject. Approximately 81 percent of the responding students (n= 151) registered their favorable attitudes toward this statement. These students either strongly agreed (n= 93, 49.7 percent) or agreed (n= 58, 31 percent). Similar response rates were found in all five governorates regarding the goodness of having computer technology subject. See Table 7.5, and Figure 7.5 on page 70 for additional tabular and graphic information. Of the 187 total students responding to this item, 23 students (12.3 percent) remained unaligned in their responses. Only 13 students (6.9 percent) disagreed to this statement. Of these 13 students in disagreement, 8 were from the Hawalli governorate.

Item 6 addressed the students' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC.** The students' responses to this item enables us to determine their opinions as to how realistic it is to have computer technology as an independent subject. Approximately 58 percent of the responding students (n= 108) supported this statement. These students either strongly

agreed (n= 64, 34.2 percent) or agreed (n= 44, 23.5 percent). Different response rates were found in all five governorates regarding how realistic it is to implement computer technology subject in K-12 schools. See Table 7.6, and Figure 3.6 on page 71 for additional tabular and graphic information. Of the 187 total students responding to this item, 44 students (23.5 percent) remained uncommitted in their responses. Only 35 students (18.8 percent) disagreed to this statement. Of these 35 students in disagreement, 10 were from the Al Farwaniya governorate, and 8 were from the Hawalli governorate. Not only were these more diverse responses, the students clearly appeared less enthusiastic regarding this item.

Item 7 addressed the students' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS POSSIBLE.** The students' responses to this item helped to determine their opinions toward the possibility of having computer technology taught as a separate subject. Approximately 68 percent of the responding students (n= 125) favored this statement. These students either strongly agreed (n= 59, 32.1 percent) or agreed (n= 66, 35.9 percent). Dissimilar response rates were found in all five governorates regarding the possibility of having computer technology subject. See Table 7.7, and Figure 3.7 on page 72 for additional tabular and graphic information. Of the 184 total students responding to this item, 35 students (19 percent) remained unaligned in their responses. Only 24 students (13.1 percent) disagreed to this statement. Of these 24 students in disagreement, 10 were from the Al Jahrah governorate, 5 were from the Al Farwaniya governorate, and 5 were from the Hawalli governorate. Thus, we can see slightly different opinions based on location.

Item 8 addressed the students' attitudes toward the statement, **UNIVERSITIES,**

COLLEGES, AND OTHER POST SECONDARY INSTITUTIONS SHOULD PREPARE COMPUTER TEACHERS IN ADDITION TO PREPARING COMPUTER TECHNOLOGY SPECIALISTS, MATHEMATICS TEACHERS, SCIENCE TEACHERS, AND ART TEACHERS. The students' responses to this item aided to determine their opinions toward computer teacher preparation. Approximately 81 percent of the responding students (n= 153) affirmed this statement. These students either strongly agreed (n= 117, 61.9 percent) or agreed (n= 36, 19 percent). Apparently, similar response rates were found in all five governorates regarding computer teacher preparation. See Table 7.8, and Figure 3.8 on page 73 for additional tabular and graphic information. Of the 189 total students responding to this item, 25 students (13.2 percent) remained unaligned in their responses. Only 11 students (5.8 percent) disagreed to this statement. Of these 11 students in disagreement, 4 were from the Al Ahmadi governorate.

Item 9 addressed the students' attitudes toward the statement, **CURRENT TEACHERS (BOTH EXPERTS AND NOVICES) SHOULD USE COMPUTER AND ITS RELATED TECHNOLOGY INTO THEIR INSTRUCTION AND CURRICULUMS.** The students' responses to this item permitted investigation of their opinions toward integrating computer technology in the schools. Approximately 76 percent of the responding students (n= 143) registered a favorable attitudes toward this statement. These students either strongly agreed (n= 81, 43.1 percent) or agreed (n= 62, 33 percent). Similar response rates were found in all five governorates regarding integrating computer technology in K-12 schools. See Table 7.9, and Figure 3.9 on page 74 for additional tabular and graphic information. Of the 188 total students responding to this item, 35 students (18.6 percent) remained uncommitted in their responses. Only 10 students (5.4 percent) disagreed to this statement. Of these 10 students in disagreement, 3 were from

the Al Ahmadi governorate, and another 3 were from the Al Farwaniya governorate.

Item 10 addressed the students' attitudes toward the statement, **WE NEED NATIONAL TECHNOLOGY STANDARDS IN ORDER TO IMPLEMENT THE COMPUTER AND ITS RELATED TECHNOLOGY IN OUR SCHOOLS AS AN INDEPENDENT SUBJECT.** The students' responses to this item allowed an examination of their opinions toward having national technology standards. Approximately 76 percent of the responding students (n= 143) endorsed this statement. These students either strongly agreed (n= 91, 48.1 percent) or agreed (n= 52, 27.5 percent). Apparently, similar response rates were found in all five governorates regarding national technology standards in K-12 schools. See Table 7.10, and Figure 3.10 on page 75 for additional tabular and graphic information. Of the 189 total students responding to this item, 37 students (19.6 percent) remained unaligned in their responses. Only 9 students (4.7 percent) disagreed to this statement. Of these 9 students in disagreement, 3 were from the Al Aasimah governorate, and another 3 were from the Al Farwaniya governorate.

TABLE 7.1

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (1)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 1	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.9	2.0	5.0	1.0	2.8	0.0	0.0	0.0	0.0	4.0	2.1
D	0.0	0.0	3.0	8.8	6.0	15.0	2.0	5.6	2.0	5.1	0.0	0.0	13.0	6.9
U	3.0	7.9	5.0	14.7	6.0	15.0	5.0	13.9	7.0	17.9	0.0	0.0	26.0	13.8
A	10.0	26.3	8.0	23.5	9.0	22.5	15.0	41.7	7.0	17.9	1.0	50.0	50.0	26.5
SA	25.0	65.8	17.0	50.0	17.0	42.5	13.0	36.1	23.0	59.0	1.0	50.0	96.0	50.8
Total	38.0	100.0	34.0	100.0	40.0	100.0	36.0	100.0	39.0	100.0	2.0	100.0	189.0	100.0

FIGURE 3.1

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (1)

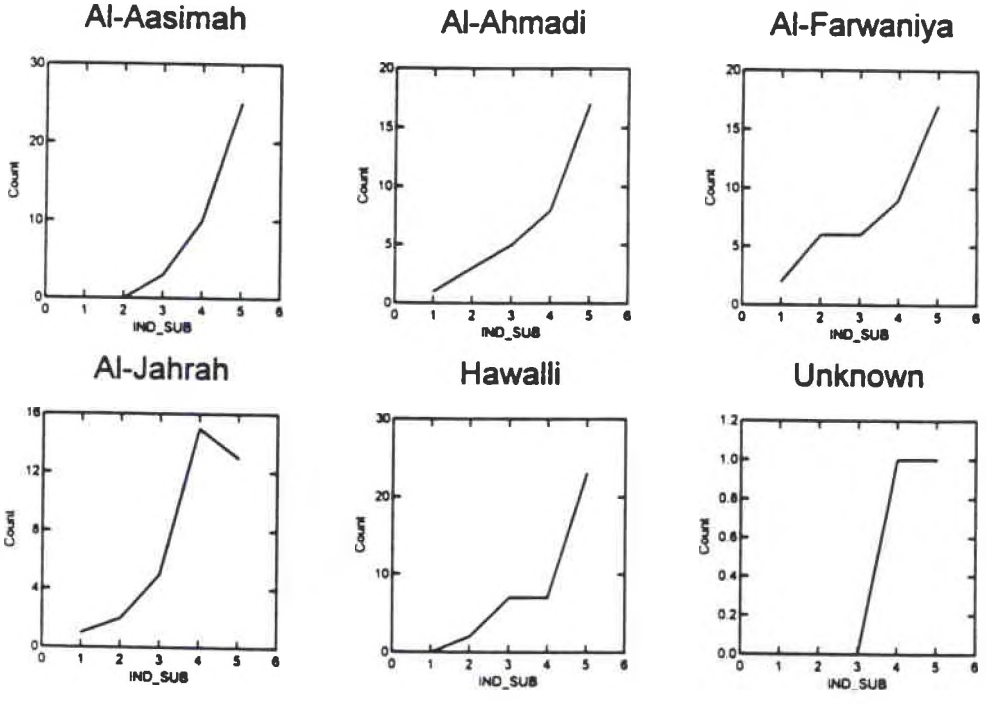


TABLE 7.2

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (2)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 2	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	2.6	3.0	8.8	5.0	12.5	2.0	5.6	0.0	0.0	0.0	0.0	11.0	5.8
D	2.0	5.3	2.0	5.9	3.0	7.5	5.0	13.9	5.0	12.8	0.0	0.0	17.0	9.0
U	13.0	34.2	7.0	20.6	12.0	30.0	8.0	22.2	8.0	20.5	0.0	0.0	48.0	25.4
A	4.0	10.5	9.0	26.5	11.0	27.5	13.0	36.1	10.0	25.6	2.0	100.0	49.0	25.9
SA	18.0	47.4	13.0	38.2	9.0	22.5	8.0	22.2	16.0	41.0	0.0	0.0	64.0	33.9
Total	38.0	100.0	34.0	100.0	40.0	100.0	36.0	100.0	39.0	100.0	2.0	100.0	189.0	100.0

FIGURE 3.2

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (2)

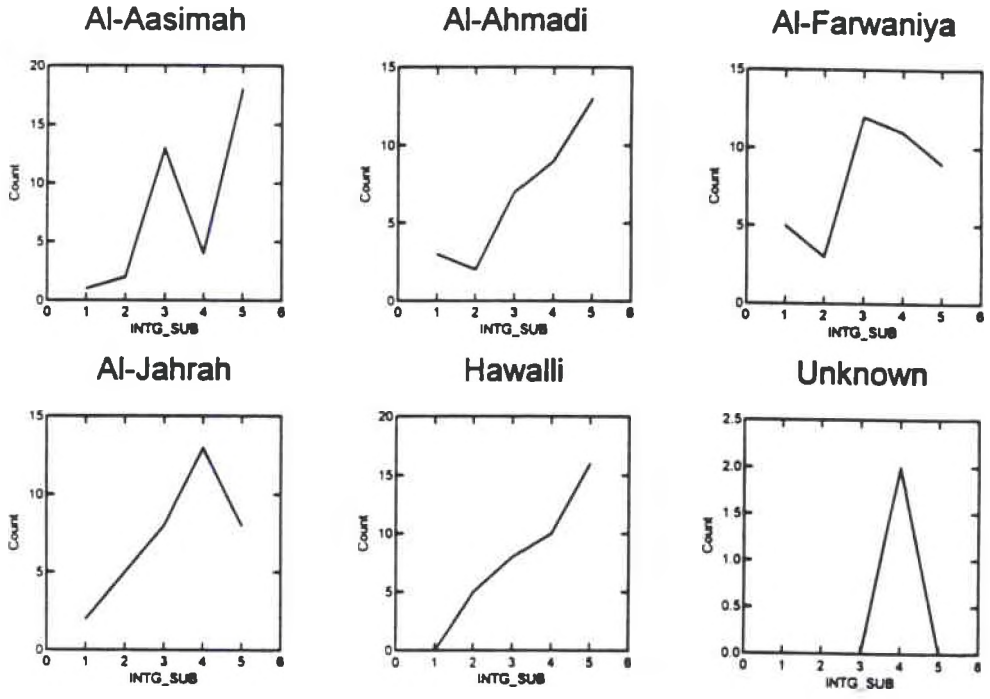


TABLE 7.3

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (3)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 3	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.9	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.1
D	0.0	0.0	1.0	2.9	1.0	2.5	0.0	0.0	1.0	2.6	0.0	0.0	3.0	1.6
U	0.0	0.0	1.0	2.9	5.0	12.5	3.0	8.3	4.0	10.5	0.0	0.0	13.0	6.9
A	11.0	28.9	13.0	38.2	4.0	10.0	10.0	27.8	9.0	23.7	1.0	50.0	48.0	25.5
SA	27.0	71.1	18.0	52.9	29.0	72.5	23.0	63.9	24.0	63.2	1.0	50.0	122.0	64.9
Total	38.0	100.0	34.0	100.0	40.0	100.0	36.0	100.0	38.0	100.0	2.0	100.0	188.0	100.0

FIGURE 3.3

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (3)

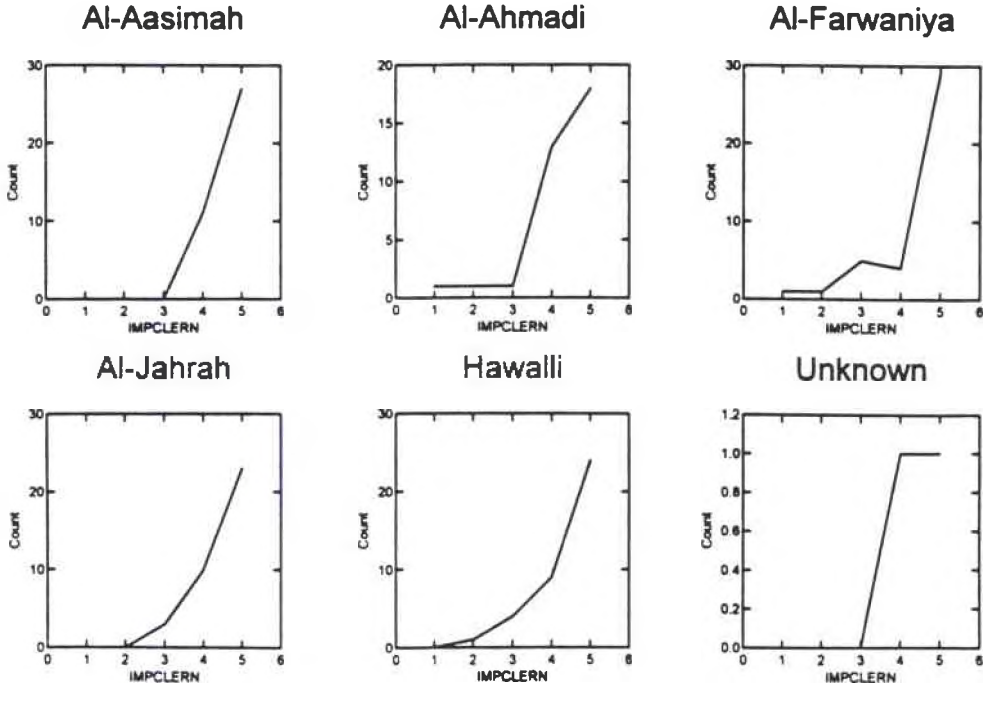


TABLE 7.4

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (4)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 4	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	3.0	4.0	10.0	1.0	2.8	0.0	0.0	0.0	0.0	6.0	3.2
D	2.0	5.3	0.0	0.0	0.0	0.0	1.0	2.8	1.0	2.6	0.0	0.0	4.0	2.1
U	0.0	0.0	3.0	9.1	6.0	15.0	3.0	8.3	1.0	2.6	0.0	0.0	13.0	7.0
A	14.0	36.8	16.0	48.5	11.0	27.5	12.0	33.3	14.0	36.8	1.0	50.0	68.0	36.4
SA	22.0	57.9	13.0	39.4	19.0	47.5	19.0	52.8	22.0	57.9	1.0	50.0	96.0	51.3
Total	38.0	100.0	33.0	100.0	40.0	100.0	36.0	100.0	38.0	100.0	2.0	100.0	187.0	100.0

FIGURE 3.4

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (4)

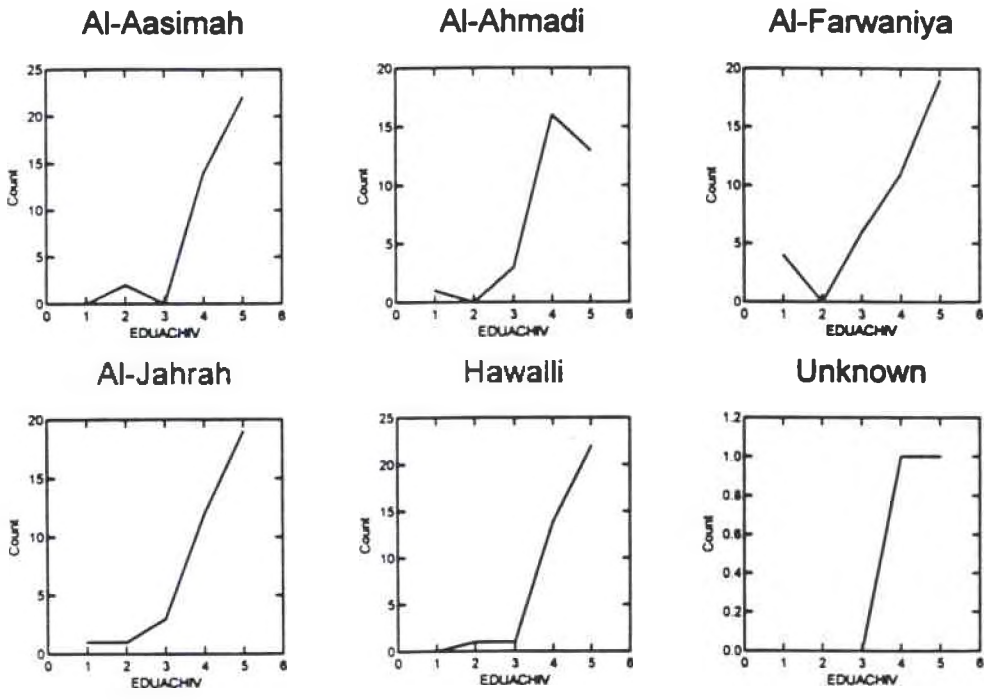


TABLE 7.5

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (5)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 5	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	2.0	5.9	1.0	2.5	0.0	0.0	3.0	7.7	0.0	0.0	6.0	3.2
D	0.0	0.0	0.0	0.0	2.0	5.0	0.0	0.0	5.0	12.8	0.0	0.0	7.0	3.7
U	2.0	5.4	6.0	17.6	10.0	25.0	4.0	11.4	1.0	2.6	0.0	0.0	23.0	12.3
A	8.0	21.6	14.0	41.2	10.0	25.0	13.0	37.1	12.0	30.8	1.0	50.0	58.0	31.0
SA	27.0	73.0	12.0	35.3	17.0	42.5	18.0	51.4	18.0	46.2	1.0	50.0	93.0	49.7
Total	37.0	100.0	34.0	100.0	40.0	100.0	35.0	100.0	39.0	100.0	2.0	100.0	187.0	100.0

FIGURE 3.5

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (5)

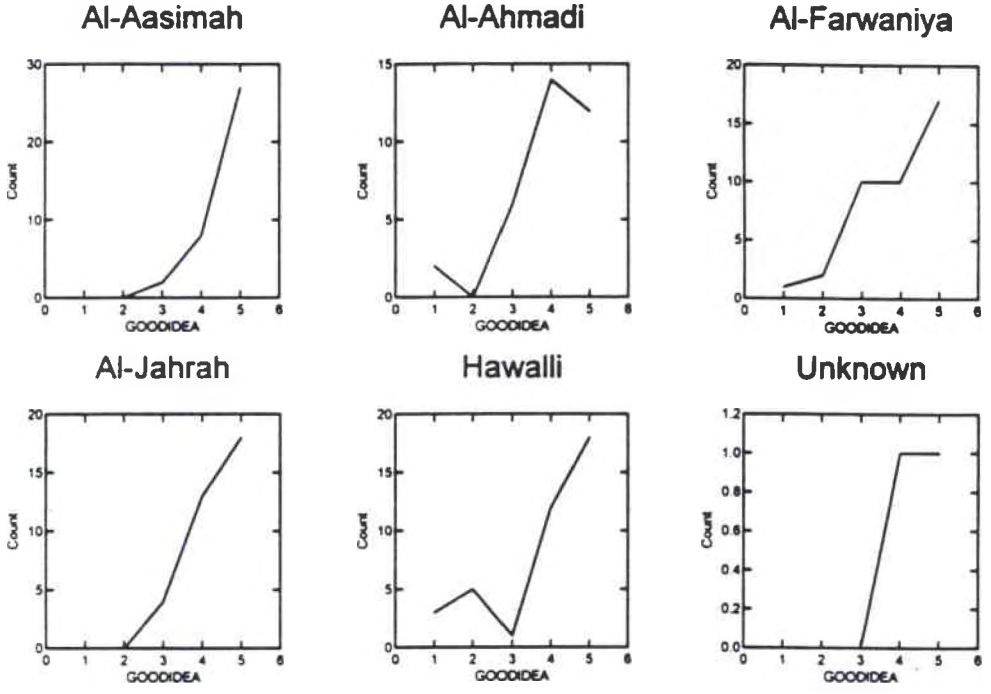


TABLE 7.6

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (6)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 6	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	4.0	10.5	3.0	8.8	3.0	7.5	3.0	8.6	3.0	7.9	0.0	0.0	16.0	8.6
D	1.0	2.6	3.0	8.8	7.0	17.5	3.0	8.6	5.0	13.2	0.0	0.0	19.0	10.2
U	11.0	28.9	7.0	20.6	10.0	25.0	9.0	25.7	5.0	13.2	2.0	100.0	44.0	23.5
A	7.0	18.4	9.0	26.5	8.0	20.0	10.0	28.6	10.0	26.3	0.0	0.0	44.0	23.5
SA	15.0	39.5	12.0	35.3	12.0	30.0	10.0	28.6	15.0	39.5	0.0	0.0	64.0	34.2
Total	38.0	100.0	34.0	100.0	40.0	100.0	35.0	100.0	38.0	100.0	2.0	100.0	187.0	100.0

FIGURE 3.6

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (6)

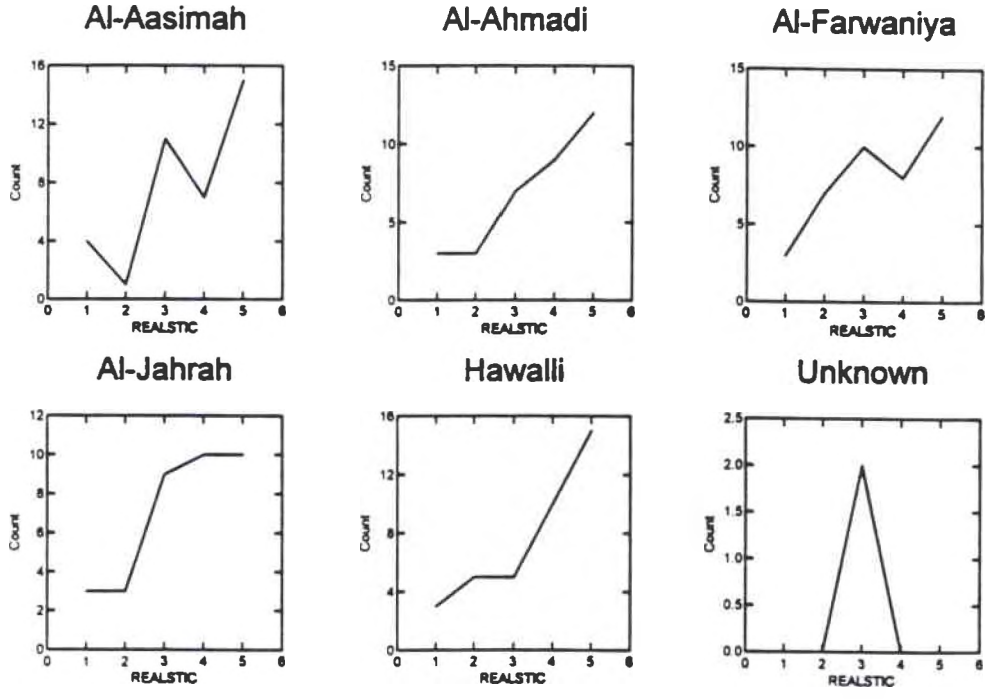


TABLE 7.7

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (7)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 7	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	3.4	1.0	2.5	5.0	13.9	2.0	5.1	0.0	0.0	9.0	4.9
D	1.0	2.6	2.0	6.9	4.0	10.0	5.0	13.9	3.0	7.7	0.0	0.0	15.0	8.2
U	3.0	7.9	5.0	17.2	11.0	27.5	8.0	22.2	7.0	17.9	1.0	50.0	35.0	19.0
A	16.0	42.1	7.0	24.1	16.0	40.0	11.0	30.6	15.0	38.5	1.0	50.0	66.0	35.9
SA	18.0	47.4	14.0	48.3	8.0	20.0	7.0	19.4	12.0	30.8	0.0	0.0	59.0	32.1
Total	38.0	100.0	29.0	100.0	40.0	100.0	36.0	100.0	39.0	100.0	2.0	100.0	184.0	100.0

FIGURE 3.7

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (7)

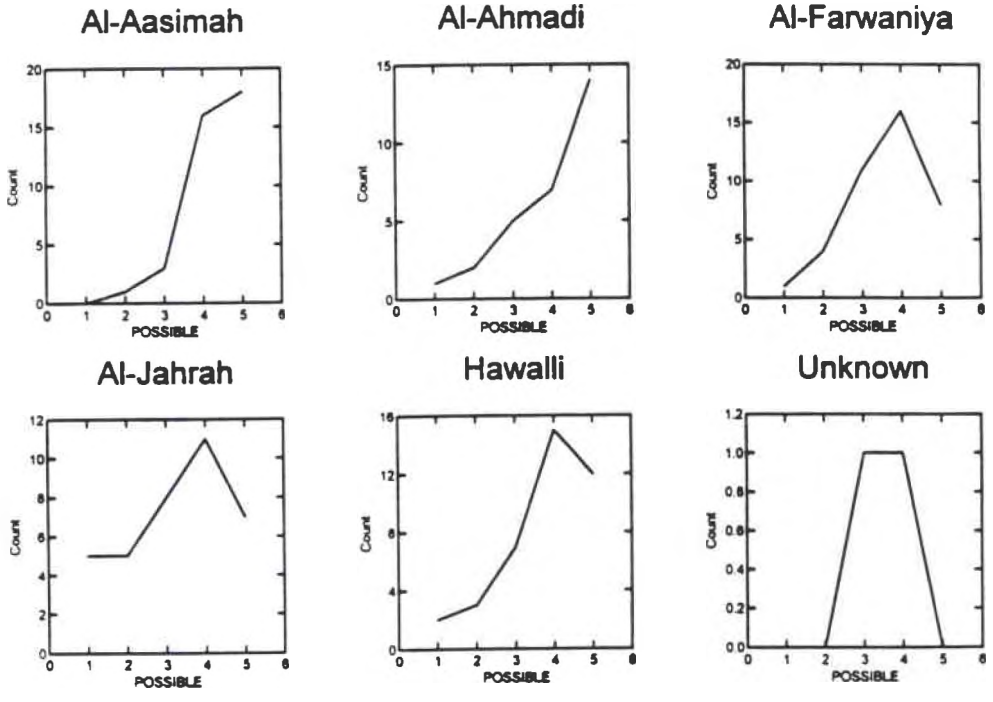


TABLE 7.8

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (8)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 8	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	2.6	1.0	2.9	0.0	0.0	0.0	0.0	1.0	2.6	0.0	0.0	3.0	1.6
D	1.0	2.6	3.0	8.8	3.0	7.5	1.0	2.8	0.0	0.0	0.0	0.0	8.0	4.2
U	6.0	15.8	3.0	8.8	6.0	15.0	7.0	19.4	3.0	7.7	0.0	0.0	25.0	13.2
A	9.0	23.7	4.0	11.8	8.0	20.0	7.0	19.4	7.0	17.9	1.0	50.0	36.0	19.0
SA	21.0	55.3	23.0	67.6	23.0	57.5	21.0	58.3	28.0	71.8	1.0	50.0	117.0	61.9
Total	38.0	100.0	34.0	100.0	40.0	100.0	36.0	100.0	39.0	100.0	2.0	100.0	189.0	100.0

FIGURE 3.8

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (8)

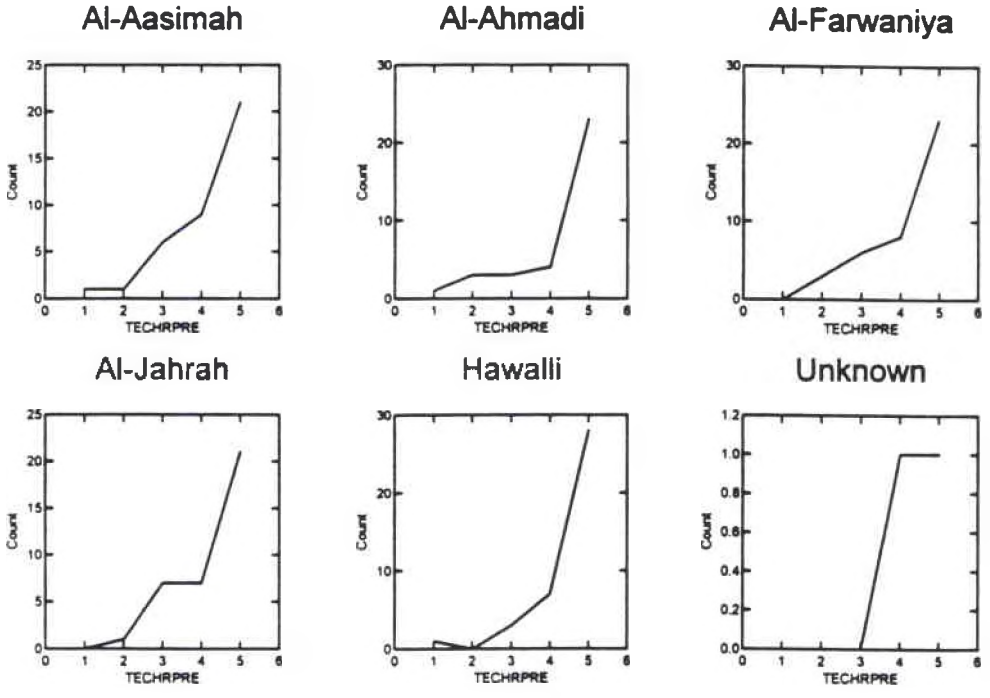


TABLE 7.9

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (9)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 9	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	2.0	6.1	2.0	5.0	1.0	2.8	0.0	0.0	0.0	0.0	5.0	2.7
D	2.0	5.3	1.0	3.0	1.0	2.5	1.0	2.8	0.0	0.0	0.0	0.0	5.0	2.7
U	9.0	23.7	4.0	12.1	7.0	17.5	13.0	36.1	2.0	5.1	0.0	0.0	35.0	18.6
A	8.0	21.1	12.0	36.4	13.0	32.5	10.0	27.8	19.0	48.7	0.0	0.0	62.0	33.0
SA	19.0	50.0	14.0	42.4	17.0	42.5	11.0	30.6	18.0	46.2	2.0	100.0	81.0	43.1
Total	38.0	100.0	33.0	100.0	40.0	100.0	36.0	100.0	39.0	100.0	2.0	100.0	188.0	100.0

FIGURE 3.9

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (9)

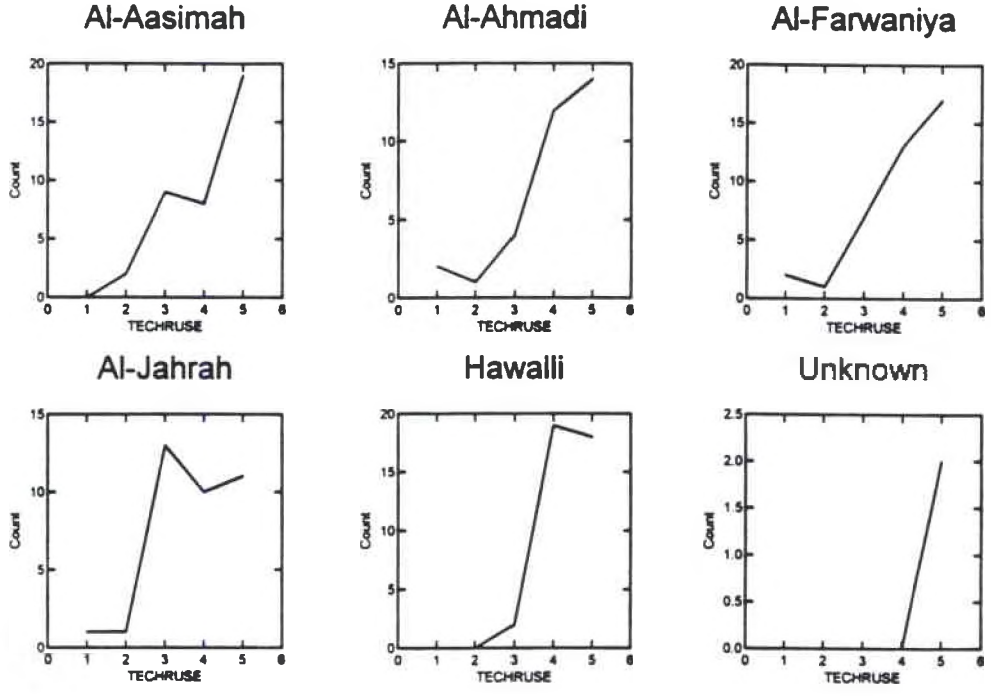


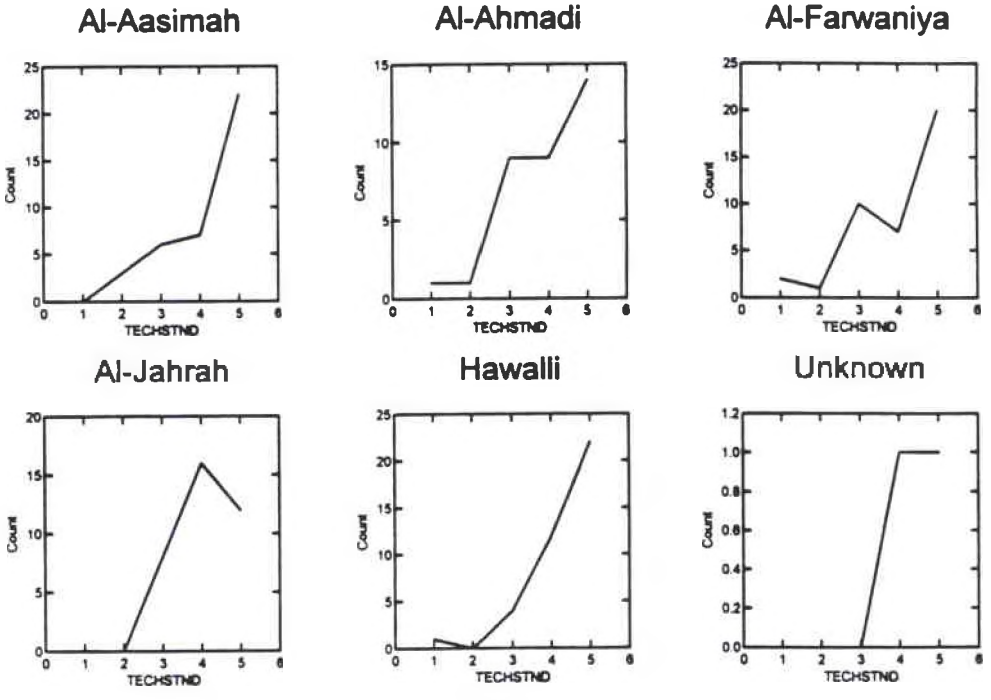
TABLE 7.10

THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (10)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 10	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.9	2.0	5.0	0.0	0.0	1.0	2.6	0.0	0.0	4.0	2.1
D	3.0	7.9	1.0	2.9	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.6
U	6.0	15.8	9.0	26.5	10.0	25.0	8.0	22.2	4.0	10.3	0.0	0.0	37.0	19.6
A	7.0	18.4	9.0	26.5	7.0	17.5	16.0	44.4	12.0	30.8	1.0	50.0	52.0	27.5
SA	22.0	57.9	14.0	41.2	20.0	50.0	12.0	33.3	22.0	56.4	1.0	50.0	91.0	48.1
Total	38.0	100.0	34.0	100.0	40.0	100.0	36.0	100.0	39.0	100.0	2.0	100.0	189.0	100.0

FIGURE 3.10

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF STUDENTS RESPONSES TO QUESTION NO. (10)



Presentation of Parents' Attitudes

Item 1 addressed the parents' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE TAUGHT AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS.** The responses of parents to this item permitted investigation of their opinions toward implementing computer technology as an independent subject. Approximately 91 percent of the responding parents (n= 192) confirmed their support toward this statement. These parents either strongly agreed (n= 116, 55 percent) or agreed (n= 76, 36 percent). Similar response rates were found in all five governorates regarding computer technology subject in K-12 schools. See Table 8.1, and Figure 4.1 on page 82 for additional tabular and graphic information. Of the 211 total parents responding to this item, 10 parents (4.7 percent) remained nonaligned in their responses. Only 9 parents (4.2 percent) disagreed to this statement. Of these 9 parents in disagreement, 5 were from the Al Ahmadi governorate.

Item 2 addressed the parents' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE INTEGRATED IN ALL SUBJECTS.** The parents' responses to this item helped to determine their opinions toward integrating computer technology in all content areas. Approximately 67 percent of the responding parents (n= 142) validated this statement. These parents either strongly agreed (n= 62, 29.4 percent) or agreed (n= 80, 37.9 percent). Apparently, only slight dissimilar response rates were found in all five governorates regarding integrating computer technology in all disciplines in K-12 schools. See Table 8.2, and Figure 4.2 on page 83 for additional tabular and graphic information. Of the 211 total parents responding to this item, 29 parents (13.7 percent) remained uncommitted in their responses. Only 40 parents (19 percent)

disagreed to this statement. Of these 40 parents in disagreement, 10 were from the Al Aasimah governorate, 8 were from the Al Farwaniya governorate, 8 were from the Hawalli governorate, 7 were from the Al Jahrah governorate, and 5 were from the Al Ahmadi governorate. Thus, we can see slightly different opinions based on location.

Item 3 addressed the parents' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY WILL IMPROVE THE OVERALL EFFECTIVENESS OF OUR STUDENTS' LEARNING.** The responses of parents to this item allowed us to determine their opinions toward the effectiveness of computer technology on students' learning. Approximately 92 percent of the responding parents (n= 194) endorsed this statement. These parents either strongly agreed (n= 118, 56.2 percent) or agreed (n= 76, 36.2 percent). Apparently, similar response rates were found in all five governorates regarding the effectiveness of computer technology on students' learning. See Table 8.3, and Figure 4.3 on page 84 for additional tabular and graphic information. Of the 210 total parents responding to this item, 14 parents (6.7 percent) remained neutral in their responses. Only 2 parents (1 percent) disagreed to this statement. These 2 parents were from the Al Ahmadi governorate.

Item 4 addressed the parents' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY DOES A GREAT IMPACT ON EDUCATION, AND IN STUDENTS' ACHIEVEMENT.** The parents' responses to this item helped to discover their opinions toward the impact of computer technology on education, and in students' achievement. Approximately 92 percent of the responding parents (n= 194) corroborated this statement. These parents either strongly agreed (n= 92, 43.4 percent) or agreed (n= 102, 48.1 percent). Similar response rates were found in all five governorates regarding the impact of computer technology on education, and in students' achievement. See Table

8.4, and Figure 4.4 on page 85 for additional tabular and graphic information. Of the 212 total parents responding to this item, 16 parents (7.5 percent) remained unaligned in their responses. Only 2 parents (1 percent) disagreed to this statement. Of these 2 parents in disagreement, 1 was from the Al Ahmadi governorate, and 1 was from the Al Jahrah governorate .

Item 5 addressed the parents' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS A GOOD IDEA.** The parents' responses to this item allowed an examination of their opinions toward the idea of having computer technology as an independent subject. Approximately 88 percent of the responding parents (n= 187) validated this statement. These parents either strongly agreed (n= 99, 46.7 percent) or agreed (n= 88, 41.5 percent). Similar response rates were found in all five governorates regarding the goodness of having computer technology subject. See Table 8.5, and Figure 4.5 on page 86 for additional tabular and graphic information. Of the 212 total parents responding to this item, 17 parents (8 percent) remained uncommitted in their responses. Only 8 parents (3.8 percent) disagreed to this statement. Of these 8 parents in disagreement, 4 were from the Al Ahmadi governorate.

Item 6 addressed the parents' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC.** The parents' responses to this item provided information that could help to determine their opinions as to how realistic it is to have computer technology as an independent subject. Approximately 58 percent of the responding parents (n= 121) expressed support toward this statement. These parents either strongly agreed (n= 45, 21.5 percent) or agreed (n=

76, 36.4 percent). Different response rates were found in all five governorates regarding how realistic it is to implement computer technology subject in K-12 schools. See Table 8.6, and Figure 4.6 on page 87 for additional tabular and graphic information. Of the 209 total parents responding to this item, 54 parents (25.8 percent) remained nonaligned in their responses. Only 34 parents (16.3 percent) disagreed to this statement. Of these 34 parents in disagreement, 11 were from the Al Aasimah governorate, and 9 were from the Al Ahmadi governorate. Not only were these more diverse responses, the parents clearly appeared less enthusiastic regarding this item.

Item 7 addressed the parents' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS POSSIBLE.** The parents' responses to this item provided a record of their opinions toward the possibility of having computer technology taught as a separate subject. Approximately 77 percent of the responding parents (n= 157) registered affirmative opinions toward this statement. These parents either strongly agreed (n= 73, 35.8 percent) or agreed (n= 84, 41.2 percent). Similar response rates were found in all five governorates regarding the possibility of having computer technology subject except for 6 individuals (parents) from the Al Ahmadi governorate and 4 from the Al Aasimah governorate. The frequency polygons were quite the same for all five governorates. See Table 8.7, and Figure 4.7 on page 88 for additional tabular and graphic information. Of the 204 total parents responding to this item, 32 parents (15.7 percent) remained neutral in their responses. Only 15 parents (7.4 percent) disagreed to this statement. Of these 15 parents in disagreement, 6 were from the Al Ahmadi governorate, and 4 were from the Al Aasimah governorate.

Item 8 addressed the parents' attitudes toward the statement, **UNIVERSITIES, COLLEGES, AND OTHER POST SECONDARY INSTITUTIONS SHOULD PREPARE COMPUTER TEACHERS IN ADDITION TO PREPARING COMPUTER TECHNOLOGY SPECIALISTS, MATHEMATICS TEACHERS, SCIENCE TEACHERS, AND ART TEACHERS.** The responses of parents to this item helped to discover their opinions toward computer teacher preparation. Approximately 90 percent of the responding parents (n= 190) expressed support toward this statement. These parents either strongly agreed (n= 130, 61.3 percent) or agreed (n= 60, 28.3 percent). Apparently, similar response rates were found in all five governorates regarding computer teacher preparation. See Table 8.8, and Figure 4.8 on page 89 for additional tabular and graphic information. Of the 212 total parents responding to this item, 17 parents (8 percent) remained unaligned in their responses. Only 5 parents (2.4 percent) disagreed to this statement. Of these 5 parents in disagreement, 3 were from the Al Ahmadi governorate.

Item 9 addressed the parents' attitudes toward the statement, **CURRENT TEACHERS (BOTH EXPERTS AND NOVICES) SHOULD USE COMPUTER AND ITS RELATED TECHNOLOGY INTO THEIR INSTRUCTION AND CURRICULUMS.** The parents' responses to this item enabled us to determine their opinions toward integrating computer technology in the schools. Approximately 82 percent of the responding parents (n= 172) endorsed this statement. These parents either strongly agreed (n= 84, 40 percent) or agreed (n= 88, 41.9 percent). Similar response rates were found in all five governorates regarding integrating computer technology in K-12 schools. See Table 8.9, and Figure 4.9 on page 90 for additional tabular and graphic information. Of the 210 total parents responding to this item, 26 parents (12.4 percent) remained uncommitted in their responses. Only 12 parents (5.8 percent) disagreed to this statement. Of these 12 parents

in disagreement, 5 were from the Al Ahmadi governorate, and 3 were from the Al Aasimah governorate.

Item 10 addressed the parents' attitudes toward the statement, **WE NEED NATIONAL TECHNOLOGY STANDARDS IN ORDER TO IMPLEMENT THE COMPUTER AND ITS RELATED TECHNOLOGY IN OUR SCHOOLS AS AN INDEPENDENT SUBJECT.** The parents' responses to this item permitted investigation of their opinions toward having national technology standards. Approximately 82 percent of the responding parents (n= 173) sustained this statement. These parents either strongly agreed (n= 88, 41.9 percent) or agreed (n= 85, 40.5 percent). Apparently, similar response rates were found in all five governorates regarding national technology standards in K-12 schools. See Table 8.10, and Figure 4.10 on page 91 for additional tabular and graphic information. Of the 210 total parents responding to this item, 31 parents (14.8 percent) remained unaligned in their responses. Only 6 parents (2.9 percent) disagreed to this statement. Of these 6 parents in disagreement, 2 were from the Al Ahmadi governorate.

TABLE 8.1

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (1)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 1	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	2.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.9
D	1.0	1.6	3.0	7.5	1.0	3.6	1.0	2.9	1.0	2.8	0.0	0.0	7.0	3.3
U	2.0	3.3	2.0	5.0	3.0	10.7	3.0	8.8	0.0	0.0	0.0	0.0	10.0	4.7
A	17.0	27.9	14.0	35.0	11.0	39.3	9.0	26.5	23.0	63.9	2.0	16.7	76.0	36.0
SA	41.0	67.2	19.0	47.5	13.0	46.4	21.0	61.8	12.0	33.3	10.0	83.3	116.0	55.0
Total	61.0	100.0	40.0	100.0	28.0	100.0	34.0	100.0	36.0	100.0	12.0	100.0	211.0	100.0

FIGURE 4.1

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (1)

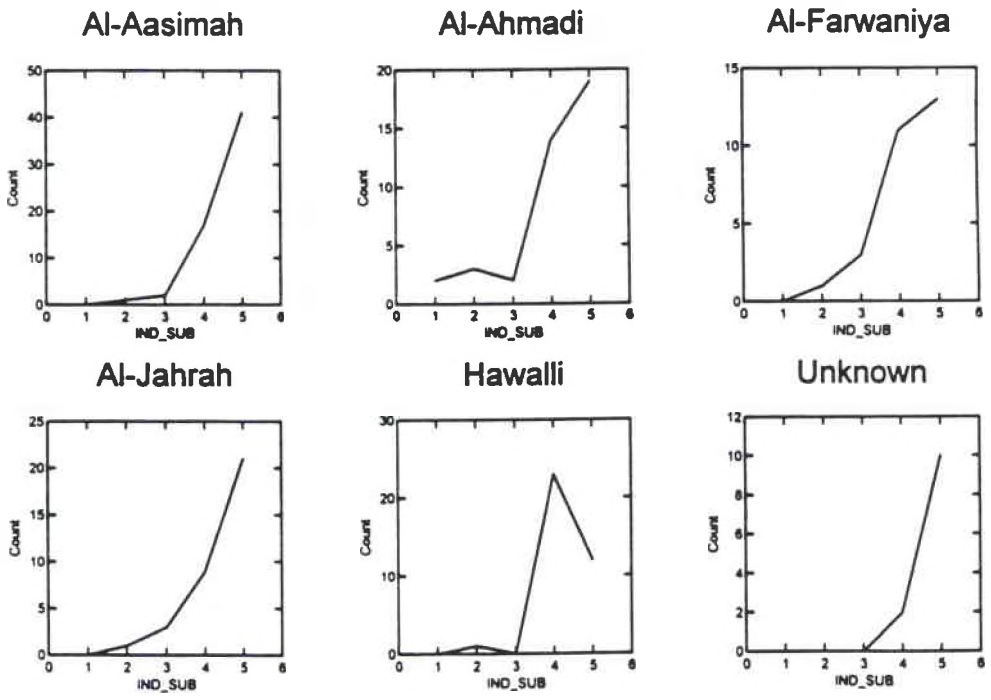


TABLE 8.2

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (2)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 2	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	2.0	3.3	3.0	7.5	0.0	0.0	2.0	5.9	1.0	2.8	0.0	0.0	8.0	3.8
D	8.0	13.1	2.0	5.0	8.0	28.6	5.0	14.7	7.0	19.4	2.0	16.7	32.0	15.2
U	9.0	14.8	8.0	20.0	4.0	14.3	2.0	5.9	6.0	16.7	0.0	0.0	29.0	13.7
A	17.0	27.9	20.0	50.0	9.0	32.1	16.0	47.1	14.0	38.9	4.0	33.3	80.0	37.9
SA	25.0	41.0	7.0	17.5	7.0	25.0	9.0	26.5	8.0	22.2	6.0	50.0	62.0	29.4
Total	61.0	100.0	40.0	100.0	28.0	100.0	34.0	100.0	36.0	100.0	12.0	100.0	211.0	100.0

FIGURE 4.2

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (2)

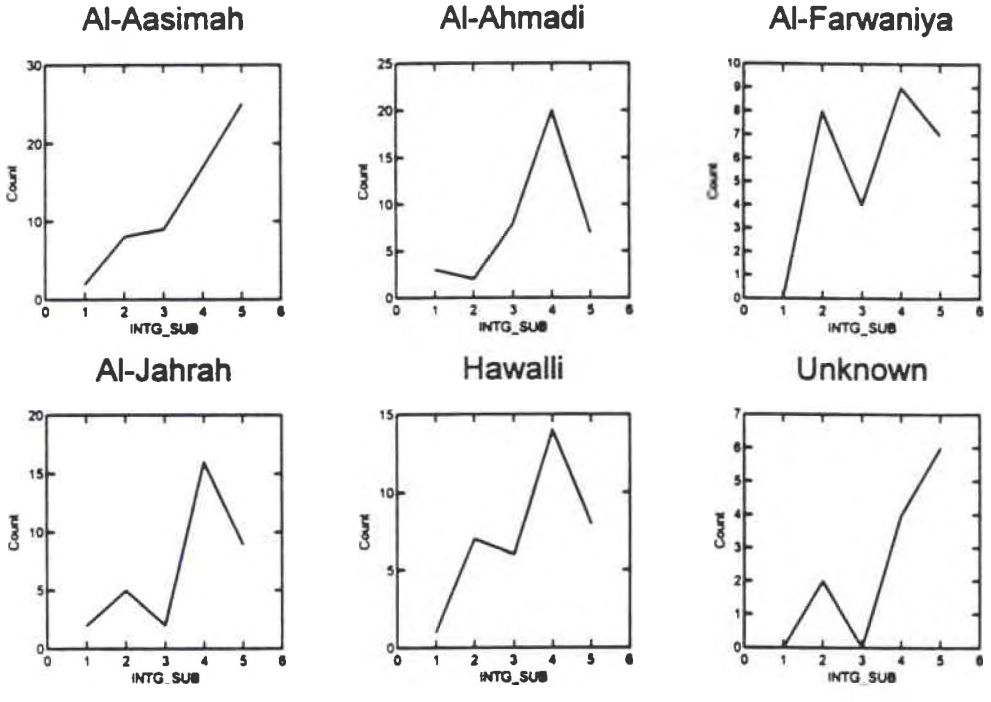


TABLE 8.3

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (3)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 3	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
D	0.0	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
U	2.0	3.3	4.0	10.0	5.0	17.9	1.0	3.0	2.0	5.6	0.0	0.0	14.0	6.7
A	19.0	31.1	21.0	52.5	8.0	28.6	12.0	36.4	14.0	38.9	2.0	16.7	76.0	36.2
SA	40.0	65.6	13.0	32.5	15.0	53.6	20.0	60.6	20.0	55.6	10.0	83.3	118.0	56.2
Total	61.0	100.0	40.0	100.0	28.0	100.0	33.0	100.0	36.0	100.0	12.0	100.0	210.0	100.0

FIGURE 4.3

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (3)

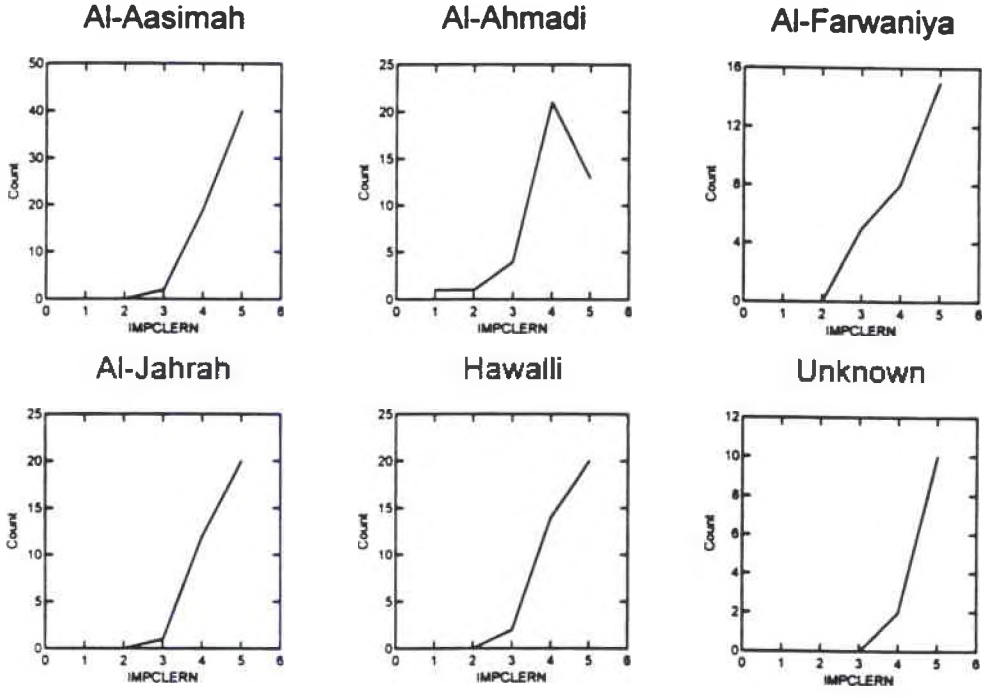


TABLE 8.4

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (4)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 4	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
D	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.9	0.0	0.0	0.0	0.0	1.0	0.5
U	5.0	8.2	2.0	5.0	4.0	14.3	2.0	5.7	3.0	8.3	0.0	0.0	16.0	7.5
A	22.0	36.1	27.0	67.5	12.0	42.9	19.0	54.3	19.0	52.8	3.0	25.0	102.0	48.1
SA	34.0	55.7	10.0	25.0	12.0	42.9	13.0	37.1	14.0	38.9	9.0	75.0	92.0	43.4
Total	61.0	100.0	40.0	100.0	28.0	100.0	35.0	100.0	36.0	100.0	12.0	100.0	212.0	100.0

FIGURE 4.4

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (4)

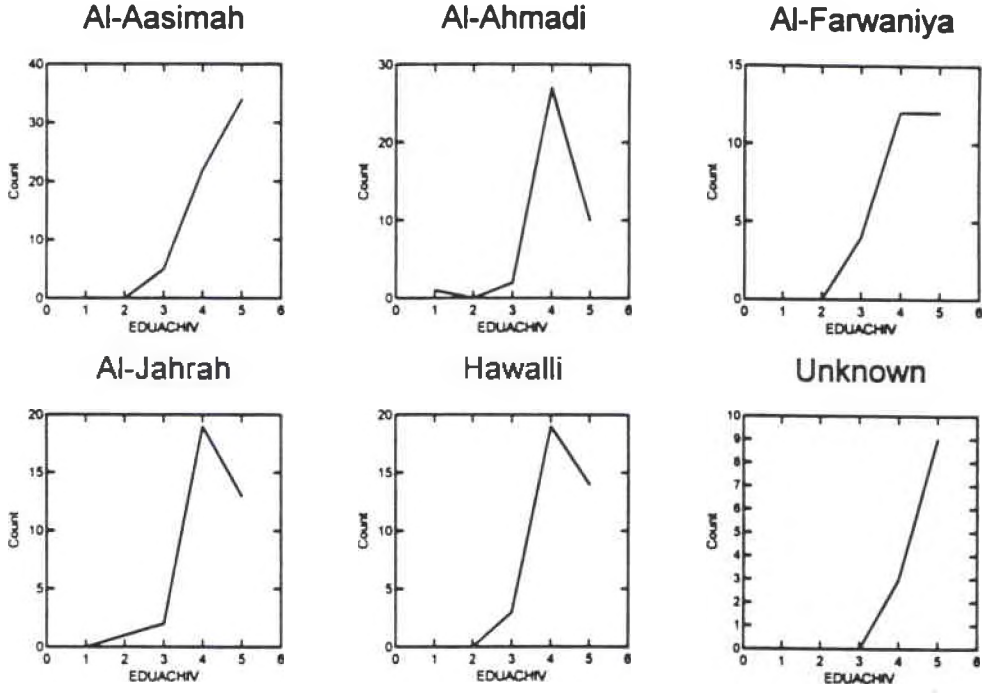


TABLE 8.5

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (5)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 5	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
D	0.0	0.0	3.0	7.5	2.0	7.1	0.0	0.0	1.0	2.8	1.0	8.3	7.0	3.3
U	1.0	1.6	2.0	5.0	7.0	25.0	3.0	8.6	4.0	11.1	0.0	0.0	17.0	8.0
A	23.0	37.7	18.0	45.0	8.0	28.6	15.0	42.9	20.0	55.6	4.0	33.3	88.0	41.5
SA	37.0	60.7	16.0	40.0	11.0	39.3	17.0	48.6	11.0	30.6	7.0	58.3	99.0	46.7
Total	61.0	100.0	40.0	100.0	28.0	100.0	35.0	100.0	36.0	100.0	12.0	100.0	212.0	100.0

FIGURE 4.5

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (5)

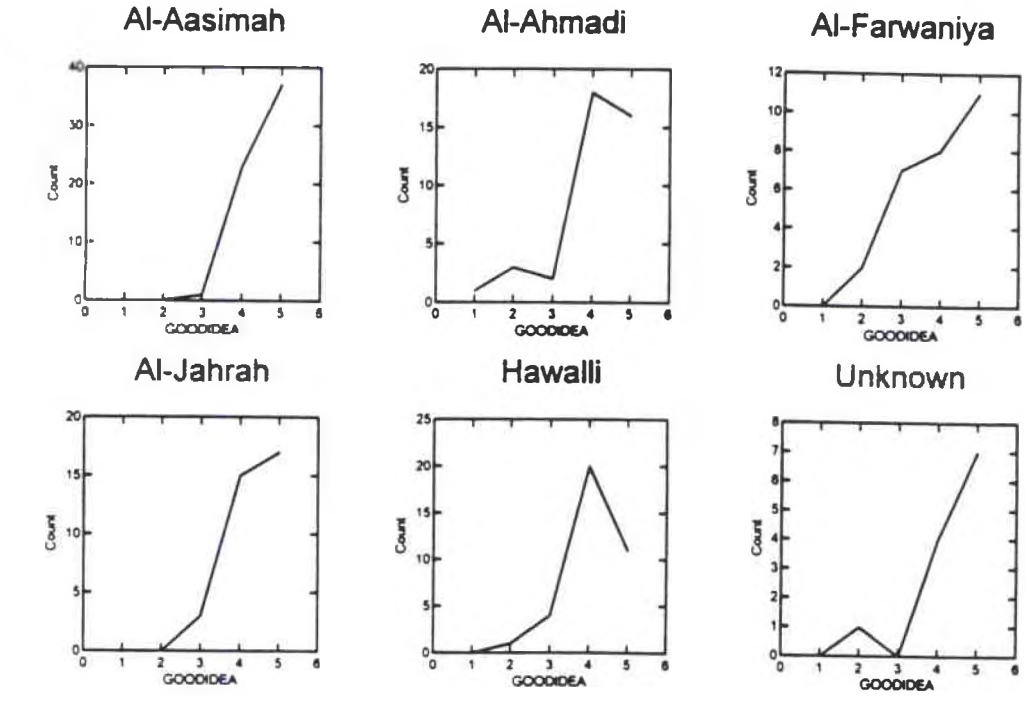


TABLE 8.6

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (6)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 6	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	5.0	8.3	0.0	0.0	3.0	10.7	0.0	0.0	1.0	2.8	0.0	0.0	9.0	4.3
D	6.0	10.0	9.0	22.5	1.0	3.6	2.0	6.1	4.0	11.1	3.0	25.0	25.0	12.0
U	12.0	20.0	5.0	12.5	10.0	35.7	10.0	30.3	13.0	36.1	4.0	33.3	54.0	25.8
A	20.0	33.3	18.0	45.0	7.0	25.0	16.0	48.5	14.0	38.9	1.0	8.3	76.0	36.4
SA	17.0	28.3	8.0	20.0	7.0	25.0	5.0	15.2	4.0	11.1	4.0	33.3	45.0	21.5
Total	60.0	100.0	40.0	100.0	28.0	100.0	33.0	100.0	36.0	100.0	12.0	100.0	209.0	100.0

FIGURE 4.6

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (6)

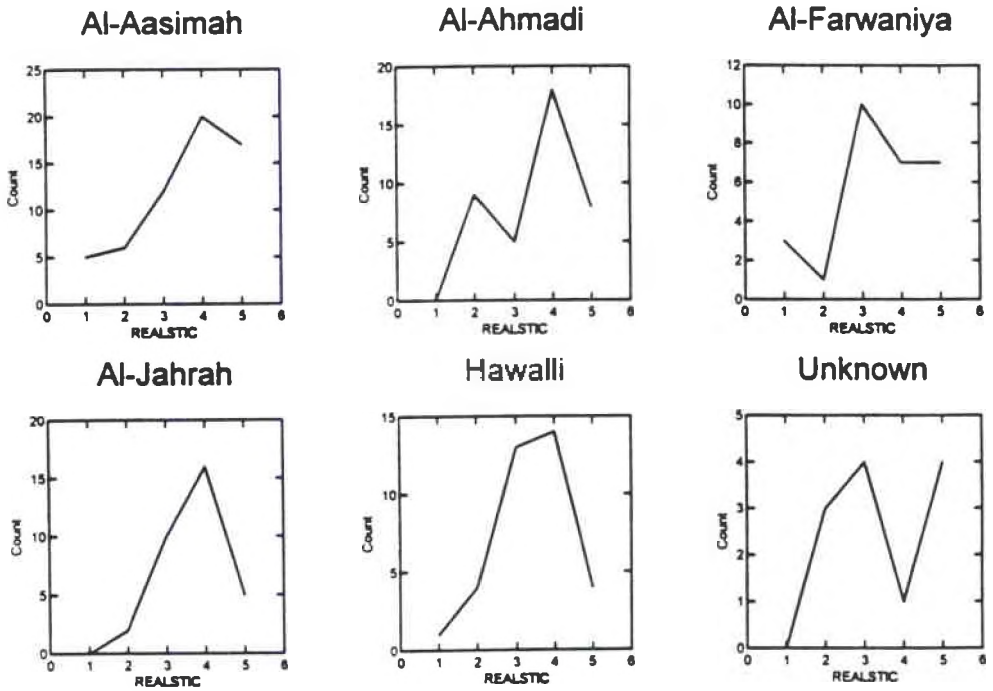


TABLE 8.7

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (7)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 7	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	2.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
D	4.0	6.9	4.0	10.3	1.0	3.7	1.0	2.9	2.0	5.9	1.0	8.3	13.0	6.4
U	9.0	15.5	5.0	12.8	5.0	18.5	9.0	26.5	3.0	8.8	1.0	8.3	32.0	15.7
A	17.0	29.3	17.0	43.6	12.0	44.4	14.0	41.2	19.0	55.9	5.0	41.7	84.0	41.2
SA	28.0	48.3	11.0	28.2	9.0	33.3	10.0	29.4	10.0	29.4	5.0	41.7	73.0	35.8
Total	58.0	100.0	39.0	100.0	27.0	100.0	34.0	100.0	34.0	100.0	12.0	100.0	204.0	100.0

FIGURE 4.7

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (7)

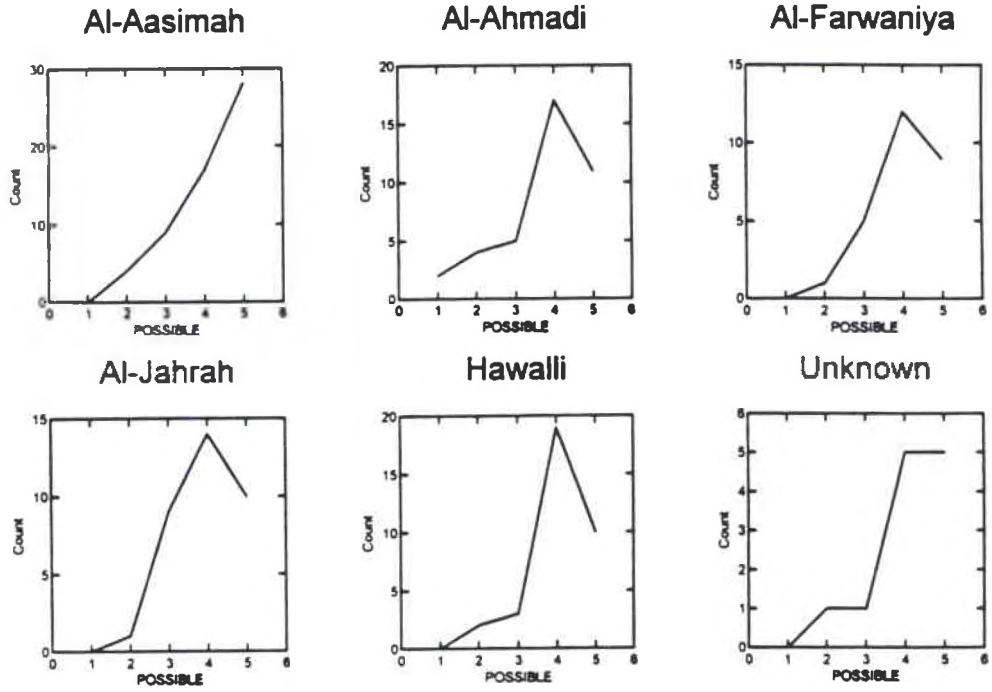


TABLE 8.8

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (8)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 8	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5
D	0.0	0.0	2.0	5.0	0.0	0.0	0.0	0.0	1.0	2.8	1.0	8.3	4.0	1.9
U	3.0	4.9	3.0	7.5	6.0	21.4	3.0	8.6	2.0	5.6	0.0	0.0	17.0	8.0
A	18.0	29.5	13.0	32.5	5.0	17.9	13.0	37.1	9.0	25.0	2.0	16.7	60.0	28.3
SA	40.0	65.6	21.0	52.5	17.0	60.7	19.0	54.3	24.0	66.7	9.0	75.0	130.0	61.3
Total	61.0	100.0	40.0	100.0	28.0	100.0	35.0	100.0	36.0	100.0	12.0	100.0	212.0	100.0

FIGURE 4.8

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (8)

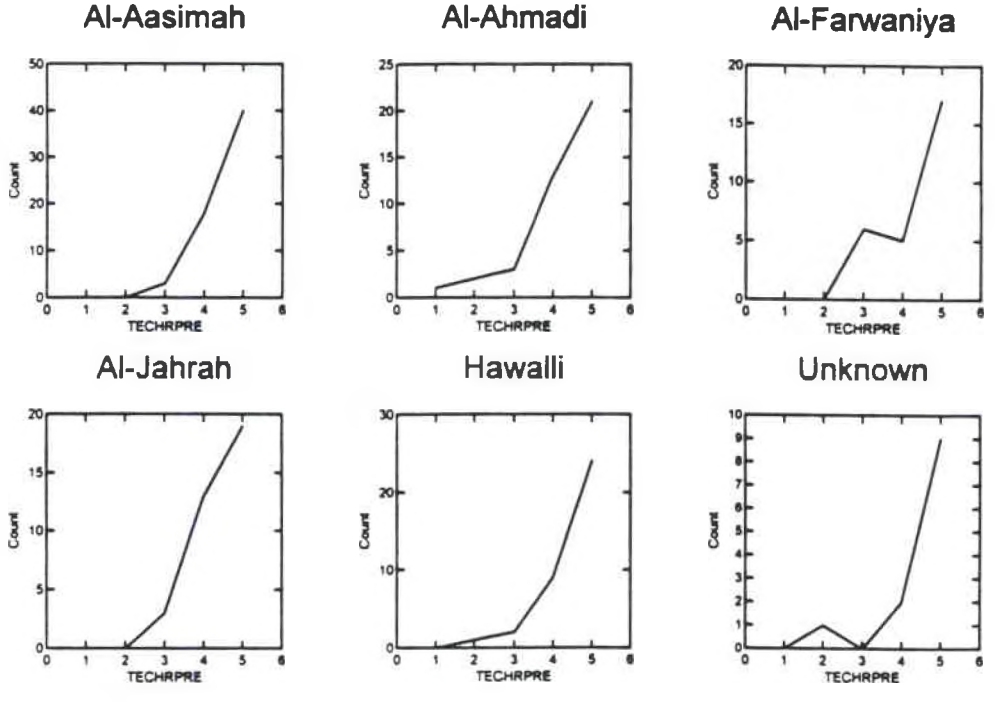


TABLE 8.9

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (9)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 9	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	2.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
D	3.0	4.9	3.0	7.5	1.0	3.7	2.0	5.7	1.0	2.8	0.0	0.0	10.0	4.8
U	2.0	3.3	6.0	15.0	5.0	18.5	7.0	20.0	6.0	16.7	0.0	0.0	26.0	12.4
A	24.0	39.3	15.0	37.5	12.0	44.4	14.0	40.0	20.0	55.6	3.0	27.3	88.0	41.9
SA	32.0	52.5	14.0	35.0	9.0	33.3	12.0	34.3	9.0	25.0	8.0	72.7	84.0	40.0
Total	61.0	100.0	40.0	100.0	27.0	100.0	35.0	100.0	36.0	100.0	11.0	100.0	210.0	100.0

FIGURE 4.9

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (9)

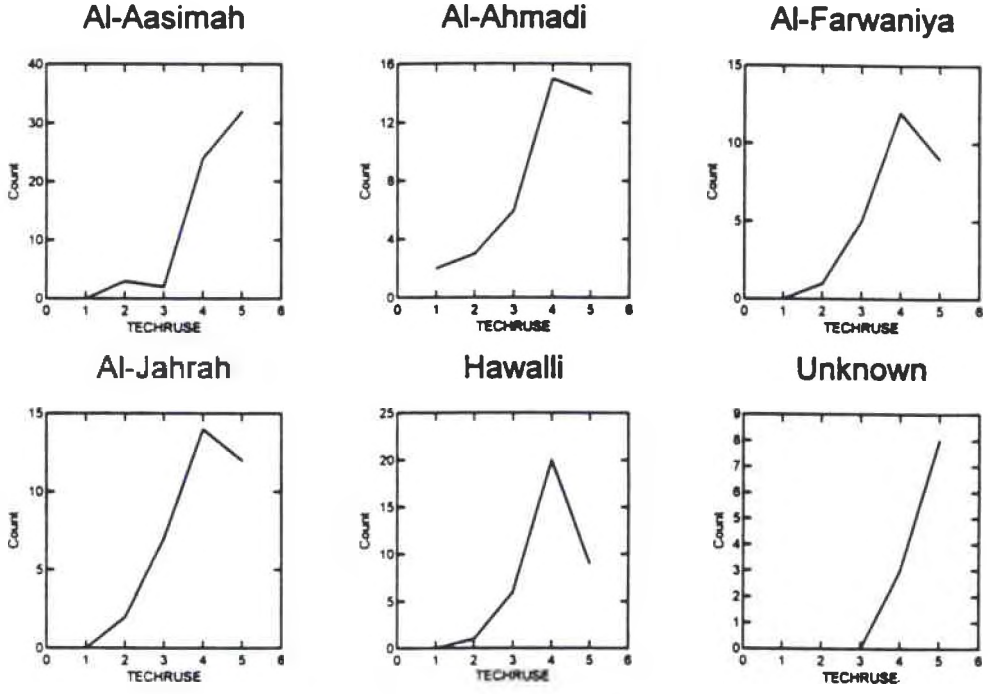


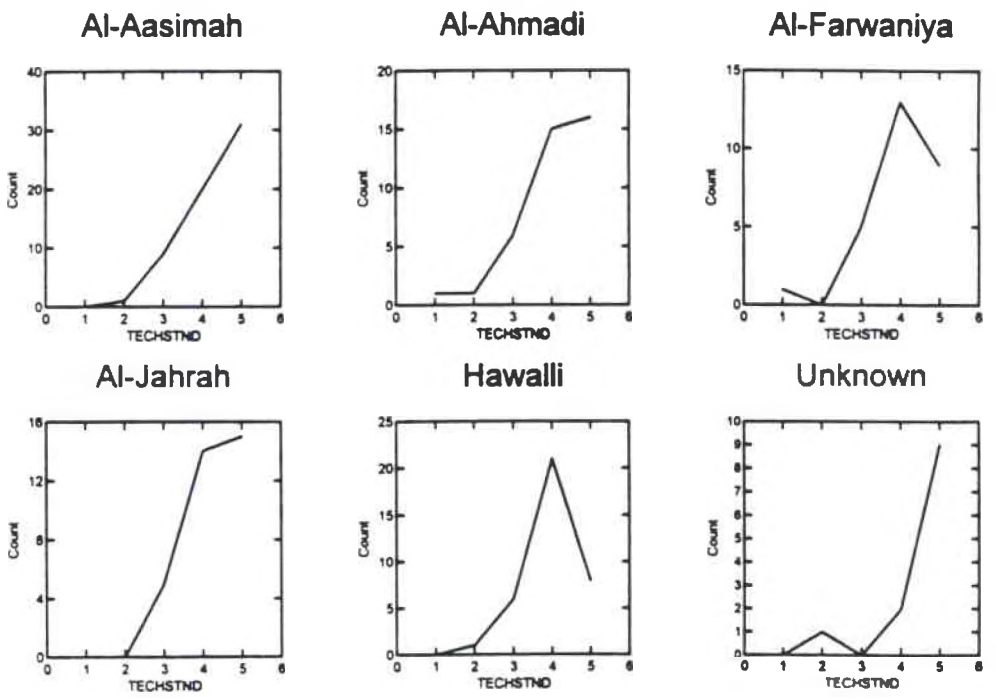
TABLE 8.10

THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (10)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 10	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.6	1.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
D	1.0	1.6	1.0	2.6	0.0	0.0	0.0	0.0	1.0	2.8	1.0	8.3	4.0	1.9
U	9.0	14.8	6.0	15.4	5.0	17.9	5.0	14.7	6.0	16.7	0.0	0.0	31.0	14.8
A	20.0	32.8	15.0	38.5	13.0	46.4	14.0	41.2	21.0	58.3	2.0	16.7	85.0	40.5
SA	31.0	50.8	16.0	41.0	9.0	32.1	15.0	44.1	8.0	22.2	9.0	75.0	88.0	41.9
Total	61.0	100.0	39.0	100.0	28.0	100.0	34.0	100.0	36.0	100.0	12.0	100.0	210.0	100.0

FIGURE 4.10

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF PARENTS RESPONSES TO QUESTION NO. (10)



Presentation of Community Members' Attitudes

Item 1 addressed the community members' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE TAUGHT AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS.** The community members' responses to this item provided information that could help to determine their opinions toward implementing computer technology as an independent subject. Approximately 93 percent of the responding community members (n= 234) registered their favorable attitudes toward this statement. These community members either strongly agreed (n= 161, 63.9 percent) or agreed (n= 73, 29 percent). Similar response rates were found in all five governorates regarding computer technology subject in K-12 schools. See Table 9.1, and Figure 5.1 on page 99 for additional tabular and graphic information. Of the 252 total community members responding to this item, 5 community members (2 percent) remained unaligned in their responses. Only 13 community members (5.2 percent) disagreed to this statement. Of these 13 community members in disagreement, 5 were from the Al Aasimah governorate, and 4 were from the Hawalli governorate.

Item 2 addressed the community members' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE INTEGRATED IN ALL SUBJECTS.** The responses of community members to this item attempted to determine their opinions toward integrating computer technology in all content areas. Approximately 71 percent of the responding community members (n= 177) espoused this statement. These community members either strongly agreed (n= 87, 34.7 percent) or agreed (n= 90, 35.9 percent). Apparently, only slight dissimilar response rates were found in all five governorates regarding integrating computer technology in all disciplines in K-12 schools.

See Table 9.2, and Figure 5.2 on page 100 for additional tabular and graphic information. Of the 251 total community members responding to this item, 22 community members (8.8 percent) remained unaligned in their responses. Only 52 community members (20.7 percent) disagreed to this statement. Of these 52 community members in disagreement, 18 were from the Al Aasimah governorate, 12 were from the Hawalli governorate, and 11 were from the Al Farwaniya governorate. Examination of Table 9.2 appears to indicate slightly different opinions based on location.

Item 3 addressed the community members' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY WILL IMPROVE THE OVERALL EFFECTIVENESS OF OUR STUDENTS' LEARNING.** The responses of community members to this item helped to discover their opinions toward the effectiveness of computer technology on students' learning. Approximately 93 percent of the responding community members (n= 235) offered positive responses toward this statement. These community members either strongly agreed (n= 150, 59.3 percent) or agreed (n= 85, 33.6 percent). Similar response rates were found in all five governorates regarding the effectiveness of computer technology on students' learning. See Table 9.3, and Figure 9.3 on page 101 for additional tabular and graphic information. Of the 253 total community members responding to this item, 10 community members (4 percent) remained unaligned in their responses. Only 8 community members (3.2 percent) disagreed to this statement. Of these 8 community members in disagreement, 4 were from the Al Aasimah governorate, and 2 were from the Hawalli governorate.

Item 4 addressed the community members' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY DOES A GREAT IMPACT ON EDUCATION, AND IN STUDENTS' ACHIEVEMENT.** The responses of community

members to this item allowed us to determine their opinions toward the impact of computer technology on education, and in students' achievement. Eighty seven percent of the responding community members (n= 220) supported this statement. These community members either strongly agreed (n= 128, 50.6 percent) or agreed (n= 92, 36.4 percent). Apparently, similar response rates were found in all five governorates regarding the impact of computer technology on education, and in students' achievement. See Table 9.4, and Figure 5.4 on page 102 for additional tabular and graphic information. Of the 253 total community members responding to this item, 18 community members (7.1 percent) remained unaligned in their responses. Only 15 community members (5.9 percent) disagreed to this statement. Of these 15 community members in disagreement, 5 were from the Hawalli governorate, and 4 were from the Al Aasimah governorate.

Item 5 addressed the community members' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS A GOOD IDEA.** The community members' responses to this item helped to determine their opinions toward the idea of having computer technology as an independent subject. Ninety percent of the responding community members (n= 226) endorsed this statement. These community members either strongly agreed (n= 128, 51 percent) or agreed (n= 98, 39 percent). Similar response rates were found in all five governorates regarding the goodness of having computer technology subject. See Table 9.5, and Figure 5.5 on page 103 for additional tabular and graphic information. Of the 251 total community members responding to this item, 9 community members (3.6 percent) remained unaligned in their responses. Only 16 community members (6.4 percent) disagreed to this statement. Of these 16 community members in disagreement, 5 were from the Al Aasimah governorate,

and another 5 were from the Hawalli governorate.

Item 6 addressed the community members' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC.** The community members' responses to this item enables us to determine their opinions as to how realistic it is to have computer technology as an independent subject. Approximately 51 percent of the responding community members (n= 128) supported this statement. These community members either strongly agreed (n= 63, 25.3 percent) or agreed (n= 65, 26.1 percent). Different response rates were found in all five governorates regarding how realistic it is to implement computer technology subject in K-12 schools. See Table 9.6, and Figure 5.6 on page 104 for additional tabular and graphic information. Of the 249 total community members responding to this item, 55 community members (22.1 percent) remained uncommitted in their responses. Only 66 community members (26.5 percent) disagreed to this statement. Of these 66 community members in disagreement, 22 were from the Al Aasimah governorate, and 17 were from the Hawalli governorate. Not only were these more diverse responses, the community members clearly appeared less enthusiastic regarding this item.

Item 7 addressed the community members' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS POSSIBLE.** The community members' responses to this item helped to determine their opinions toward the possibility of having computer technology taught as a separate subject. Approximately 78 percent of the responding community members (n= 193) registered their favorable attitudes toward this statement. These community members

either strongly agreed (n= 64, 25.8 percent) or agreed (n= 129, 52 percent). Apparently, similar response rates were found in all five governorates regarding the possibility of having computer technology subject. See Table 9.7, and Figure 5.7 on page 105 for additional tabular and graphic information. Of the 248 total community members responding to this item, 40 community members (16.1 percent) remained unaligned in their responses. Only 15 community members (6 percent) disagreed to this statement. Of these 15 community members in disagreement, 8 were from the Hawalli governorate, and 2 were from the Al Aasimah governorate.

Item 8 addressed the community members' attitudes toward the statement, **UNIVERSITIES, COLLEGES, AND OTHER POST SECONDARY INSTITUTIONS SHOULD PREPARE COMPUTER TEACHERS IN ADDITION TO PREPARING COMPUTER TECHNOLOGY SPECIALISTS, MATHEMATICS TEACHERS, SCIENCE TEACHERS, AND ART TEACHERS.** The community members' responses to this item provided an overview of their opinions toward computer teacher preparation. Approximately 94 percent of the responding community members (n= 238) registered a favorable attitude toward this statement. These community members either strongly agreed (n= 165, 65.2 percent) or agreed (n= 73, 28.9 percent). Apparently, similar response rates were found in all five governorates regarding computer teacher preparation. See Table 9.8, and Figure 5.8 on page 106 for additional tabular and graphic information. Of the 253 total community members responding to this item, 8 community members (3.2 percent) remained neutral in their responses. Only 7 community members (2.8 percent) disagreed to this statement. Of these 7 community members in disagreement, 3 were from the Al Aasimah governorate, and 2 were from the Hawalli governorate.

Item 9 addressed the community members' attitudes toward the statement,

CURRENT TEACHERS (BOTH EXPERTS AND NOVICES) SHOULD USE COMPUTER AND ITS RELATED TECHNOLOGY INTO THEIR INSTRUCTION AND CURRICULUMS. The community members' responses to this item permitted investigation of their opinions toward integrating computer technology in the schools. Approximately 88 percent of the responding community members (n= 221) registered their favorable attitudes toward this statement. These community members either strongly agreed (n= 115, 45.6 percent) or agreed (n= 106, 42.1 percent). Similar response rates were found in all five governorates regarding integrating computer technology in K-12 schools. See Table 9.9, and Figure 5.9 on page 107 for additional tabular and graphic information. Of the 252 total community members responding to this item, 17 community members (6.7 percent) remained uncommitted in their responses. Only 14 community members (5.6 percent) disagreed to this statement. Of these 14 community members in disagreement, 6 were from the Hawalli governorate, and another 5 were from the Al Aasimah governorate.

Item 10 addressed the community members' attitudes toward the statement, **WE NEED NATIONAL TECHNOLOGY STANDARDS IN ORDER TO IMPLEMENT THE COMPUTER AND ITS RELATED TECHNOLOGY IN OUR SCHOOLS AS AN INDEPENDENT SUBJECT.** The community members' responses to this item allowed an examination of their opinions toward having national technology standards. Approximately 83 percent of the responding community members (n= 210) supported this statement. These community members either strongly agreed (n= 114, 45.2 percent) or agreed (n= 96, 38.1 percent). Apparently, similar response rates were found in all five governorates regarding national technology standards in K-12 schools. See Table 9.10, and Figure 5.10 on page 108 for additional tabular and graphic information. Of the 252 total

community members responding to this item, 34 community members (13.5 percent) remained unaligned in their responses. Only 8 community members (3.2 percent) disagreed to this statement. Of these 8 community members in disagreement, 4 were from the Al Aasimah governorate, and 2 were from the Hawalli governorate.

TABLE 9.1

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (1)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 1	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	2.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3	0.0	0.0	3.0	1.2
D	3.0	3.6	1.0	6.7	1.0	3.1	0.0	0.0	3.0	3.7	2.0	5.3	10.0	4.0
U	2.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.5	1.0	2.6	5.0	2.0
A	26.0	31.3	3.0	20.0	10.0	31.3	2.0	50.0	21.0	26.3	11.0	28.9	73.0	29.0
SA	50.0	60.2	11.0	73.3	21.0	65.6	2.0	50.0	53.0	66.2	24.0	63.2	161.0	63.9
Total	83.0	100.0	15.0	100.0	32.0	100.0	4.0	100.0	80.0	100.0	38.0	100.0	252.0	100.0

FIGURE 5.1

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (1)

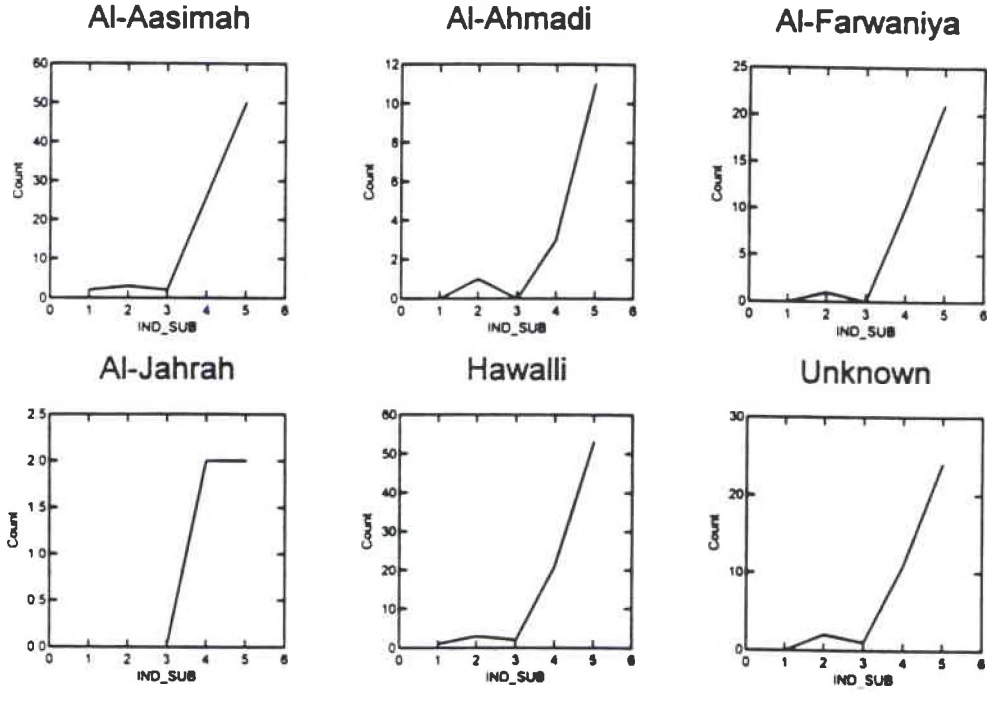


TABLE 9.2

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (2)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 2	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	3.0	3.7	0.0	0.0	2.0	6.2	0.0	0.0	1.0	1.3	2.0	5.3	8.0	3.2
D	15.0	18.3	4.0	26.7	9.0	28.1	0.0	0.0	11.0	13.8	5.0	13.2	44.0	17.5
U	7.0	8.5	0.0	0.0	1.0	3.1	1.0	25.0	11.0	13.8	2.0	5.3	22.0	8.8
A	31.0	37.8	3.0	20.0	10.0	31.3	1.0	25.0	29.0	36.2	16.0	42.1	90.0	35.9
SA	26.0	31.7	8.0	53.3	10.0	31.3	2.0	50.0	28.0	35.0	13.0	34.2	87.0	34.7
Total	82.0	100.0	15.0	100.0	32.0	100.0	4.0	100.0	80.0	100.0	38.0	100.0	251.0	100.0

FIGURE 5.2

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (2)

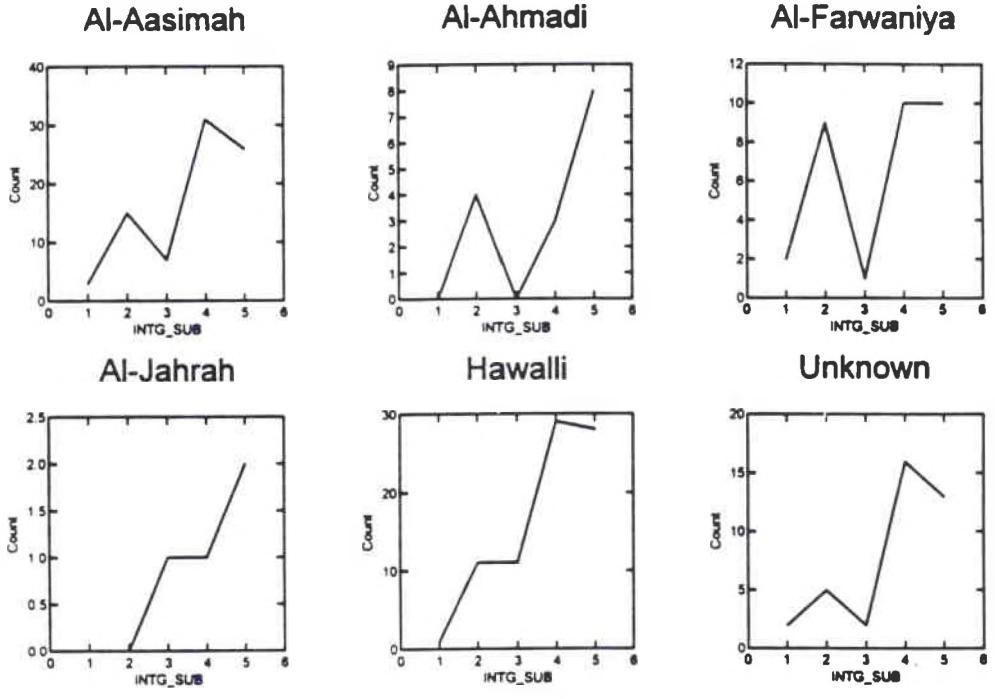


TABLE 9.3

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (3)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 3	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.5	0.0	0.0	2.0	0.8
D	4.0	4.8	0.0	0.0	1.0	3.1	0.0	0.0	0.0	0.0	1.0	2.6	6.0	2.4
U	2.0	2.4	0.0	0.0	1.0	3.1	0.0	0.0	4.0	5.0	3.0	7.9	10.0	4.0
A	23.0	27.4	4.0	26.7	11.0	34.4	2.0	50.0	30.0	37.5	15.0	39.5	85.0	33.6
SA	55.0	65.5	11.0	73.3	19.0	59.4	2.0	50.0	44.0	55.0	19.0	50.0	150.0	59.3
Total	84.0	100.0	15.0	100.0	32.0	100.0	4.0	100.0	80.0	100.0	38.0	100.0	253.0	100.0

FIGURE 5.3

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (3)

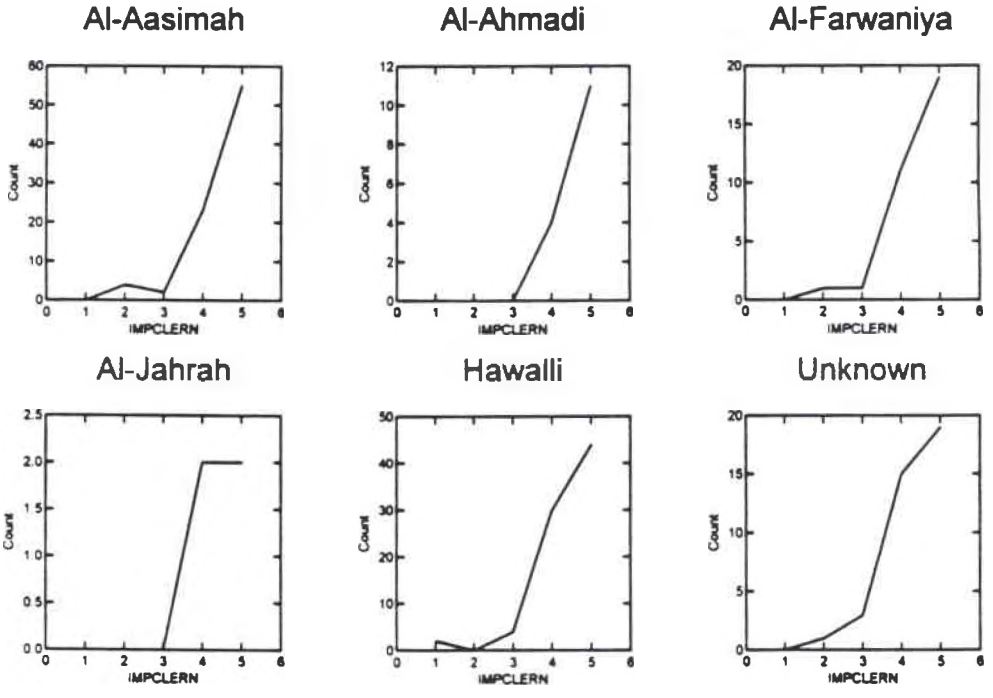


TABLE 9.4

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (4)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 4	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.5	0.0	0.0	3.0	1.2
D	3.0	3.6	1.0	6.7	2.0	6.2	0.0	0.0	3.0	3.7	3.0	7.9	12.0	4.7
U	6.0	7.1	0.0	0.0	0.0	0.0	1.0	25.0	7.0	8.8	4.0	10.5	18.0	7.1
A	24.0	28.6	7.0	46.7	15.0	46.9	2.0	50.0	27.0	33.7	17.0	44.7	92.0	36.4
SA	50.0	59.5	7.0	46.7	15.0	46.9	1.0	25.0	41.0	51.2	14.0	36.8	128.0	50.6
Total	84.0	100.0	15.0	100.0	32.0	100.0	4.0	100.0	80.0	100.0	38.0	100.0	253.0	100.0

FIGURE 5.4

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (4)

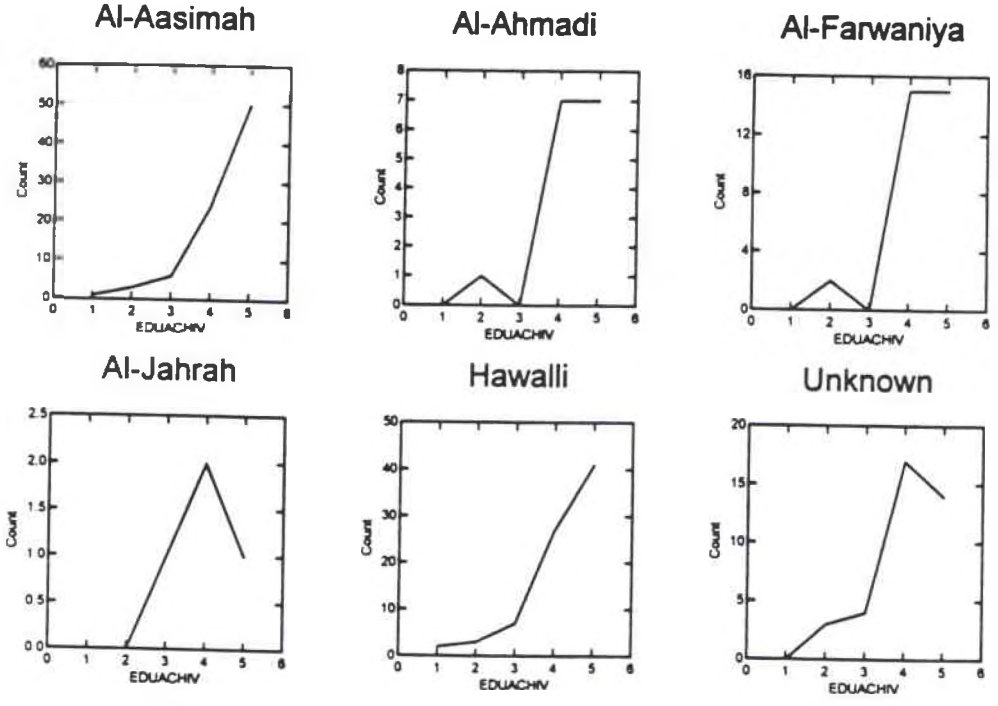


TABLE 9.5

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (5)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 5	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	3.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.5	0.0	0.0	5.0	2.0
D	2.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.7	6.0	16.2	11.0	4.4
U	3.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	4.0	5.0	2.0	5.4	9.0	3.6
A	31.0	37.3	4.0	26.7	15.0	46.9	3.0	75.0	32.0	40.0	13.0	35.1	98.0	39.0
SA	44.0	53.0	11.0	73.3	17.0	53.1	1.0	25.0	39.0	48.7	16.0	43.2	128.0	51.0
Total	83.0	100.0	15.0	100.0	32.0	100.0	4.0	100.0	80.0	100.0	37.0	100.0	251.0	100.0

FIGURE 5.5

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (5)

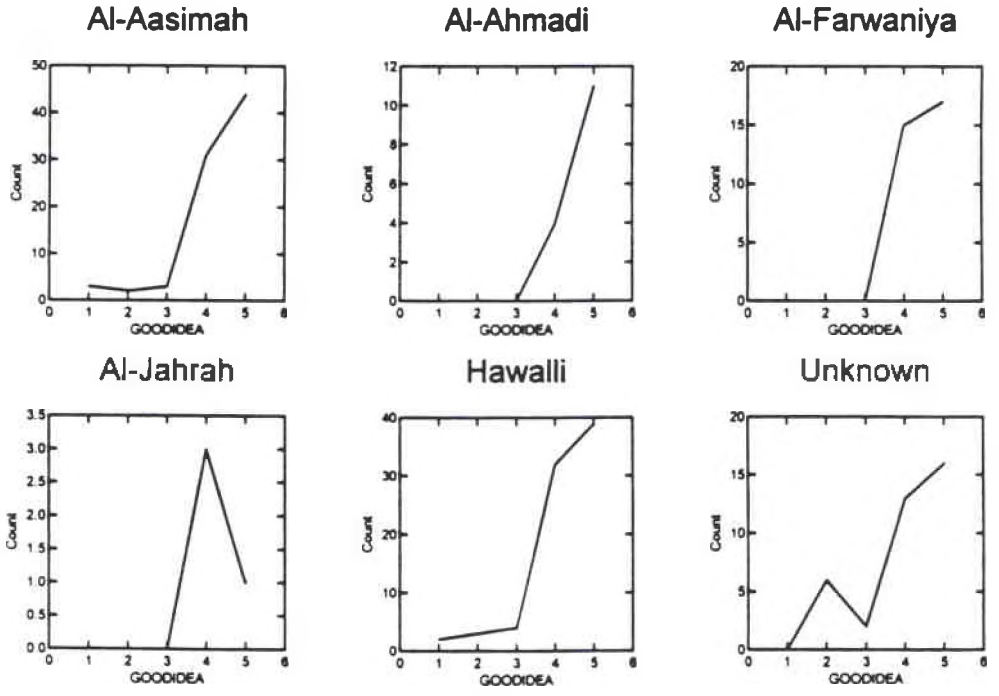


TABLE 9.6

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (6)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 6	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	5.0	6.0	1.0	6.7	5.0	15.6	2.0	50.0	5.0	6.5	2.0	5.4	20.0	8.0
D	17.0	20.2	3.0	20.0	7.0	21.9	0.0	0.0	12.0	15.6	7.0	18.9	46.0	18.5
U	15.0	17.9	3.0	20.0	4.0	12.5	1.0	25.0	22.0	28.6	10.0	27.0	55.0	22.1
A	25.0	29.8	5.0	33.3	8.0	25.0	1.0	25.0	20.0	26.0	6.0	16.2	65.0	26.1
SA	22.0	26.2	3.0	20.0	8.0	25.0	0.0	0.0	18.0	23.4	12.0	32.4	63.0	25.3
Total	84.0	100.0	15.0	100.0	32.0	100.0	4.0	100.0	77.0	100.0	37.0	100.0	249.0	100.0

FIGURE 5.6

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (6)

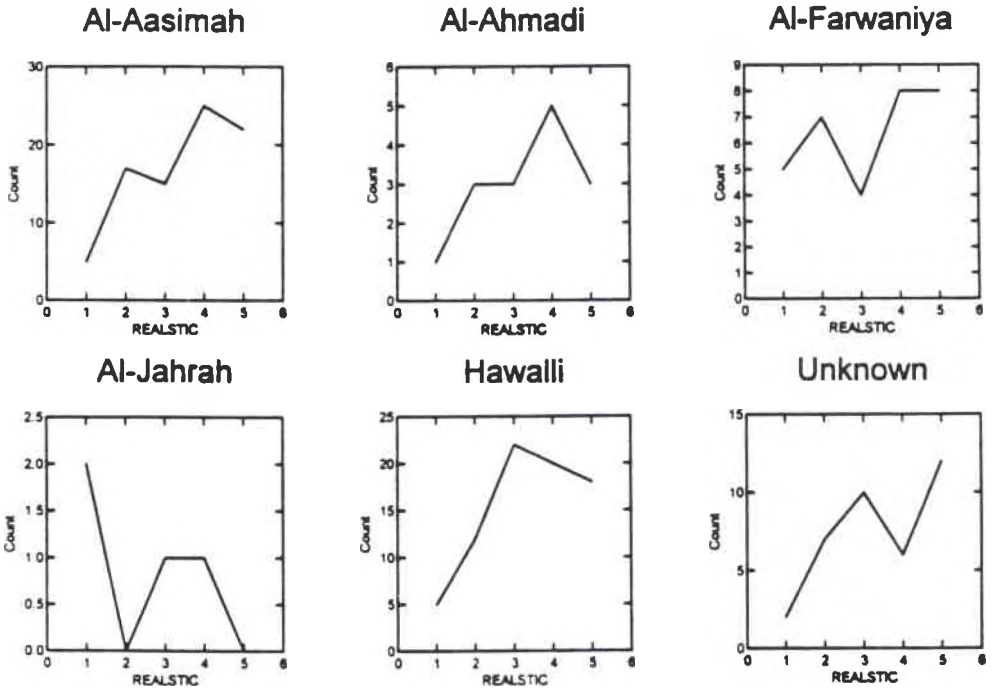


TABLE 9.7

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (7)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 7	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.8	0.0	0.0	4.0	1.6
D	1.0	1.2	1.0	6.7	1.0	3.2	0.0	0.0	5.0	6.3	3.0	8.3	11.0	4.4
U	10.0	12.0	2.0	13.3	4.0	12.9	2.0	50.0	13.0	16.5	9.0	25.0	40.0	16.1
A	46.0	55.4	7.0	46.7	20.0	64.5	2.0	50.0	40.0	50.6	14.0	38.9	129.0	52.0
SA	25.0	30.1	5.0	33.3	6.0	19.4	0.0	0.0	18.0	22.8	10.0	27.8	64.0	25.8
Total	83.0	100.0	15.0	100.0	31.0	100.0	4.0	100.0	79.0	100.0	36.0	100.0	248.0	100.0

FIGURE 5.7

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (7)

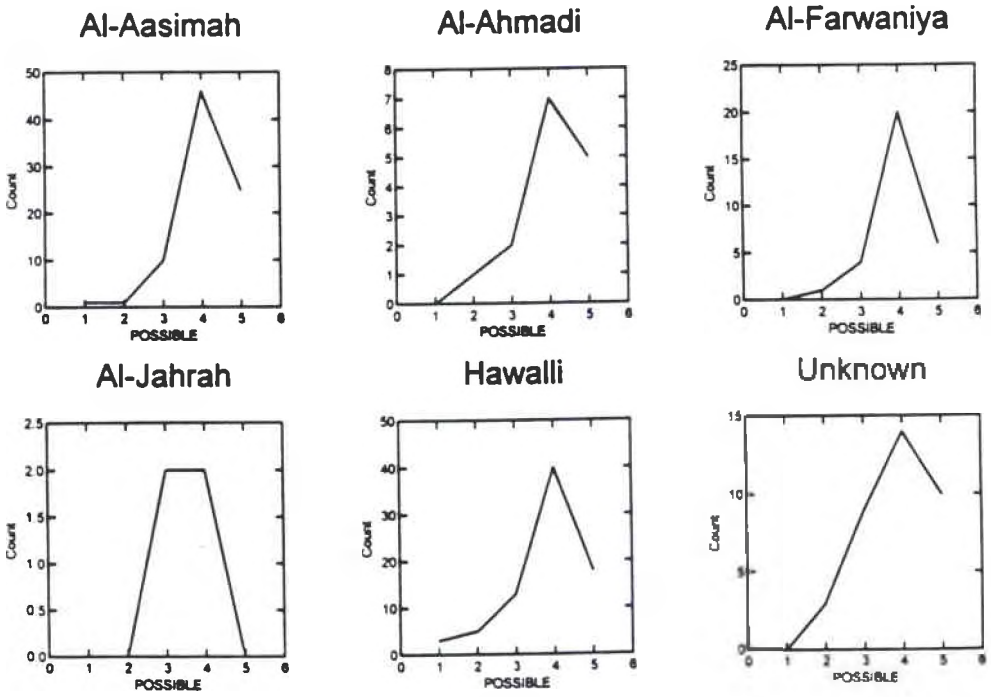


TABLE 9.8

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (8)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 8	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 0	1.3	0 0	0 0	1 0	0 4
D	3 0	3 6	0 0	0 0	1 0	3 1	0 0	0 0	1 0	1.3	1 0	2 6	6 0	2 4
U	4 0	4 8	0 0	0 0	3 0	9 4	0 0	0 0	0 0	0 0	1 0	2 6	8 0	3 2
A	23 0	27 4	1 0	6 7	8 0	25 0	2 0	50 0	24 0	30 0	15 0	39 5	73 0	28 9
SA	54 0	64 3	14 0	93 3	20 0	62 5	2 0	50 0	54 0	67 5	21 0	55 3	165 0	65 2
Total	84 0	100 0	15 0	100 0	32 0	100 0	4 0	100 0	80 0	100 0	38 0	100 0	253 0	100 0

FIGURE 5.8

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (8)

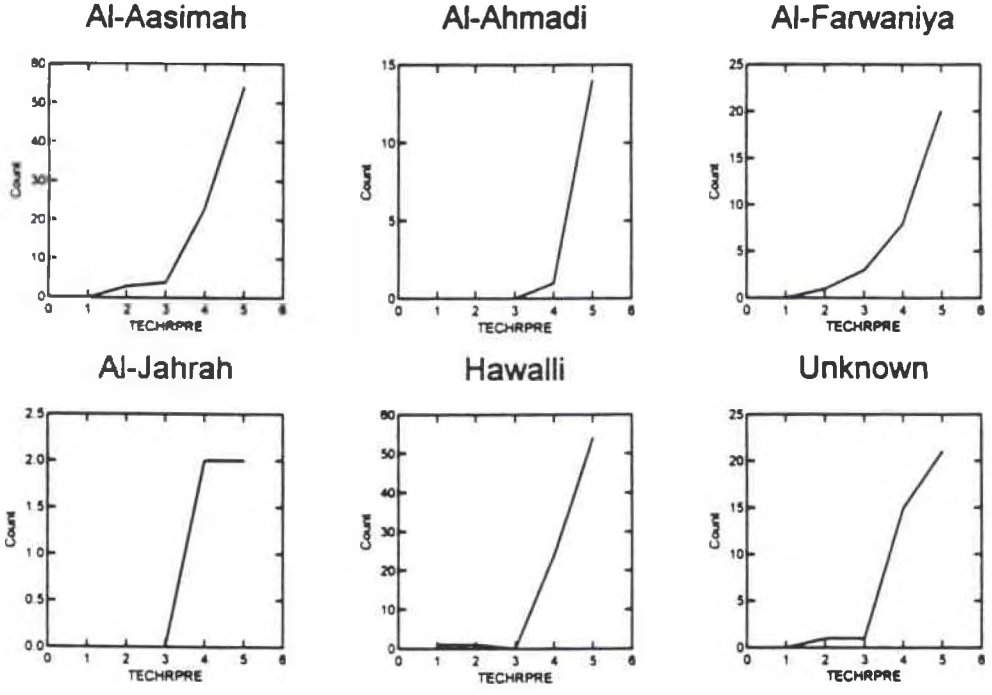


TABLE 9.9

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (9)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 9	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 0	1 3	0 0	0 0	1 0	0 4
D	5 0	6 0	0 0	0 0	1 0	3 1	0 0	0 0	5 0	6 2	2 0	5 4	13 0	5 2
U	6 0	7 1	0 0	0 0	2 0	6 2	1 0	25 0	6 0	7 5	2 0	5 4	17 0	6 7
A	32 0	38 1	8 0	53 3	16 0	50 0	1 0	25 0	34 0	42 5	15 0	40 5	106 0	42 1
SA	41 0	48 8	7 0	46 7	13 0	40 6	2 0	50 0	34 0	42 5	18 0	48 6	115 0	45 6
Total	84 0	100 0	15 0	100 0	32 0	100 0	4 0	100 0	80 0	100 0	37 0	100 0	252 0	100 0

FIGURE 5.9

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (9)

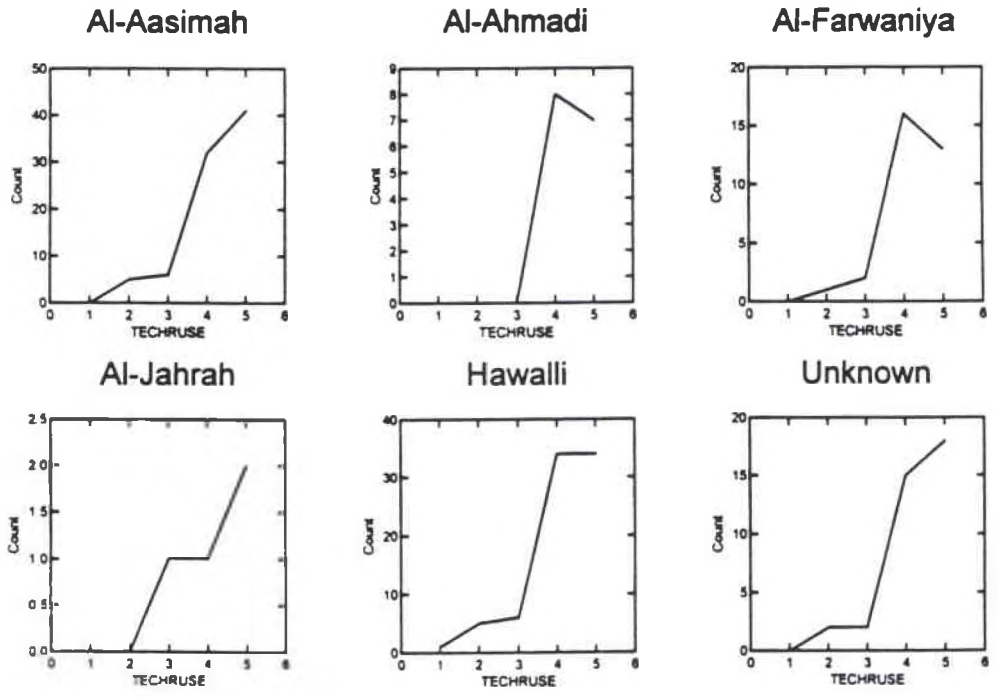


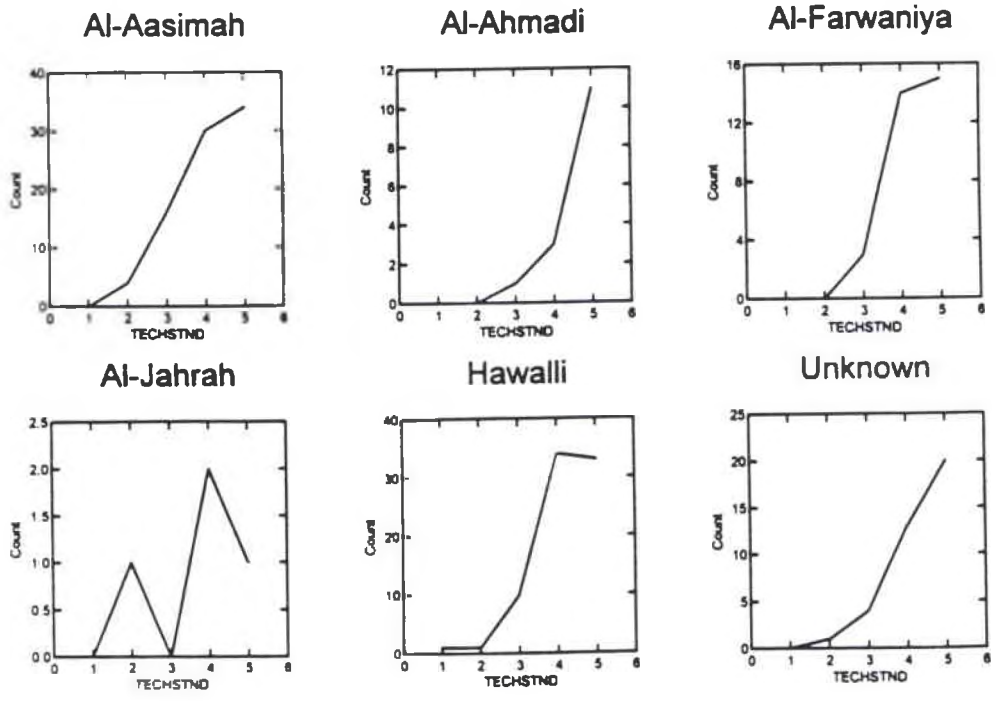
TABLE 9.10

RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (10)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Unknown		Total	
Question 10	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SD	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 0	1.3	0 0	0 0	1 0	0 4
D	4 0	4 8	0 0	0 0	0 0	0 0	1 0	25 0	1 0	1.3	1 0	2 6	7 0	2 8
U	16 0	19 0	1 0	6.7	3 0	9 4	0 0	0 0	10 0	12.7	4 0	10 5	34 0	13 5
A	30 0	35.7	3 0	20 0	14 0	43.7	2 0	50 0	34 0	43.0	13 0	34.2	96 0	38 1
SA	34 0	40 5	11 0	73 3	15 0	46 9	1 0	25 0	33 0	41 8	20 0	52 6	114 0	45 2
Total	84 0	100 0	15 0	100 0	32 0	100 0	4 0	100 0	79 0	100 0	38 0	100 0	252 0	100 0

FIGURE 5.10

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF COMMUNITY MEMBERS RESPONSES TO QUESTION NO. (10)



Presentation of Teachers' Attitudes

Item 1 addressed the teachers' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE TAUGHT AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS.** The teachers' responses to this item provided in formation that could help to determine their opinions toward implementing computer technology as an independent subject. Approximately 91 percent of the responding teachers (n= 235) registered favorable position toward this statement. These teachers either strongly agreed (n= 155, 60.1 percent) or agreed (n= 80, 31 percent). Similar response rates were found in all five governorates regarding computer technology subject in K-12 schools. See Table 10.1, and Figure 6.1 on page 115 for additional tabular and graphic information. Of the 258 total teachers responding to this item, 7 teachers (2.7 percent) remained unaligned in their responses. Only 16 teachers (6.2 percent) disagreed to this statement. Of these 16 teachers in disagreement, 7 were from the Al Ahmadi governorate, and 4 were from the Al Aasimah governorate.

Item 2 addressed the teachers' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE INTEGRATED IN ALL SUBJECTS.** The responses of teachers to this item attempted to determine their opinions toward integrating computer technology in all content areas. Approximately 78 percent of the responding teachers (n= 200) expressed favorable attitudes toward this statement. These teachers either strongly agreed (n= 93, 36.3 percent) or agreed (n= 107, 41.8 percent). Apparently, only slight dissimilar response rates were found in all five governorates regarding integrating computer technology in all disciplines in K-12 schools. See Table 10.2, and Figure 6.2 on page 116 for additional tabular and graphic information. Of the 256 total teachers

responding to this item, 23 teachers (9 percent) remained neutral in their responses. Only 33 teachers (12.9 percent) disagreed to this statement. Of these 33 teachers in disagreement, 8 were from the Al Aasimah governorate, 8 were from the Al Ahmadi governorate, 7 were from the Al Farwaniya governorate, 5 were from the Hawalli governorate, and the last 5 were from the Al Jahrah governorate. There were slightly different opinions apparently based on location.

Item 3 addressed the teachers' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY WILL IMPROVE THE OVERALL EFFECTIVENESS OF OUR STUDENTS' LEARNING.** The responses of teachers to this item helped to discover their opinions toward the effectiveness of computer technology on students' learning. Approximately 91 percent of the responding teachers (n= 234) supported this statement. These teachers either strongly agreed (n= 142, 55.3 percent) or agreed (n= 92, 35.8 percent). Similar response rates were found in all five governorates regarding the effectiveness of computer technology on students' learning. See Table 10.3, and Figure 6.3 on page 117 for additional tabular and graphic information. Of the 257 total teachers responding to this item, 16 teachers (6.2 percent) remained nonaligned in their responses. Only 7 teachers (2.7 percent) disagreed to this statement. Of these 7 teachers in disagreement, 3 were from the Al Jahrah governorate, and 2 were from the Hawalli governorate, and 2 were from the Al Aasimah governorate.

Item 4 addressed the teachers' attitudes toward the statement, **COMPUTER AND ITS RELATED TECHNOLOGY DOES A GREAT IMPACT ON EDUCATION, AND IN STUDENTS' ACHIEVEMENT.** The responses of teachers to this item allowed us to determine their opinions toward the impact of computer technology on education, and in students' achievement. Approximately 93 percent of the responding teachers (n= 241)

registered their favorably attitudes toward this statement. These teachers either strongly agreed (n= 135, 52.1 percent) or agreed (n= 106, 41 percent). Apparently, similar response rates were found in all five governorates regarding the impact of computer technology on education, and in students' achievement. See Table 10.4, and Figure 6.4 on page 118 for additional tabular and graphic information. Of the 259 total teachers responding to this item, 8 teachers (3.1 percent) remained unaligned in their responses. Only 10 teachers (3.8 percent) disagreed to this statement. Of these 10 teachers in disagreement, 5 were from the Hawalli governorate, and 3 were from the Al Jahrah governorate.

Item 5 addressed the teachers' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS A GOOD IDEA.** The teachers' responses to this item helped to determine their opinions toward the idea of having computer technology as an independent subject. Approximately 89 percent of the responding teachers (n= 230) supported this statement. These teachers either strongly agreed (n= 118, 45.7 percent) or agreed (n= 112, 43.4 percent). Similar response rates were found in all five governorates regarding the goodness of having computer technology subject. See Table 10.5, and Figure 6.5 on page 119 for additional tabular and graphic information. Of the 258 total teachers responding to this item, 14 teachers (5.4 percent) remained nonaligned in their responses. Only 14 teachers (5.4 percent) disagreed to this statement. Of these 14 teachers in disagreement, 5 were from the Al Ahmadi governorate, and 4 were from the Al Aasimah governorate.

Item 6 addressed the teachers' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT**

SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC. The teachers' responses to this item enables us to determine their opinions toward how realistic it is the issue of having computer technology subject. Approximately 55 percent of the responding teachers (n= 140) concurred with this statement. These teachers either strongly agreed (n= 49, 19.1 percent) or agreed (n= 91, 35.4 percent). Different response rates were found in all five governorates regarding how realistic it is to implement computer technology subject in K-12 schools. See Table 10.6, and Figure 6.6 on page 120 for additional tabular and graphic information. Of the 257 total teachers responding to this item, 69 teachers (26.8 percent) remained uncommitted in their responses. Only 48 teachers (18.6 percent) disagreed to this statement. Of these 48 teachers in disagreement, 14 were from the Al Aasimah governorate, 14 were from the Al Jahrah governorate, 9 were from the Al Ahmadi governorate, 7 were from the Al Farwaniya governorate, and 4 were from the Hawalli governorate. Not only were these more diverse responses, the teachers clearly appeared less enthusiastic regarding this item.

Item 7 addressed the teachers' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS POSSIBLE.** The teachers' responses to this item helped to determine their opinions toward the possibility of having computer technology taught as a separate subject. Approximately 80 percent of the responding teachers (n= 207) endorsed this statement. These teachers either strongly agreed (n= 63, 24.4 percent) or agreed (n= 144, 55.8 percent). Apparently, similar response rates were found in all five governorates regarding the possibility of having computer technology subject. See Table 10.7, and Figure 6.7 on page 121 for additional tabular and graphic information. Of the 258 total teachers responding to this item, 34

teachers (13.2 percent) remained unaligned in their responses. Only 17 teachers (6.6 percent) disagreed to this statement. Of these 17 teachers in disagreement, 5 were from the Al Aasimah governorate, and 4 were from the Al Ahmadi governorate.

Item 8 addressed the teachers' attitudes toward the statement, **UNIVERSITIES, COLLEGES, AND OTHER POST SECONDARY INSTITUTIONS SHOULD PREPARE COMPUTER TEACHERS IN ADDITION TO PREPARING COMPUTER TECHNOLOGY SPECIALISTS, MATHEMATICS TEACHERS, SCIENCE TEACHERS, AND ART TEACHERS.** The teachers' responses to this item aided to determine their opinions toward computer teacher preparation. Ninety five percent of the responding teachers (n= 246) registered their favorable attitudes toward this statement. These teachers either strongly agreed (n= 172, 66.4 percent) or agreed (n= 74, 28.6 percent). Apparently, similar response rates were found in all five governorates regarding computer teacher preparation. See Table 10.8, and Figure 10.8 on page 122 for additional tabular and graphic information. Of the 259 total teachers responding to this item, 9 teachers (3.4 percent) remained neutral in their responses. Only 4 teachers (1.6 percent) disagreed to this statement. Of these 4 teachers in disagreement, 2 were from the Al Aasimah governorate.

Item 9 addressed the teachers' attitudes toward the statement, **CURRENT TEACHERS (BOTH EXPERTS AND NOVICES) SHOULD USE COMPUTER AND ITS RELATED TECHNOLOGY INTO THEIR INSTRUCTION AND CURRICULUMS.** The teachers' responses to this item permitted investigation of their opinions toward integrating computer technology in the schools. Approximately 87 percent of the responding teachers (n= 226) endorsed this statement. These teachers either strongly agreed (n= 120, 46.5 percent) or agreed (n= 106, 41.1 percent). Similar response rates

were found in all five governorates regarding integrating computer technology in K-12 schools. See Table 10.9, and Figure 6.9 on page 123 for additional tabular and graphic information. Of the 258 total teachers responding to this item, 15 teachers (5.8 percent) remained uncommitted in their responses. Only 17 teachers (6.6 percent) disagreed to this statement. Of these 17 teachers in disagreement, 6 were from the Al Ahmadi governorate, and 4 were from the Al Aasimah governorate.

Item 10 addressed the teachers' attitudes toward the statement, **WE NEED NATIONAL TECHNOLOGY STANDARDS IN ORDER TO IMPLEMENT THE COMPUTER AND ITS RELATED TECHNOLOGY IN OUR SCHOOLS AS AN INDEPENDENT SUBJECT.** The teachers' responses to this item allowed an examination of their opinions toward having national technology standards. Approximately 83 percent of the responding teachers (n= 214) apparently subscribed to this statement. These teachers either strongly agreed (n= 119, 46.1 percent) or agreed (n= 95, 36.8 percent). Apparently, similar response rates were found in all five governorates regarding national technology standards in K-12 schools. See Table 10.10, and Figure 6.10 on page 124 for additional tabular and graphic information. Of the 258 total teachers responding to this item, 33 teachers (12.8 percent) remained unaligned in their responses. Only 11 teachers (4.3 percent) disagreed to this statement. Of these 11 teachers in disagreement, 4 were from the Al Jahrah governorate, and 3 were from the Al Ahmadi governorate.

TABLE 10.1

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (1)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 1	N	%	N	%	N	%	N	%	N	%	N	%
SD	3.0	4.7	4.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	7.0	2.7
D	1.0	1.6	3.0	6.7	0.0	0.0	3.0	4.9	2.0	4.3	9.0	3.5
U	3.0	4.7	0.0	0.0	2.0	4.8	1.0	1.6	1.0	2.2	7.0	2.7
A	23.0	35.9	9.0	20.0	14.0	33.3	19.0	31.1	15.0	32.6	80.0	31.0
SA	34.0	53.1	29.0	64.4	26.0	61.9	38.0	62.3	28.0	60.9	155.0	60.1
Total	64.0	100.0	45.0	100.0	42.0	100.0	61.0	100.0	46.0	100.0	258.0	100.0

FIGURE 6.1

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (1)

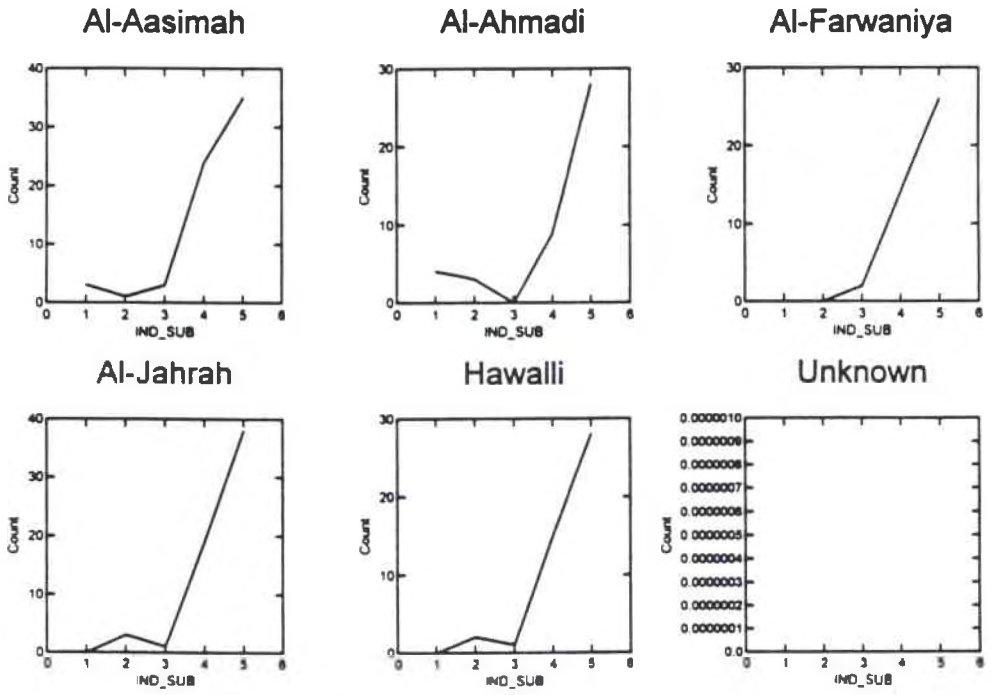


TABLE 10.2

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (2)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 2	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	1.0	2.3	0.0	0.0	1.0	1.6	1.0	2.2	3.0	1.2
D	8.0	12.7	7.0	15.9	7.0	16.7	4.0	6.6	4.0	8.7	30.0	11.7
U	3.0	4.8	6.0	13.6	3.0	7.1	5.0	8.2	6.0	13.0	23.0	9.0
A	22.0	34.9	12.0	27.3	14.0	33.3	35.0	57.4	24.0	52.2	107.0	41.8
SA	30.0	47.6	18.0	40.9	18.0	42.9	16.0	26.2	11.0	23.9	93.0	36.3
Total	63.0	100.0	44.0	100.0	42.0	100.0	61.0	100.0	46.0	100.0	256.0	100.0

FIGURE 6.2

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (2)

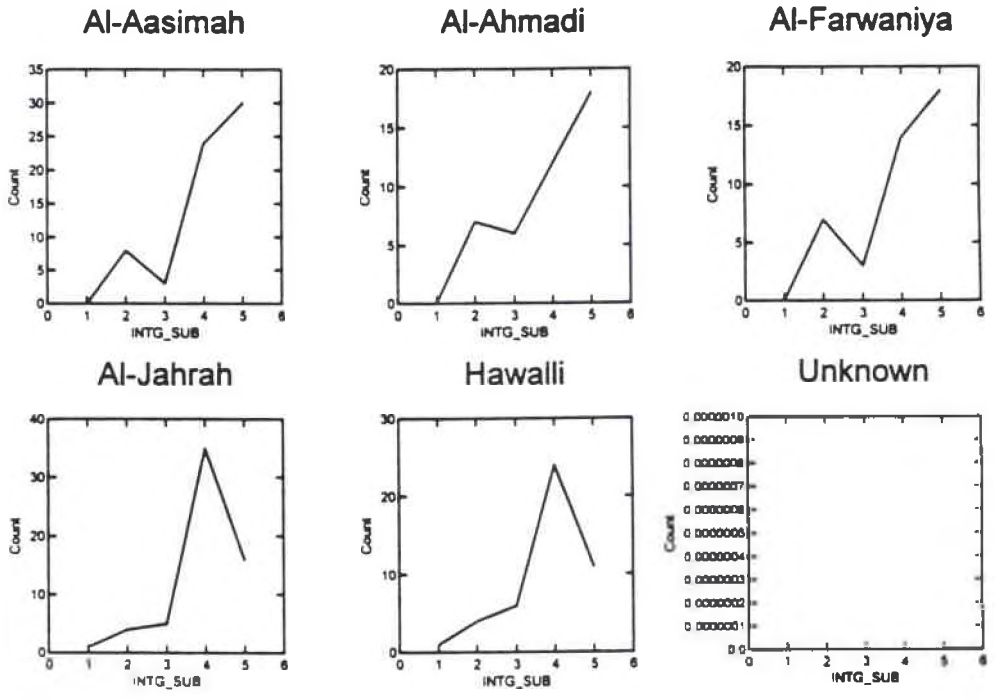


TABLE 10.3

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (3)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 3	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.1	1.0	0.4
D	2.0	3.1	0.0	0.0	0.0	0.0	3.0	5.0	1.0	2.1	6.0	2.3
U	6.0	9.4	2.0	4.4	0.0	0.0	0.0	0.0	8.0	17.0	16.0	6.2
A	15.0	23.4	19.0	42.2	14.0	34.1	29.0	48.3	15.0	31.9	92.0	35.8
SA	41.0	64.1	24.0	53.3	27.0	65.9	28.0	46.7	22.0	46.8	142.0	55.3
Total	64.0	100.0	45.0	100.0	41.0	100.0	60.0	100.0	47.0	100.0	257.0	100.0

FIGURE 6.3

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (3)

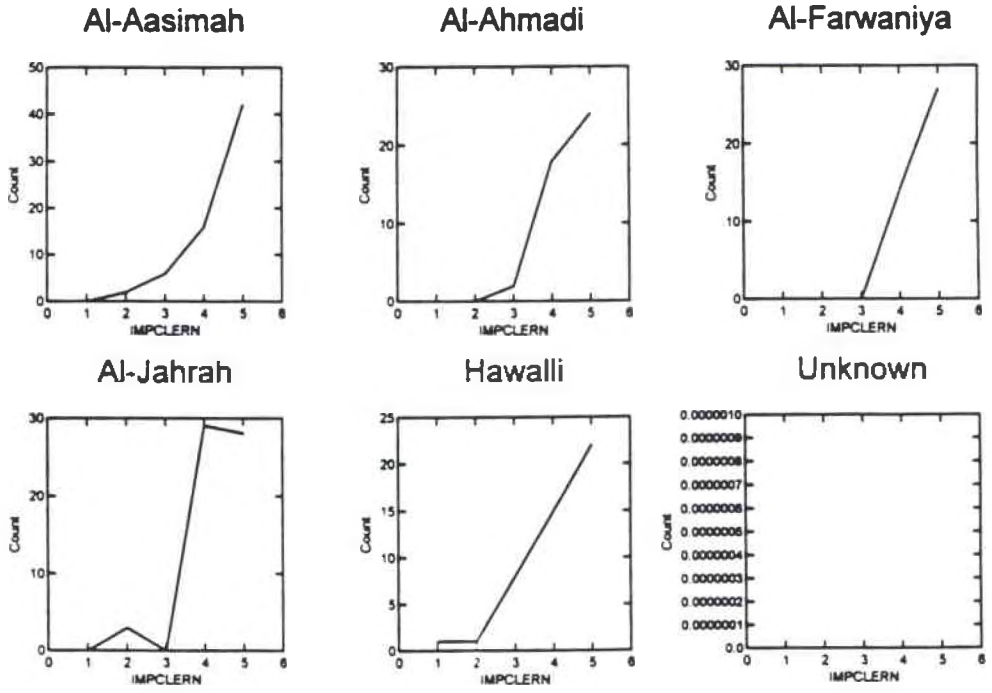


TABLE 10.4

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (4)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 4	N	%	N	%	N	%	N	%	N	%	N	%
SD	2.0	3.1	0.0	0.0	0.0	0.0	1.0	1.6	1.0	2.1	4.0	1.5
D	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.3	4.0	8.5	6.0	2.3
U	3.0	4.7	0.0	0.0	0.0	0.0	1.0	1.6	4.0	8.5	8.0	3.1
A	22.0	34.4	24.0	53.3	17.0	40.5	27.0	44.3	16.0	34.0	106.0	41.0
SA	37.0	57.8	21.0	46.7	25.0	59.5	30.0	49.2	22.0	46.8	135.0	52.1
Total	64.0	100.0	45.0	100.0	42.0	100.0	61.0	100.0	47.0	100.0	259.0	100.0

FIGURE 6.4

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (4)

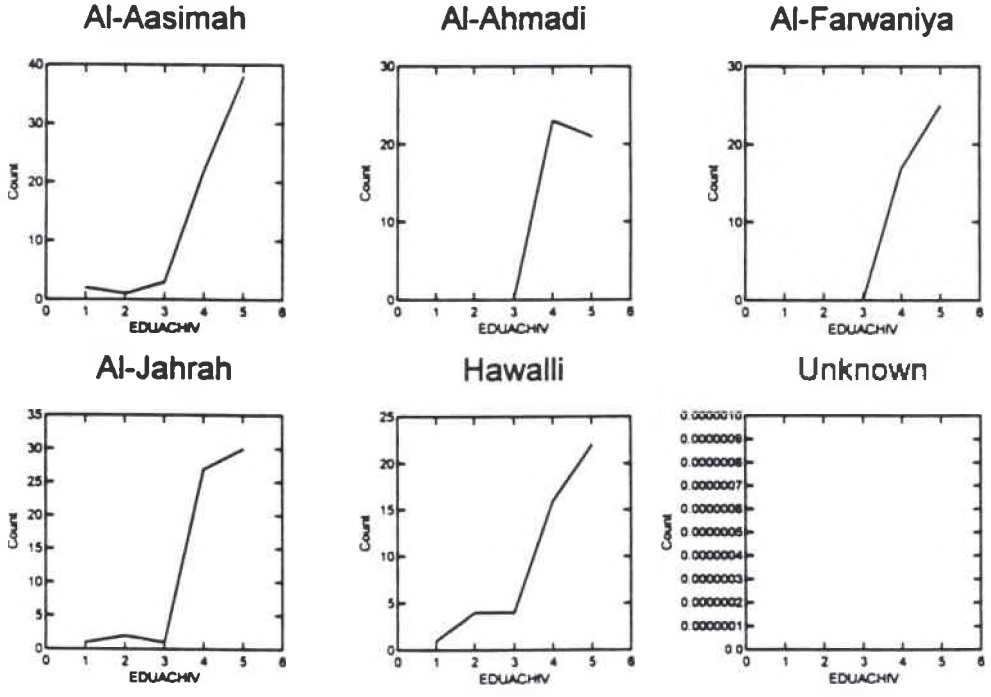


TABLE 10.5

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (5)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 5	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	1.6	4.0	8.9	1.0	2.4	0.0	0.0	1.0	2.1	7.0	2.7
D	3.0	4.7	1.0	2.2	0.0	0.0	2.0	3.3	1.0	2.1	7.0	2.7
U	3.0	4.7	1.0	2.2	1.0	2.4	4.0	6.6	5.0	10.6	14.0	5.4
A	25.0	39.1	19.0	42.2	20.0	48.8	31.0	50.8	17.0	36.2	112.0	43.4
SA	32.0	50.0	20.0	44.4	19.0	46.3	24.0	39.3	23.0	48.9	118.0	45.7
Total	64.0	100.0	45.0	100.0	41.0	100.0	61.0	100.0	47.0	100.0	258.0	100.0

FIGURE 6.5

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (5)

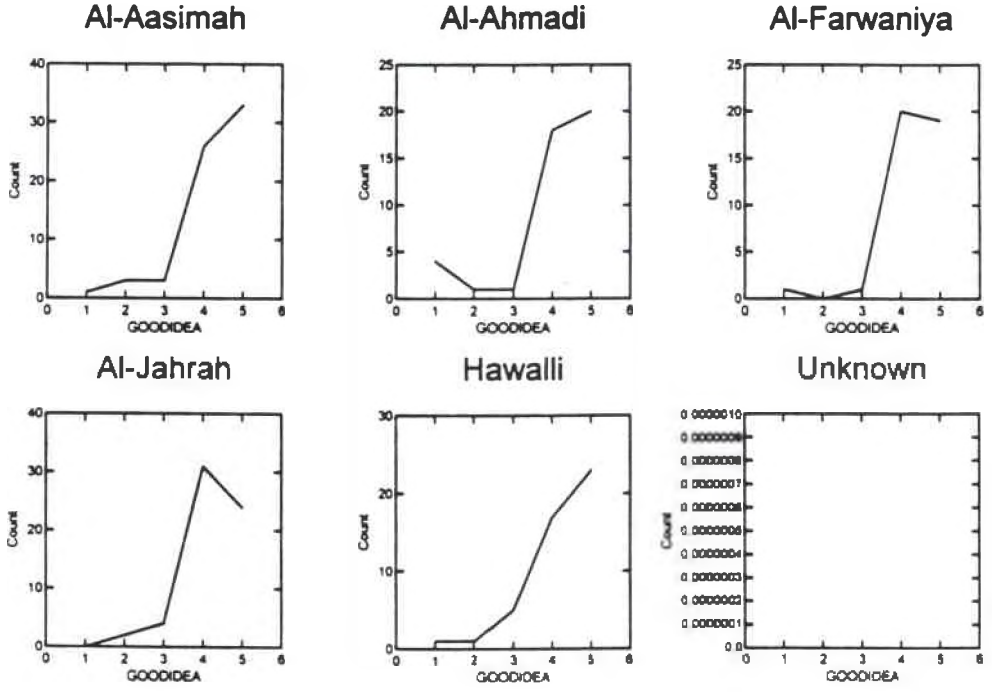


TABLE 10.6

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (6)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 6	N	%	N	%	N	%	N	%	N	%	N	%
SD	5.0	8.1	3.0	6.7	3.0	7.1	3.0	4.9	1.0	2.1	15.0	5.8
D	9.0	14.5	6.0	13.3	4.0	9.5	11.0	18.0	3.0	6.4	33.0	12.8
U	17.0	27.4	13.0	28.9	7.0	16.7	16.0	26.2	16.0	34.0	69.0	26.8
A	19.0	30.6	19.0	42.2	16.0	38.1	20.0	32.8	17.0	36.2	91.0	35.4
SA	12.0	19.4	4.0	8.9	12.0	28.6	11.0	18.0	10.0	21.3	49.0	19.1
Total	62.0	100.0	45.0	100.0	42.0	100.0	61.0	100.0	47.0	100.0	257.0	100.0

FIGURE 6.6

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (6)

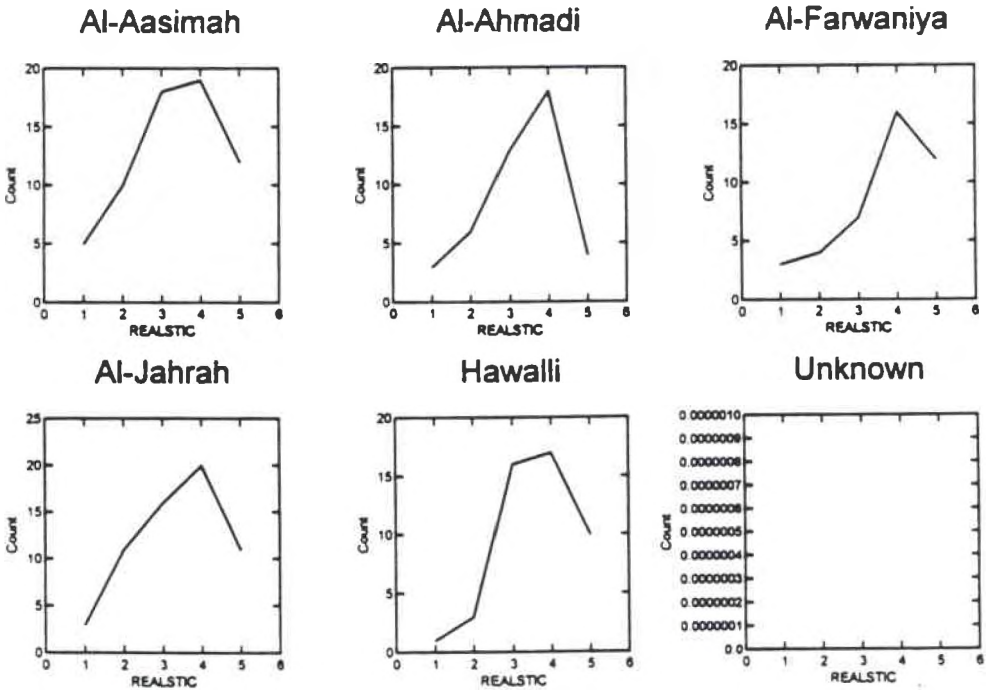


TABLE 10.7

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (7)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 7	N	%	N	%	N	%	N	%	N	%	N	%
SD	1.0	1.6	3.0	6.8	1.0	2.4	1.0	1.6	0.0	0.0	6.0	2.3
D	4.0	6.2	1.0	2.3	2.0	4.8	2.0	3.3	2.0	4.3	11.0	4.3
U	12.0	18.8	3.0	6.8	2.0	4.8	13.0	21.3	4.0	8.5	34.0	13.2
A	31.0	48.4	31.0	70.5	22.0	52.4	34.0	55.7	26.0	55.3	144.0	55.8
SA	16.0	25.0	6.0	13.6	15.0	35.7	11.0	18.0	15.0	31.9	63.0	24.4
Total	64.0	100.0	44.0	100.0	42.0	100.0	61.0	100.0	47.0	100.0	258.0	100.0

FIGURE 6.7

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (7)

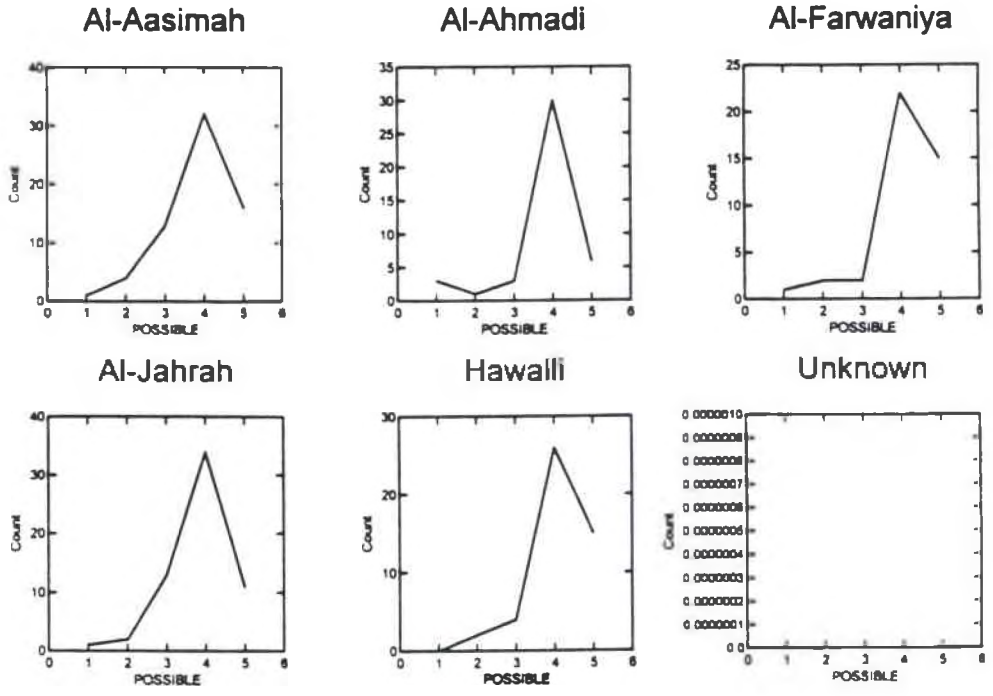


TABLE 10.8

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (8)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 8	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.1	1.0	0.4
D	2.0	3.1	0.0	0.0	0.0	0.0	1.0	1.6	0.0	0.0	3.0	1.2
U	2.0	3.1	0.0	0.0	0.0	0.0	6.0	9.8	1.0	2.1	9.0	3.4
A	22.0	34.4	12.0	26.7	11.0	26.2	17.0	27.9	12.0	25.5	74.0	28.6
SA	38.0	59.4	33.0	73.3	31.0	73.8	37.0	60.7	33.0	70.2	172.0	66.4
Total	64.0	100.0	45.0	100.0	42.0	100.0	61.0	100.0	47.0	100.0	259.0	100.0

FIGURE 6.8

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (8)

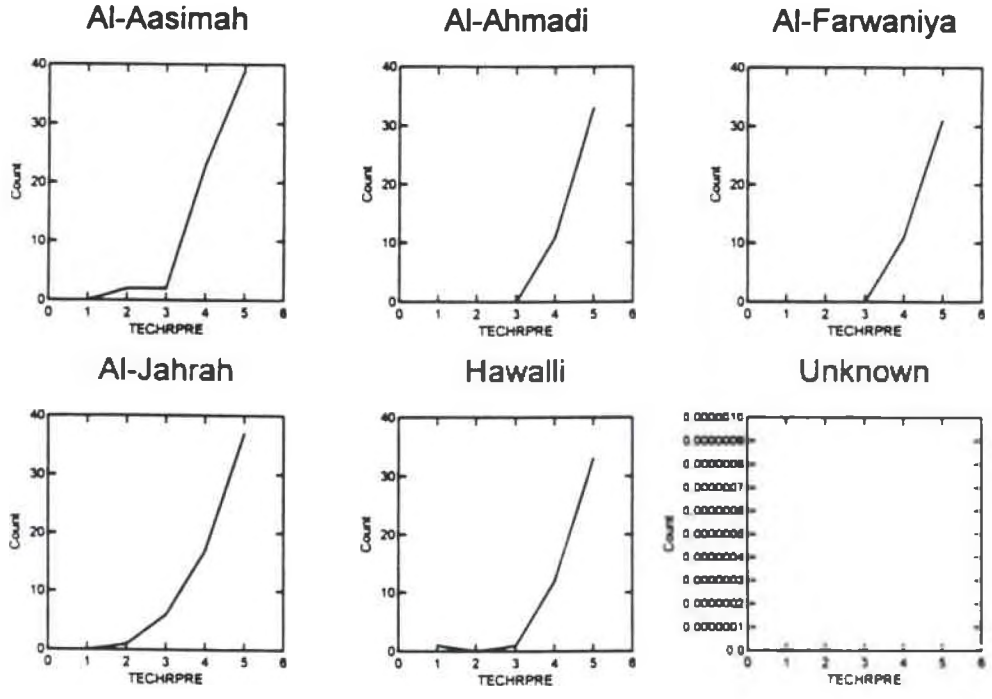


TABLE 10.9

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (9)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Question 9	N	%	N	%	N	%	N	%	N	%	N	%
SD	0.0	0.0	2.0	4.4	1.0	2.4	0.0	0.0	0.0	0.0	3.0	1.2
D	4.0	6.3	4.0	8.9	1.0	2.4	2.0	3.3	3.0	6.4	14.0	5.4
U	6.0	9.5	0.0	0.0	1.0	2.4	3.0	4.9	5.0	10.6	15.0	5.8
A	19.0	30.2	19.0	42.2	16.0	38.1	28.0	45.9	24.0	51.1	106.0	41.1
SA	34.0	54.0	20.0	44.4	23.0	54.8	28.0	45.9	15.0	31.9	120.0	46.5
Total	63.0	100.0	45.0	100.0	42.0	100.0	61.0	100.0	47.0	100.0	258.0	100.0

FIGURE 6.9

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (9)

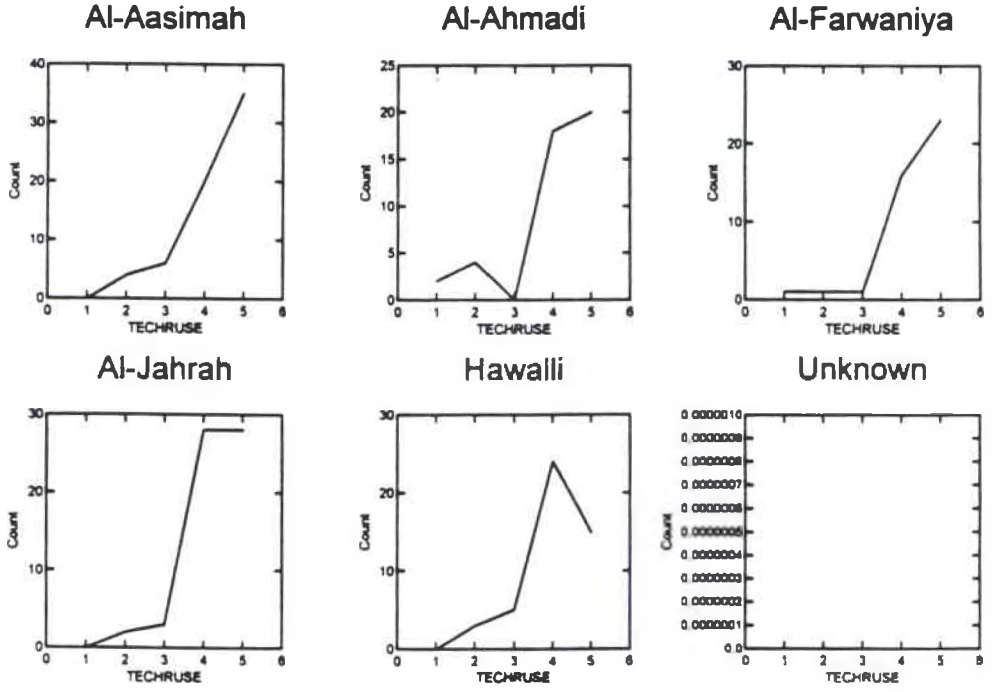


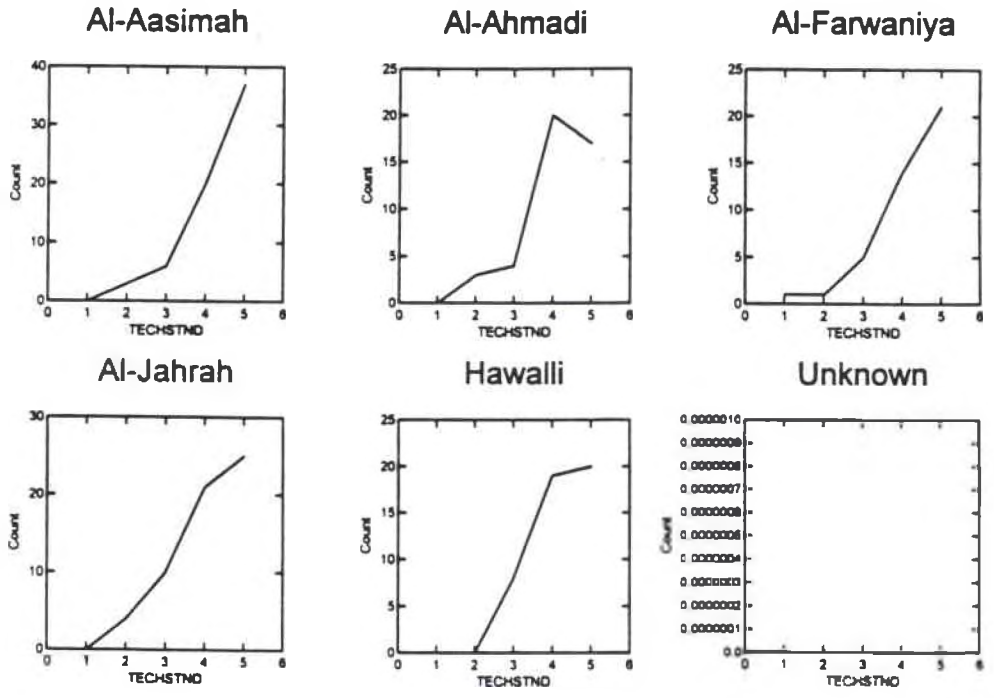
TABLE 10.10

THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (10)

Survey	Al Aasimah		Al Ahmadi		Al Farwaniya		Al Jahrah		Hawalli		Total	
Quesuon 10	N	%	N	%	N	%	N	%	N	%	N	%
SD	0 0	0 0	0 0	0 0	1 0	2.4	0 0	0 0	0 0	0 0	1 0	0 4
D	2 0	3 1	3 0	6.7	1 0	2 4	4 0	6.7	0 0	0 0	10 0	3 9
U	6 0	9 4	4 0	8 9	5 0	11.9	10 0	16.7	8 0	17 0	33 0	12 8
A	20 0	31 2	21 0	46 7	14 0	33 3	21 0	35 0	19 0	40 4	95 0	36 8
SA	36 0	56 2	17 0	37 8	21 0	50 0	25 0	41 7	20 0	42.6	119 0	46 1
Total	64 0	100 0	45 0	100 0	42 0	100 0	60 0	100 0	47 0	100 0	258 0	100 0

FIGURE 6.10

SIMPLE FREQUENCY POLYGONS SHOWING THE RESULTS OF TEACHERS RESPONSES TO QUESTION NO. (10)



Comparisons Within Administrators', Students', Teachers', Parents', and Community Members' Attitudes

Comparisons were made within each category of the five main categories of the study (i.e., administrators, students, teachers, parents, and community members) based on their responses to each of the ten major statements of the computer technology survey questionnaire. Results showed that almost all five categories responded very favorably to the ten major items of the survey. The overall results showed that all five categories had an overwhelming amount of agreement to almost all statements under investigation (i.e., items number 1, 3, 4, 5, 7, 8, 9, and 10) with only two exceptions, item number 6, and 2.

For **item 6**, the results were more distributed among the five responses, strongly agree, agree, undetermined, disagree, and strongly disagree in a different manner than the other items, but, with the majority leading for strongly agree and agree responses. The results also indicated a high percentages of unaligned, and disagreement responses to this item within the five categories. Not only were these more diverse responses, the participants clearly were less enthusiastic regarding this item. For example, of the 75 total administrators responding to this item, 20 percent of the responding administrators (n= 15) registered their unfavorably attitudes toward this statement. These administrators either strongly disagreed (n= 4, 5.3 percent) or disagreed (n= 11, 14.7 percent), whereas, 8 administrators (10.7 percent) remained unaligned in their responses. See Table 6.6, and Figure 2.6 on page 55 for additional tabular and graphic information.

Parents were similarly less enthusiastic. Of the 209 total parents responding to this item, 16.3 percent of the responding parents (n= 34) registered their unfavorably attitudes toward this statement. These parents either strongly disagreed (n= 9, 4.3 percent) or disagreed (n= 25, 12 percent), while, 54 parents (25.8 percent) remained neutral in their

responses, which yielded a neutral percentage that is higher than the disagreement percentage. See Table 8.6, and Figure 4.6 on page 87 for additional tabular and graphic information.

In last example, of the 249 total community members responding to this item, 55 community members (22.1 percent) remained uncommitted in their responses. Only 66 community members (26.5 percent) disagreed to this statement. These community members either strongly disagreed (n= 20, 8 percent) or disagreed (n= 46, 18.5 percent). See Table 9.6, and Figure 5.6 on page 104 for additional tabular and graphic information.

For **item 2**, the results were also more distributed among the five responses, strongly agree, agree, undetermined, disagree, and strongly disagree. The results also indicated a high percentages of uncommitted, and disagreement responses to this statement within the five categories. Of the 189 total students responding to this item, slightly more than one quarter of the students (n= 48, 25.4 percent) remained neutral in their responses. Only 28 students (14.8 percent) disagreed to this statement. These students either strongly disagreed (n= 11, 5.8 percent) or disagreed (n= 17, 9 percent). See Table 7.2, and Figure 3.2 on page 67 for additional tabular and graphic information.

Parents also registered less positive enthusiasm toward item 2. Of the 211 total parents responding to this item, 29 parents (13.7 percent) remained uncommitted in their responses. Only 40 parents (19 percent) disagreed to this statement. These parents either strongly disagreed (n= 8, 3.8 percent) or disagreed (n= 32, 15.2 percent). See Table 8.2, and Figure 4.2 on page 83 for additional tabular and graphic information.

Finally, of the 251 total community members responding to this item, 22 community members (8.8 percent) remained nonaligned in their responses. Only 52 community members (20.7 percent) registered their unfavorably attitudes toward this statement.

These community members either strongly disagreed (n= 8, 3.2 percent) or disagreed (n=44, 17.5 percent). See Tables 9.2, and Figure 5.2 on page 100 for additional tabular and graphic information.

In general, review of the tables and figures for the five main categories uncovered that the lack of agreement could be attributable to geographic/political region. The highest disagreement rate was fluctuated among the Al Aasimah governorate, the Hawalli governorate, and the Al Ahmadi governorate. Of the total participants (i.e., administrators, teachers, students, parents, and community members) responding to the ten major items of the survey questionnaire, 178 participants who registered their unfavorably attitudes were from the Al Aasimah governorate, 150 participants were from the Hawalli governorate, 143 participants were the Al Ahmadi governorate, 128 participants were from the Al Farwaniya governorate, 91 participants were from the Al Jahrah governorate, and 44 participants were unidentified. The results indicated that even though the Al Farwaniya governorate had more participants than the Al Ahmadi governorate, the Al Ahmadi governorate had more disagreement. Finally, the Hawalli governorate teachers' registered the highest percentages of disagreement when compared to the other governorates. The second highest disagreement rate was fluctuated between the Al Aasimah governorate and the Al Jahrah governorate.

Comparisons Among Administrators', Students', Teachers', Parents', and Community Members' Attitudes

Comparisons were made among the five main categories of the study (i.e., administrators, students, teachers, parents, and community members) based on their responses to each of the ten major items of the computer technology survey questionnaire. Results showed that almost all five categories responded very favorably to the ten major statements of the survey. The overall results showed that all five categories had a substantial amount of agreement to almost all statements under investigation (i.e., items number 1, 3, 4, 5, 7, 8, 9, and 10) with only two exceptions, item number 6, and 2. Participants responses for items number 1, 3, 4, 5, 7, 8, 9, and 10 were most similar. Precisely, these statements' averages agreement were as follows: item 1 (89.3 percent), item 3 (92.6 percent), item 4 (91.6 percent), item 5 (89.1 percent), item 7 (77.1 percent), item 8 (91.7 percent), item 9 (84.1 percent), and item 10 (82.1 percent). See Table 11 on page 131 for additional tabular information. For items number 6, and 2 the participants clearly were less enthusiastic, and there were slightly different opinions apparently based on location.

The most remarkable exception was in the categories responses to item number 6. **Item 6** addressed the participants' attitudes toward the statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC.** Statement 6 inquired whether implementing computer technology as an independent subject in K-12 schools is realistic. Responses to this item yielded to a low percentages of agreement in all five categories when compared to the other nine major items. The average agreement response to this statement was calculated and it was approximately 58 percent. Not only

were these more diverse responses, the participants clearly appeared less enthusiastic regarding this item. See Table 11 on page 131 for additional tabular information.

The other exception was in the categories' responses to item number 2. **Item 2** addressed the participants' attitudes toward the statement, **COMPUTER TECHNOLOGY SHOULD BE INTEGRATED IN ALL SUBJECTS.** Statement 2 asked the participants if they thought computer technology should be integrated in all disciplines. The average agreement to this item was calculated to be approximately 71 percent. See Table 11 on page 131 for additional tabular information. This low average might be interpreted as a result of a high unaligned average of 12.12 percent which particularly was a result of a high uncommitted percentage from the students' perspectives (25.4 percent). Examination of the tables 6.2, 7.2, 8.2, 9.2, and 10.2 on pages 51, 67, 83, 100, and 116 appears to indicate slightly different opinions based on location.

Put somewhat differently, even though results showed that the agreement percentages for item number 2, and 6 were lower than the agreement percentages of the other statements under investigation. However, these two agreement percentages were also considered as the leading majority when compared to the other responses categories (i.e., undetermined, and disagreement).

Examination of the tables 6.1-11 it becomes apparent that administrators had the highest percentages of agreement with each item of the ten major items of the computer technology survey questionnaire. The lowest percentages item agreement were found in the students' responses. This appears to be due to the high percentages of undetermined responses from the students' perspectives to the survey statements. The students appear to not possess a vision of technology potential in education. The largest rates of disagreement were from the Al Ahmadi governorate. The second highest disagreement rate

fluctuated between Al Aasimah and Hawalli. Even though the Al Farwaniya governorate had more participants than the Al Ahmadi governorate, the Al Ahmadi governorate had a higher disagreement rate than the Al Farwaniya governorate. The teachers from the Hawalli governorate had the highest rate of disagreement. The second highest disagreement percentage fluctuated between Al Aasimah governorate and Al Jahrah.

Results showed that a substantial amount of participants' differences occurred in the community members and parents categories. The results indicated that Al Jahrah and Al Farwaniya had a low number of participants based on the community members and parents category. It should be stated that these differences could not be avoided. The participants' pool (population density) of Al Jahrah and Al Farwaniya did not have the necessary membership to permit equivalent governorate participant sizes.

TABLE 11

COMPARISON TABLES OF THE FIVE CATEGORIES BASED ON THEIR RESPONSES TO THE SURVEY QUESTIONNAIRE

Responses	Administrators		Teachers		Students		Parents		Community	
Q (1)	N	%	N	%	N	%	N	%	N	%
D	4.0	5.0	16.0	6.2	17.0	9.0	9.0	4.2	13.0	5.2
U	1.0	1.3	7.0	2.7	26.0	13.8	10.0	4.7	5.0	2.0
A	75.0	93.7	235.0	91.1	146.0	77.3	192.0	91.0	234.0	92.9
Total	80.0	100.0	258.0	100.0	189.0	100.0	211.0	100.0	252.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (2)	N	%	N	%	N	%	N	%	N	%
D	12.0	15.1	33.0	12.9	28.0	14.8	40.0	19.0	52.0	20.7
U	3.0	3.7	23.0	9.0	48.0	25.4	29.0	13.7	22.0	8.8
A	65.0	81.2	200.0	78.1	113.0	59.8	142.0	67.3	177.0	70.6
Total	80.0	100.0	256.0	100.0	189.0	100.0	211.0	100.0	251.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (3)	N	%	N	%	N	%	N	%	N	%
D	0.0	0.0	7.0	2.7	5.0	2.7	2.0	1.0	8.0	3.2
U	3.0	3.7	16.0	6.2	13.0	6.9	14.0	6.7	10.0	4.0
A	77.0	96.2	234.0	91.1	170.0	90.2	194.0	92.4	235.0	92.9
Total	80.0	100.0	257.0	100.0	188.0	100.0	210.0	100.0	253.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (4)	N	%	N	%	N	%	N	%	N	%
D	0.0	0.0	10.0	3.8	10.0	5.3	2.0	1.0	15.0	5.9
U	1.0	1.3	8.0	3.1	13.0	7.0	16.0	7.5	18.0	7.1
A	78.0	98.7	241.0	93.1	164.0	87.7	194.0	91.5	220.0	87.0
Total	79.0	100.0	259.0	100.0	187.0	100.0	212.0	100.0	253.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (5)	N	%	N	%	N	%	N	%	N	%
D	1.0	1.3	14.0	5.4	13.0	6.9	8.0	3.8	16.0	6.4
U	1.0	1.3	14.0	5.4	23.0	12.3	17.0	8.0	9.0	3.6
A	77.0	97.5	230.0	89.1	151.0	80.7	187.0	88.2	226.0	90.0
Total	79.0	100.0	258.0	100.0	187.0	100.0	212.0	100.0	251.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (6)	N	%	N	%	N	%	N	%	N	%
D	15.0	20.0	48.0	18.6	35.0	18.5	34.0	16.3	66.0	26.5
U	8.0	10.7	69.0	26.8	44.0	23.5	54.0	25.8	55.0	22.1
A	52.0	69.3	140.0	54.5	108.0	57.7	121.0	57.9	128.0	51.4
Total	75.0	100.0	257.0	100.0	187.0	100.0	209.0	100.0	249.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (7)	N	%	N	%	N	%	N	%	N	%
D	8.0	10.1	17.0	6.6	24.0	13.1	15.0	7.4	15.0	6.0
U	6.0	7.5	34.0	13.2	35.0	19.0	32.0	15.7	40.0	16.1
A	66.0	82.5	207.0	80.2	125.0	68.0	157.0	77.0	193.0	77.8
Total	80.0	100.0	258.0	100.0	184.0	100.0	204.0	100.0	248.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (8)	N	%	N	%	N	%	N	%	N	%
D	0.0	0.0	4.0	1.6	11.0	5.8	5.0	2.4	7.0	2.8
U	1.0	1.3	9.0	3.4	25.0	13.2	17.0	8.0	8.0	3.2
A	79.0	98.8	246.0	95.0	153.0	80.9	190.0	89.6	238.0	94.1
Total	80.0	100.0	259.0	100.0	189.0	100.0	212.0	100.0	253.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (9)	N	%	N	%	N	%	N	%	N	%
D	6.0	7.5	17.0	6.6	10.0	5.4	12.0	5.8	14.0	5.6
U	4.0	5.0	15.0	5.8	35.0	18.6	26.0	12.4	17.0	6.7
A	70.0	87.4	226.0	87.6	143.0	76.1	172.0	81.9	221.0	87.7
Total	80.0	100.0	258.0	100.0	188.0	100.0	210.0	100.0	252.0	100.0

Responses	Administrators		Teachers		Students		Parents		Community	
Q (10)	N	%	N	%	N	%	N	%	N	%
D	2.0	2.6	11.0	4.3	9.0	4.7	6.0	2.9	8.0	3.2
U	9.0	11.3	33.0	12.8	37.0	19.6	31.0	14.8	34.0	13.5
A	69.0	86.2	214.0	82.9	143.0	75.6	173.0	82.4	210.0	83.3
Total	80.0	100.0	258.0	100.0	189.0	100.0	210.0	100.0	252.0	100.0

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Computers are used in many career areas at the present time. Computer technology knowledge and skills will continue to become even more important for most individuals. As millions of dollars are being spent every year to integrate computer and its related technologies into the public schools it is important to consider what role these technologies should take.

Although the literature to support computer technology in today's society and indeed most areas of human life are plentiful, the question of technologies place in education is yet to be universally supported. With the pervasive existence of computers and related technologies everywhere in our lives in today's society, there is no doubt that these technologies are not a *fad*.

The central purpose of this study was to investigate and analyze the attitudes of administrators, teachers, students, parents, and community members toward implementing computer technology in K-12 education in the State of Kuwait. To accomplish this task, a survey questionnaire was developed and administered to various members of the educational system (i.e., administrators, teachers, students, parents, and community members) in the five governorates (i.e., Al Aasimah, Al Ahmadi, Al Farwaniya, Al Jahrah, and Hawalli) of the State of Kuwait.

The survey questionnaire was stratified randomly among administrators, teachers, students, parents, and community members from the five governorates of the State of Kuwait. Using a Likert scale with five responses: strongly agree, agree, undetermined,

disagree, and strongly disagree; administrators, teachers, students, parents, and community members recorded their attitudes regarding the issue of implementing computer technology in K-12 education.

This survey questionnaire was distributed with the help of a community leader, Dr. Hassan Safar, an expert in the Kuwait National Commission for Education, Science, and Culture, and a visiting professor in college of education at Kuwait University, to 1393 in the five governorates (i.e., Al Aasimah, Al Ahmadi, Al Farwaniya, Al Jahrah, and Hawalli) of the State of Kuwait. Then, the results were mailed to the researcher who resides in the United States.

Comparisons were made among and within the five main categories of administrators, teachers, students, parents, and community members) for each of five governorates (i.e., Al Aasimah, Al Ahmadi, Al Farwaniya, Al Jahrah, and Hawalli) of the State of Kuwait. An overwhelming number of the participants shared positive opinions related to technologies place in education. The results indicated that items 2 and 6 were more distributed among the five responses (i.e., strongly agree, agree, undetermined, disagree, and strongly disagree) in a slightly different manner than the other eight major questions of the survey. The results from this research were stated in both number of responses and percentages. These results can be found in a series of tables located starting on page 50.

Conclusions

It can be concluded that the overwhelming number of participants little doubt that the computer and its related technologies play a significant role on education, in students' learning, and one's achievement. The most remarkable exception was in the categories responses to item number 6. **Item 6** addressed the participants' attitudes toward the

statement, **IMPLEMENTING COMPUTER TECHNOLOGY, KNOWLEDGE AND SKILLS, AS AN INDEPENDENT SUBJECT IN ALL GRADE LEVELS IN OUR SCHOOLS IS REALISTIC.** Statement 6 inquired whether implementing computer technology as an independent subject in K-12 schools is realistic. Responses to this item yielded to a low percentages of agreement in all five categories. With the average agreement response to this question was calculated and it was approximately 58 percent.

Administrators had the highest percentages of agreement to each item of the ten major items of the computer technology survey questionnaire when compared to teachers, parents, community members, and students. The lowest agreement of percentages was found in students responses. Perhaps the students possessed less vision of technology potential in education. Whereas students' responses often failed to include grade levels, younger students might well lack the developmental awareness of the other adult groups.

This study succeeded in analyzing the opinions of administrators, teachers, parents, and community members in the State of Kuwait regarding the issue or idea of implementing computer technology in K-12 education. While the results showed an overwhelming amount of agreement in supporting computer technology as an independent subject in K-12 education, there were pockets of individuals who failed to support computer technology. The results overtly indicated that the idea of implementing computer technology in K-12 education in the State of Kuwait both as an independent subject and of integrating it into all other subjects is favorably.

This study only reflects one aspect of the complete evaluation process. Further research as a part of future investigation is anticipated. Recommended modifications include more careful translation of the questionnaire. A minor mistake for the response of the age question obscured the ability to fully evaluate the students' responses. Perhaps a

separate questionnaire should have been used for students. Students responses, however, were not a primary concern for this research. Some of the participants did not fully respond to the questionnaire. This perhaps could have been avoided with more complete instructions to field administrators.

Recommendations

The general educational objectives in the State of Kuwait are connected to the culture and nature of the Kuwaiti society. Kuwait's philosophy, future prospects, and the contemporary educational trends all will be based on technology changes. In light of all this, the author recommends the following:

1. Contemporary trends of education, computer technology literacy, knowledge and skills, should be taught as early as possible as an independent subject in K-12 schools. Otherwise students will be left behind. Thus, the Ministry of Education and Higher Learning of the State of Kuwait, should consider creation of opportunities for all community members and students. Only then will everyone to understand the technology of the world of computer technology and apply sophisticated technology in their daily lives. Antitechnology pockets should be identified and educated on the appropriateness of technology.

2. The Ministry of Education and Higher Learning of the State of Kuwait, in order to stimulate the effective use of technology in teacher education, should consider requiring schools, colleges, and departments of education to develop a technology vision and to develop a strategic information technology plan that reinforces that vision. Appropriate dissemination of that vision is a vital part of any valid vision. Educators and community

members must believe that computers and network technologies, if properly implemented, will offer the greatest potential to right the wrongs of our schools.

3. No amount of technology will fix what's wrong with education without a strategic technology plan properly disseminated. For technology to better serve the students' education and lives, we should all agree to have a national strategic technology standard. Examples we can review are current technology plans such as The NETS (National Educational Technology Standards) Project or The TTACOS (Teachers, Technology, And Children On-Line Standards) Project. Both are widely heralded technology plans. A strategic information technology plan should support the Ministry of Education and Higher Learning's programmatic activities, and should serve as:

- a vehicle for discussing and building consensus on a definition of problems, relative and absolute priorities of solutions, preferred technologies, organizational structures, and other related factors;
- justification for future expenditures, demonstrating that specific initiatives are conceived as part of a coherent whole, that alternatives have been considered, and that forethought and consideration are present;
- a road map to guide future information management activities; and
- a yardstick for measuring future progress, since the plan will indicate the specific activities that should be under way at any point (NCATE, 1997).

4. The Ministry of Education and Higher Learning of the State of Kuwait, working with other professional organizations such as the Kuwaiti Foundation for the Advancement of Science (KFAS), should consider establishing pilot projects with a few institutions to implement and evaluate state-of-the-art uses of technology in the State of Kuwait.

5. The Ministry of Education and Higher Learning of the State of Kuwait, working with other professional organizations such as the Kuwaiti Foundation for the Advancement of Science (KFAS), should consider establishing pilot projects with a few institutions to implement and evaluate state-of-the-art idea of implementing computer technology as an independent subject in K-12 education. Clearly, however, the opinions captured in this project also suggest support for integrating technology into all subject areas.

6. The Ministry of Education and Higher Learning of the State of Kuwait should encourage various principals to use electronic means to communicate and to store and retrieve data for educators and students. Availability of technology to parents and community members should also be studied further.

7. The Ministry of Education and Higher Learning of the State of Kuwait and the School of Education at Kuwait University should begin , as soon as possible creation and maintenance of web sites in order to provide educators and community members with the most up-to-date sources of information. Such education information and related issues in the State of Kuwait that must be available not only to support technology but to provide a voice of Kuwaiti culture within the world of technology.

8. The Ministry of Education and Higher Learning of the State of Kuwait should take in its account the recent recommendations of other professional organizations, both nationally and internationally, regarding the issue of technology and education. In 1995 the Office of Technology Assessment of the Congress of the United States recommended four components for technology use in education. These are: (1) a vision of technology potential; (2) opportunities and areas to apply technology; (3) training and just-in-time-

support for technology; and (4) time to experiment. We need not reinvent or restudy what information that is already available.

9. All five categories of the participants (i.e., administrators, teachers, students, parents, and community members) should be exposed to more information and in service lectures or training about the idea of integrating computer technology. The question should not be one of should we do this. The real questions should be how should we deliver these services.

10. More research should be done in order to fulfill the requirements of implementing computer technology in K-12 education in the State of Kuwait. This research should deal with more indepth details. This researcher will continue to investigate and offer data to support continued development of technology.

As indicated earlier in this study, John Dewey recognized that education must be based on reality and a drive for betterment of society. Education should interwine the process of living with the process of learning because, in essence, they are a joint process. In conclusion, this researcher believes that people love to learn, and they are good at it. They specially love learning when it is fun and when the drudgery is minimized. They love learning things that are interesting and relevant to them. People love learning when they put responsible for their own learning and when they are successful. Computer and its related technologies can help make all that possible.

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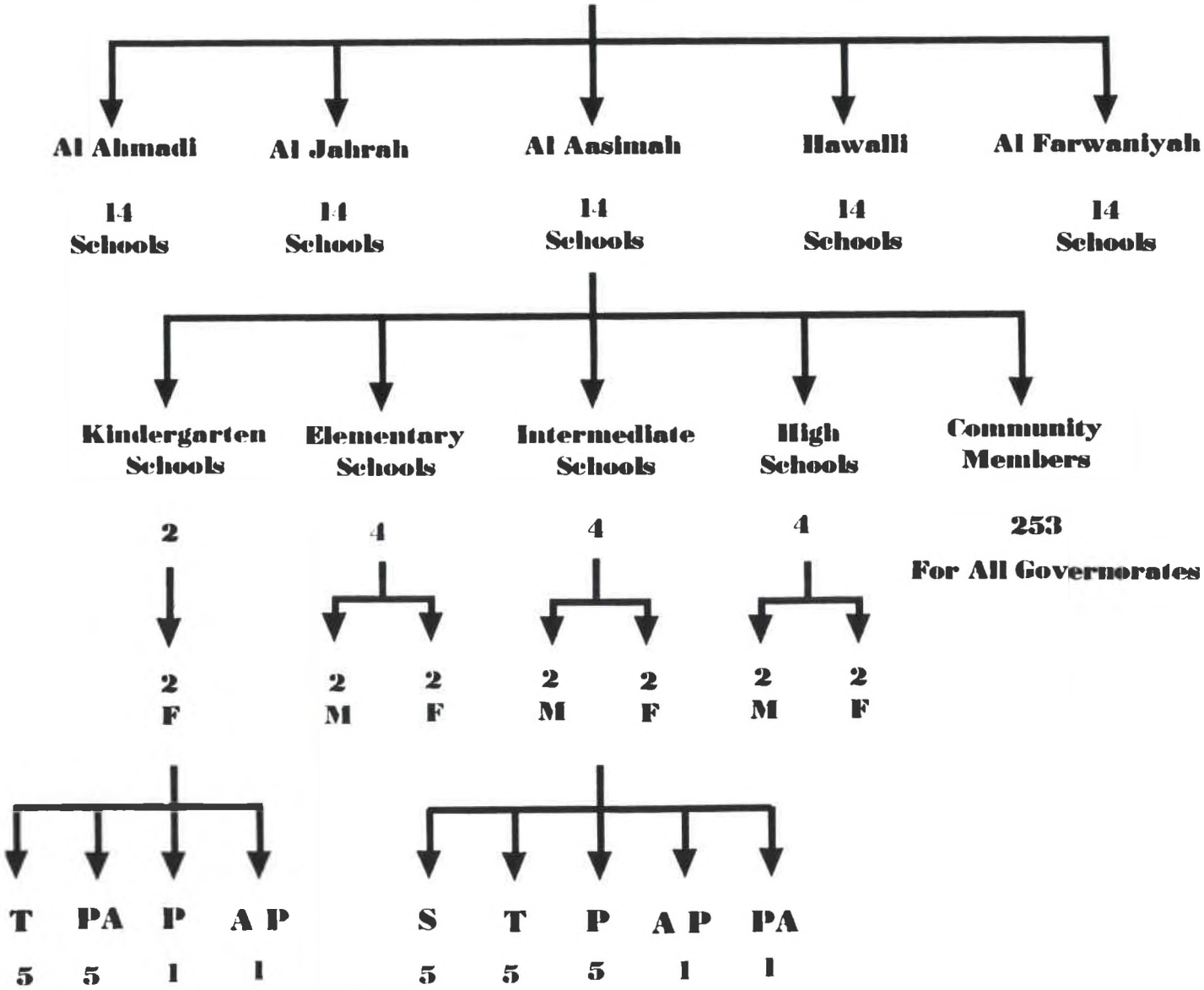
APPENDICES

APPENDIX A

Figure 1: Stratification of the Subjects Under Investigation

FIGURE 1 : STRATIFICATION OF THE SUBJECTS UNDER INVESTIGATION



Notes:

1. The breakdown of schools is in each governorate.

2. The breakdown of participants is in each school.

3. "M" means Male Schools; "F" means Female Schools; "P" means Principals; "A P" means Associate Principals; "PA" means Parents; "T" means Teachers; and "S" means Students.

4. The total number of participant schools in each governorate is 14 (2 kindergarten, 4 elementary, 4 middle, and 4 high) schools.

5. The total number of participants in each kindergarten school is 12 (1 principal, 1 associate principal, 5 parents, and 5 teachers) participants.

6. The total number of participants in each elementary or middle or high school is 17 (1 principal, 1 associate principal, 5 parents, 5 teachers, and 5 students) participants.

7. The overall number of participant schools in this study is 70 (10 kindergarten, 20 elementary, 20 intermediate, and 20 high) schools.

8. The overall number of participants in this study supposed to be 1393 (140 administrators, 350 teachers, 300 students, 350 parents, and 253 community members).

APPENDIX B

Tables 1-5

TABLE 1

CLASSIFICATION OF THE EXPECTED PARTICIPANTS

UNDER INVESTIGATION

N= 1393

Participants	Administrators	Teachers	Students	Parents	Community Members	Total
Kindergarten Schools	20	50	-	50	-	120
Elementary Schools	40	100	100	100	-	340
Intermediate Schools	40	100	100	100	-	340
High Schools	40	100	100	100	-	340
Community Members	-	-	-	-	253	253
Total	140	350	300	350	253	1393

TABLE 2

CLASSIFICATION OF THE PARTICIPANTS WHOM

COMPLETED AND RETURNED THE SURVEY

N= 1330

Participants	Administrators	Teachers	Students	Parents	Community Members	Unidentified	Total
Kindergarten Schools	12	41	-	26	-	32	111
Elementary Schools	21	70	63	65	-	99	318
Intermediate Schools	22	75	72	67	-	95	331
High Schools	25	74	54	54	-	110	317
Community Members	-	-	-	-	253	-	253
Total	80	260	189	212	253	336	1330

Note:

1. Of 1393 total distributed questionnaires, 1359 questionnaires were returned which yielded a return rate of 97.56 percent. Upon closer examination of the returned questionnaires, 1330 were complete enough for analysis. A total of 63 questionnaires were rejected for analysis because they were incomplete (29 questionnaires), or because they were not returned (34 questionnaires)

TABLE 3

RESEARCH VARIABLES CODING SHEET

ID #	1-1330	
CAT	1-5	1-T; 2-P; 3-S; 4-A; 5-CM
SCHOOL	1-70	
CITY	1-29	
SEX	1-2	1-M; 2-F
AGE	1-9	1: 5-9; 2:10-14; 3:15-19; 4: 20-24; 5: 25-29; 6: 30-34; 7: 35-39; 8: 40-44; 9: =>45
OCCYRS	1-4	1: =<5; 2: 6-10; 3: 11-15; 4: =>16
DISTRICT	1-5	1-ASM; 2-HWL; 3-AHM; 4-FAR; 5-JAH
TECHRGRD	1-4	1-K; 2-E; 3-I; 4-H
STUDGRAD	1-12	1-4: E; 5-8: I; 9-12: H
COMPUTYR	1-4	1: =<5; 2: 6-10; 3: 11-15; 4: =>16
HOMEWORK	1-2	1-YES; 2-NO
LETTERS	1-2	1-YES; 2-NO
EMAIL	1-2	1-YES; 2-NO
INTERNET	1-2	1-YES; 2-NO
SCHLWORK	1-2	1-YES; 2-NO
DALYWORK	1-2	1-YES; 2-NO
OTHER	1-2	1-YES; 2-NO
IND_SUB	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
INTG_SUB	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
IMPCLERN	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
EDUACHIV	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
GOODIDEA	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
REALSTIC	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
POSSIBLE	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
TECHRPRE	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
TECHRUSE	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD
TECHSTND	1-5	1-SA; 2-A; 3-U; 4-D; 5-SD

TABLE 4

RESEARCH SCHOOLS CODING SHEET

School Name	ID #	Grade Level	Gender	Governorate
Al Istiqlal	1	K	F	3
Al Narjis	2	K	F	3
Mahmoud Shawqi Al Aaiobbi	3	E	M	3
Abdul Allah Al Assfoor	4	E	M	3
Fatemah Bint Al Khattaab	5	E	F	3
Lailah Bint Al Khutaim	6	E	F	3
Abdul Rahmaan Al Duaij	7	I	M	3
Abdul Allah Sinan	8	I	M	3
Al Sabahiyah	9	I	F	3
Omaiyah Bint Qais	10	I	F	3
Al Dhaher	11	H	M	3
Al Sabahiyah	12	H	M	3
Maath Al Ghufariyah	13	H	F	3
Al Sabahiyah	14	H	F	3
Al Wahah	15	K	F	5
Al Jahrah	16	K	F	5
Sied Hashim Al Hinian	17	E	M	5
Abo Hurairah	18	E	M	5
Om Jameel Al Aameriyah	19	E	F	5
Omaimah Bint Al Bihaar	20	E	F	5
Ali Khalifah Al Sabah	21	I	M	5
Abdul Allah Bin Suhail	22	I	M	5
Om Maabid	23	I	F	5
Halah Bint Khuwailed	24	I	F	5
Khalid Bin Saeed	25	H	M	5
Al Jahrah	26	H	M	5
Al Nawaar Bint Malek	27	H	F	5
AlJahrah	28	H	F	5
Al Salaam	29	K	F	4
Al Fagir	30	K	F	4
Naeem Bin Masoud	31	E	M	4
Ahmad Atiyah Al Thari	32	E	M	4
Nafeesah Bint Omaiyah	33	E	F	4
Al Omriyah	34	E	F	4
Al Farwaniyah	35	I	M	4
Abdul Allah Bin Huthafah	36	I	M	4
Al Rabiyah	37	I	F	4
Al Firdoos	38	I	F	4
Ebin Al Aameed	39	H	M	4
Saleh bin Al Ruwaiyah	40	H	M	4
Om Hakem Bint Abi Sufian	41	H	F	4
Hawaa Bint Yazeed Al Anssariyah	42	H	F	4

TABLE 4

RESEARCH SCHOOLS CODING SHEET

School Name	ID #	Grade Level	Gender	Governorate
Al Jabiriyah	43	K	F	2
Al Masoudi	44	K	F	2
Abdul Rahmaan Al Ghafiqi	45	E	M	2
Khabab Bin Al Aarit	46	E	M	2
Aatikah Bint Ziad	47	E	F	2
Mushrif	48	E	F	2
Al Shaeb	49	I	M	2
Al Maghirah Bin Noufal	50	I	M	2
Asmaa Bint Abi Baker	51	I	F	2
Om Salem Al Ansariyah	52	I	F	2
Al Rumiathiyah	53	H	M	2
Salah Al Deen	54	H	M	2
Hind	55	H	F	2
Bayan	56	H	F	2
Al Furaat	57	K	F	1
Al Nuzha	58	K	F	1
Mershid Muhammed Al Sulaiman	59	E	M	1
Abdul Aziz Al Aatiqi	60	E	M	1
Al Nuzha	61	E	F	1
Ghirnatah	62	E	F	1
Maan Bin zaaedah	63	I	M	1
Qutaibah	64	I	M	1
Al Dasma	65	I	F	1
Al Mansouriyah	66	I	F	1
Ahmad Al Bisher Al Roumi	67	H	M	1
Abdul Allah Al Jaber Al Sabah	68	H	M	1
Jumanah Bint Abi Taleb	69	H	F	1
Al Yarmouk	70	H	F	1

TABLE 5

RESEARCH CITIES CODING SHEET

City Name	ID #
Al Sabahiyah	1
Al Dhaher	2
Al Qaser	3
Taimaa	4
Al Eioon	5
Al Wahah	6
Al Aardhiyah	7
Al Firdoos	8
Jileeb Al Shiyookh	9
Al Omriyah	10
Al Farwaniyah	11
Al Rabyah	12
Al Andalus	13
Al Jabriyah	14
Al Rumiathiyah	15
Mushrif	16
Al Shaeb	17
Salwa	18
Bayan	19
Al Dasma	20
Al Nuzha	21
Al Douha	22
Al Suliabikhat	23
Al Odailiyah	24
Dhahiat Abdul Allah Al Salem	25
Al Deiyah	26
Al Mansouriyah	27
Al Rawdha	28
Al Yarmouk	29

APPENDIX C

The Survey Questionnaire

(English Version)

Opinions Towards Computer Technology in K-12 Education

A Survey Questionnaire

This survey questionnaire is part of an attempt on my behalf to clarify selected standpoints regarding the issue of computer education in K-12 education from the perspectives of various members of the educational system (e.g., students, teachers, administrators, educators, parents, and community members).

Please participate in this survey by expressing your own opinions. Your responses are profoundly important. Anonymity is assured for all participants.

Thanks for your cooperation

Ammar H. Safar

Graduate Student at the University of Dayton

Major: Computers in Education

Part I

Preliminary Information

Name:

Gender: M F circle

Age:

Occupation: Years in this position:

Years of experience with computers:

Do you have a computer at home or at work? circle

Yes No

Do you use a computer for: circle

letters Yes No

E-mail Yes No

Internet Yes No

school work Yes No

Part II

Respond to the following questions with the appropriate choices which reflect your viewpoints and understanding of each question. "SA" means Strongly Agree; "A" means Agree; "U" means Undetermined; "D" means Disagree; and "SD" means Strongly Disagree.

	SA	A	U	D	SD
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

APPENDIX D

The Survey Questionnaire

(Arabic Version)

بسم الله الرحمن الرحيم

الى من يهمه الامر

تحية طيبة وبعد .

فإنني بصدد جمع بيانات تتعلق بدراسة حول اهمية استخدام تكنولوجيا الكمبيوتر في التربية من مرحلة رياض الاطفال الى نهاية المرحلة الثانوية كجزء من متطلبات درجة الماجستير في " الكمبيوتر في التربية " ، ونظراً لما لآرائكم من اهمية فاني اطمح ان تسمحوا لي بشئ من وقتكم للاجابة على هذا الاستبيان .

علماً بأن جميع اجاباتكم ستعامل بسرية تامة ولن تستخدم الا لغرض البحث العلمي فقط . لذا نرجو تحري الدقة و الصدق في ملء بياناته .

شاكراً لكم حسن تعاونكم معنا ...

مع خالص التحية و الاحترام ...

عمار حسن صفر

طالب دراسات عليا في جامعة

دايتون بالولايات المتحدة

مجال التخصصي الرئيسي

الكمبيوتر في التربية

ف ٥٢ / ١٠

آراء حول أهمية استخدام تكنولوجيا الكمبيوتر في التربية
من مرحلة رياض الاطفال الى نهاية المرحلة الثانوية

استبيان مسحي

يعتبر هذا الاستبيان جزء من محاولتي لتوضيح وجهات نظر بعض اعضاء الجهاز التربوي ممثلا بالطلبة ، المدرسين ، مدراء المدارس ، الآباء وافراد من المجتمع ، حول قضية استخدام الكمبيوتر في التربية من الروضة الى نهاية المرحلة الثانوية .

و المطلوب وضع اشارة (X) امام العبارة التي تعبر عن وجهة نظرك .

رجاء المشاركة في هذا المسح بالتعبير عن آرائكم التي ستكون في غاية الاهمية للدراسة ، ونؤكد على ان أسماء المشاركين ستعامل بسرية تامة وهذا الاستبيان لن يطلع عليه احد غير الباحث .

شكرا لكم لتعاونكم ...

عمار حسن صفر

طالب دراسات عليا في جامعة

دايتون بالولايات المتحدة

مجال التخصصي الرئيسي

الكمبيوتر في التربية

الجزء الأول

معلومات تمهيدية

الإسم (إختياري) :

ضع علامة (X) على المربع الذي يناسبك :

الجنس : ذكر [ ] أنثى [ ]

العمر : ٢٥-٢٩ سنة [ ] ٣٠-٣٤ [ ] ٣٥-٣٩ سنة [ ]
٤٠-٤٤ سنة [ ] ٤٥ سنة فأكثر [ ]

الوظيفة :

عدد سنوات الخبرة : من خمس سنوات و أقل [ ] من ٦-١٠ سنوات [ ]
من ١١ - ١٥ سنة [ ] من ١٦ سنة فأكثر [ ]

المنطقة التعليمية : العاصمة [ ] حولي [ ] الأحمدي [ ] الفروانية [ ] الجهراء [ ]

المرحلة الدراسية للطالب : الابتدائية [ ] المتوسطة [ ] الثانوية [ ]

عدد سنوات الخبرة في استخدام الكمبيوتر : من خمس سنوات و أقل [ ]
من ٦-١٠ سنوات [ ] من ١١ - ١٥ سنة [ ] من ١٦ سنة فأكثر [ ]

هل لديك كمبيوتر في المنزل أو في العمل ؟ نعم [ ] لا [ ]

هل تستعمل الكمبيوتر من أجل :

الرسائل	:	نعم	[ ]	لا	[ ]	
البريد الالكتروني	:	نعم	[ ]	لا	[ ]	
الانترنت	:	نعم	[ ]	لا	[ ]	
الأعمال المدرسية	:	نعم	[ ]	لا	[ ]	
الأعمال اليومية	:	نعم	[ ]	لا	[ ]	
استعمالات أخرى	:	نعم	[ ]	لا	[ ]	

الجزء الثاني

رجاء الاجابة على الاسئلة التالية حسب الاختيار المناسب الذي يعبر عن وجهة نظرك وفهمك لكل سؤال .[[الرقم(١) اوافق بشدة الرقم (٢) اوافق الرقم (٣) لا ادري الرقم (٤) لا اوافق الرقم (٥) لا اوافق بشدة]]

	١	٢	٣	٤	٥
١ ـ يجب ان تدرس تكنولوجيا الكمبيوتر كمادة مستقلة في كل السنوات الدراسية .					
٢ ـ يجب ان تدخل تكنولوجيا الكمبيوتر في كل المواد الدراسية .					
٣ ـ سيساعد الكمبيوتر على زيادة فعالية تعلم الطالب .					
٤ ـ يحقق استخدام الكمبيوتر أثرا طيبا في التربية وتحصيل الطالب .					
٥ ـ استخدام تقنية الكمبيوتر والمعرفة و مهاراته كمادة مستقلة في كل السنوات الدراسية يعتبر فكرة جيدة .					
٦ ـ استخدام تقنية الكمبيوتر و مهاراته كمادة مستقلة في كل السنوات الدراسية بمدارسنا امر واقع .					
٧ ـ استخدام تقنية الكمبيوتر و مهاراته كمادة في كل السنوات الدراسية بمدارسنا امر ممكن .					
٨ ـ يجب ان تقوم الجامعات والكليات والمؤسسات التعليمية الاخرى والمعاهد العليا باعداد مدرسين كمبيوتر بالاضافة الى اعداد متخصصين في تقنية الكمبيوتر . مدرسي الرياضيات ومدرسي العلوم . ومدرسي التربية الفنية .. الخ .					
٩ ـ يجب ان يستخدم المدرسون الحاليون (قدامى وجدد) تكنولوجيا الكمبيوتر في العملية التعليمية و المناهج .					
١٠ ـ نحتاج الى مقاييس تكنولوجية قومية لكي نتمكن من استخدام تكنولوجيا الكمبيوتر في مدارسنا كمادة مستقلة .					

APPENDIX E

The Survey Questionnaire

(English Translation of the Arabic Version)

In The Name Of God,
Most Gracious, Most Merciful

To Whom It May Concern

I intend to collect data concerning the importance of applying computer technology in education (in grade levels K-12) for partial fulfillment of the Master's Degree- Major: Computers in Education.

As your opinions are very important, I'd like to have some of your precious time to respond to the items occurring in the questionnaire.

Your responses will be tackled confidentially. The obtained data will be used only for scientific research purposes. Please be accurate and frank.

My best regards

Ammar H. Safar

Graduate Student at the University of Dayton

Major: Computers in Education

Opinions Towards Computer Technology in K-12 Education

A Survey Questionnaire

This survey questionnaire is part of an attempt on my behalf to clarify selected standpoints about the issue of computer education in K-12 education from the perspectives of various members of the educational system (e.g., students, teachers, administrators, educators, parents, and community members).

Put (x) opposite the statement that is consistent with your viewpoint.

Please participate in this survey by expressing your own opinions. Your responses are profoundly important. Anonymity is assured for all participants. No one will see it except for researcher.

Thanks for your cooperation

Ammar H. Safar

Graduate Student at the University of Dayton

Major: Computers in Education

Part I

Preliminary Information

Name (optional):

Choose the appropriate answer by putting [X] on the square:

Gender: M [ ] F [ ]

Age: 25-29 [ ] 30-34 [ ] 35-39 [ ] 40-44 [ ] =>45 [ ]

Occupation:

Years of experience: =<5 [ ] 6-10 [ ] 11-15 [ ] =>16 [ ]

Governorate: Al- Aasimah [ ] Hawalli [ ] Al- Ahmadi [ ]

Al- Farwaniyah [ ] Al- Jahrah [ ]

Students grade level: Elementary [ ] Intermediate [ ] High School [ ]

Years of experience with computers: =<5 [ ] 6-10 [ ] 11-15 [ ] =>16 [ ]

Do you have a computer at home or at work? Yes [ ] No [ ]

Do you use a computer for:

Letters	Yes [ ]	No [ ]
E-mail	Yes [ ]	No [ ]
Internet	Yes [ ]	No [ ]
School Work	Yes [ ]	No [ ]
Daily Work	Yes [ ]	No [ ]
Other Uses	Yes [ ]	No [ ]

Part II

Respond to the following questions with the appropriate choices which reflect your viewpoints and understanding of each question. [[#(1) means Strongly Agree; #(2) means Agree; #(3) means Undetermined; #(4) means Disagree; and #(5) means Strongly Disagree]]

1	2	3	4	5

1. Computer technology should be taught as an independent subject in all grade levels.

2. Computer technology should be integrated in all subjects.

3. Computer and its related technology will improve the overall effectiveness of our students' learning.

4. Computer and its related technology does a great impact on education and in students' achievement.

5. Implementing computer technology, knowledge and skills, as an independent subject in all grade levels in our schools is a good idea.

6. Implementing computer technology, knowledge and skills, as an independent subject in all grade levels in our schools is realistic.

7. Implementing computer technology, knowledge and skills, as an independent subject in all grade levels in our schools is possible.

8. Universities, colleges, and other post secondary institutions should prepare computer teachers in addition to preparing computer technology specialists, mathematics teachers, science teachers, art teachers, etc.

9. Current teachers (both experts and novices) should use computer and its related technology into their instructions and curriculums.

10. We need national technology standards in order to implement the computer and its related technology in our schools as an independent subject.

APPENDIX F

The Approval Document for Conducting the Study Issued by the Associate Secretary of Academic Affairs of the Ministry of Education in the State of Kuwait (Arabic Version)

٧ / ١٠ / ١٩٩٧

السيد المحترم / عبدالله علي اللقمان
الوكيل المساعد للشؤون التعليمية

تحية طيبة و بعد ،

الموضوع : تطبيق استبيان آراء حول اهمية استخدام تكنولوجيا الكمبيوتر في التربية من مرحلة رياض الاطفال الى نهاية المرحلة الثانوية

ارجو التكرم بالموافقة على تطبيق الاستبيان المذكور اعلاه على عدد من المدارس في المناطق التعليمية الخمس حيث انه جزء من دراستي حول الكمبيوتر واستخدامه في التربية .

يرجى التكرم بالايعاز للجهات المختصة في المناطق التعليمية الخمس لتسهيل مهمتي في أداء الاستبيان ، وذلك للاهمية علما بأن اسماء المشاركين ستعامل بسرية تامة .

مع خالص التحية و الاحترام ...

عمار حسن صفر
طالب دراسات عليا
في جامعة دايتون بالولايات المتحدة
مجال التخصص الرئيسي
الكمبيوتر في التربية

١٩٩٧/١٠/٧

ف ٥١ / ١٠

APPENDIX G

Tables Provide Basic Information About the Schools that Participated in the Study from the Five Governorates of the State of Kuwait (Arabic Version)

قائمة بأسماء مدارس منطقة الأحمدي التعليمية المختارة عشوائياً المشاركة في تطبيق الاستبيان

المرحلة		اسم المدرسة	المنطقة السكنية	قطعة	الشارع	رقم الهاتف	رقم الفاكس	اسم الناظر
رياض الأطفال		الاستقلال	الصباحية	٢	١٢	٣٦٢٢٩٤١	٣٦٢٢٩٤٨	فاطمة محمد صفر
		النرجس	الظهر	١	الأول	٣٩٤٠٩٩٤	٣٩٤٠٩٩٣	نورية محمد عبدالملك
الإبتدائية	بنين	محمود شوقي الأيوبي	الصباحية	٣	١٦	٣٦٢٣٧٨٥	٣٦١٤٠٥٧	جاسم جعفر جاسم جعفر
		عبدالله العصفور	الظهر	٦	الأول	٣٩٦٠٩٨٧	٣٩٦٠٩٨٦	حسين حسن شاغولي
	بنات	فاطمة بنت الخطاب	الصباحية	٥	المدارس	٣٦٢٢٠٤٨	٣٦١٢١٠٥	فوزية عبدالرسول خلف
		ليلى بنت الخطيم	الظهر	٣	٦ الرئيسي	٣٩٦٥٠١٤	٣٩٦٥٠١٣	نصرة احمد محمد الزنكوي
المتوسطة	بنين	عبدالرحمن الدعيج	الصباحية	٥	المدارس	٣٦١٢١٥١	٣٦١٢١٥١	احمد بكر شعيب
		عبدالله سنان	الظهر	٦	الرئيسي	٣٩٦٠٩٩٥	٣٩٦٠٩٩٠	حميد محمد عبدالله بولند
	بنات	الصباحية	الصباحية	٥	المدارس	٣٦١٥٢٧١	٣٦١٣٠٩٥	هيا يوسف المهيني
		أمية بنت قيس	الظهر	٣	الأول	٣٩٦٠١٢١	٣٩٦٠١٢٢	هند دخيل الحقان
الثانوية	بنين	الظهر	الظهر	٥	الرئيسي	٣٩٦٠٩٨١	٣٩٦٠٩٨٠	حسين غلوم حسين
		الصباحية	الصباحية	٥	العام	٣٦١١٨٧٦	٣٦١٣١٥١	يعقوب حسين اشكناني
	بنات	معاذة الغفارية	الظهر	٢	٢	٣٩٦٠٧١١	٣٩٦٠٩٨٣	ماجدة احمد علي العلي
		الصباحية	الصباحية	٥	المدارس	٣٦١٥٤٩٩	٣٦١٥٥٠٠	نداء سيد علي سيد اسماعيل

قائمة بأسماء مدارس منطقة حولي التعليمية المختارة عشوائياً المشاركة في تطبيق الاستبيان

المرحلة		اسم المدرسة	المنطقة السكنية	قطعة	الشارع	رقم الهاتف	رقم الفاكس	اسم الناظر
رياض الأطفال		الجابرية	الجابرية	٨	٧	٥٣١٨٣٧٠	٥٣١٨٣٧١	فاطمة عبدالمجيد الكاظمي
		المسعودي	الرميثية	١٢	الشافعي	٥٦١٩١٣٥	٥٦١٩٧١١	هيا عبدالعزيز التويجي
الإبتدائية	بنين	عبدالرحمن الغافقي	الرميثية	٦	شاهين الغانم	٥٦٣٢٠٩٦	٥٦٥٦٢٩١	عبدالستار عبدالنبي بهبهاني
		خباب بن الأرت	الجابريـــة	٨	١٠٣	٥٣٨٠٣١٠	٥٣١٣٢٣١	أنور نوري عبدالقادر
	بنات	عاتكة بنت زيد	الجابريـــة	٧	١٠٣	٥٣١٣٢٣٤	٥٣١٨٠٧٦	وردة عبدالله عبداللطيف السلطان
		مشرف	مشرف	٥	المدارس	٥٣٨١٤١٨	٥٣٨١٤٢٨	منيرة عبدالله الغانم
المتوسطة	بنين	الشعب	الشعب	٦	الزبير بن عوام	٢٦١٦٠١٩	٢٦٥٥٣٤١	سبتي سعود علي السبتي
		المغيرة بن نوفل	سلوى	٥	سلوى	٥٦٥٤٩١١	٥٦٤٣٥٦١	جاسم محمود محميد المحميد
	بنات	أسماء بنت أبي بكر	بيان	٤	الفحيحيل السريع	٥٣٨٢٩٠٣	٥٣٨٢٩٠٢	فاطمة محمود الصراف
		أم سليم الانصارية	سلوى	٣	المسجد الأقصى	٥٦٢١١٩٣	٥٦١٩٦٧٩	منيرة احمد الرضوان
الثانوية	بنين	الرميثية	الرميثية	١٠	معاذ بن جبل	٥٦١٤٥٢٥	٥٦٢٤١٠٩	حيدر أسد حسين
		صلاح الدين	الجابرية	٨	الأول	٥٣٢٠٨٩٤	٥٣٢٣٩٤٧	محمد شعيب محمد
	بنات	هنـــد	الجابرية	٧	الأول	٥٣١٢٥٨٧	٥٣١٨١٢٥	غنيمة مبارك فلاح
		بيان	بيان	٦	٢٢	٥٣٩٢١٠١	٥٣٩٥٠٢٧	نزهة احمد عبدالعزيز

قائمة بأسماء مدارس منطقة العاصمة التعليمية المختارة عشوائياً المشاركة في تطبيق الاستبيان

المرحلة		اسم المدرسة	المنطقة السكنية	قطعة	الشارع	رقم الهاتف	رقم الفاكس	اسم الناظر
رياض الأطفال		الفرات	الدسمة	٦	الفرات	٢٥٣١٧٤١	٢٥٦٣١٧٨	صديقة حسين ششتري
		الزهة	الزهة	٦	الفرات	٢٥٥٥٤٦٧	٢٥٣٢٥٥٠	نبيلة يوسف عبدالرحمن
الإبتدائية	بنين	مرشد محمد السليمان	الدوحة	٣	ابن كثير	٤٨٧٤٠١٥	٤٨٧٢٣٩١	صاحب حبيب المزيدي
		عبدالعزيز العتيقي	الصليبخات	١	١٠٤	٤٨٧٩٦٧١	٤٨٧٧٥٧٦	جواد عبدالله نجم جابر
	بنات	الزهة	الزهة	٢	سيبويه	٢٥٥٢٩٠٤	٢٥٣٢٢١٠	أمينة محمد أحمد الكندري
		غرناطة	العديلية	٣	أبوالأسود الدؤلي	٢٥١٠٣١٩	٢٥٦١٤٣٩	غنيمة محمد المهيني
المتوسطة	بنين	معن بن زائدة	ضاحية عبدالله السالم	٣	احمد الغانم	٢٥٦٣٦٨٧	٢٥١٢٠٤٩	فائق علي حسين الملا
		قتيبة	الدعية	٥	٦٠	٢٥٤٧٨٢٦	٢٥٢٠٥٩٣	ابراهيم اسماعيل ابراهيم
	بنات	الدسمة	الدسمة	١	المركز	٢٥٣١٥١١	٢٥٣١٥٢٥	سميرة عبدالرحيم معروف
		المنصورية	المنصورية	٢	المنصورية	٢٥١٦٨٤٢	٢٥١٦٥٦٦	نادرة محمد الريس
الثانوية	بنين	احمد البشر الرومي	الدعية	١	٦٨	٢٥١٤٣٩٩	٢٥٢٣٢٦٧	جاسم محمد مراد
		عبدالله الجابر الصباح	الروضة	٥	الروضة	٢٥٤٥٤١١	٢٥٢٩٧٤٢	عيسى العبدالله العبدالهادي
	بنات	جمانة بنت أبي طالب	ضاحية عبدالله السالم	٤	سيد علي سيد سليمان	٢٥٥١٦٥٦	٢٥٢٥٧٦٢	اقبال عبدالله العيسى
		اليرموك	اليرموك	١	جميل بن معمر	٥٣١٢٦٨٠	٥٣٣٧٥٢٥	رقية عبدالرزاق المحبوب

قائمة بأسماء مدارس منطقة الجهراء التعليمية المختارة عشوائياً المشاركة في تطبيق الاستبيان

المرحلة		اسم المدرسة	المنطقة السكنية	قطعة	الشارع	رقم الهاتف	رقم الفاكس	اسم الناظر
رياض الأطفال		الواحـــة	القصر	٤أ	الثاني	٤٥٧٧٤٥٢	٤٥٧٣٥٠٧	شريدة محمد المطيري
		الجهراء	تيماء	٣	النجاشي	٤٥٧١٠٦٩	٤٥٧٥٤٣٩	فاطمة خليل دشتي
الإبتدائية	بنين	سيد هاشم الحنيان	القصر	٤ب	حاجب بن زرارة	٤٥٧٤٥٨٣	٤٥٧٤١٠٩	هادي المزيدي
		أبو هريرة (ذات مدرسات)	تيماء	٣	النجاشي	٤٥٧٤٥٦٢	٤٥٧٤٢٦٩	عنود مطلق القملاس
	بنات	أم جميل العامرية	تيماء	٧	النجاشي	٤٥٧١٧٩٩	٤٥٧١٨١٠	سعاد صالح عبدالرحمن السريع
		أميمة بنت النجار	العيون	١	الكريبي	٤٥٨٣٧٣٢	٤٥٨٧٤٥١	لولوة عبداللطيف فهد الأمير
المتوسطة	بنين	علي خليفة الصباح	العيون	٤	المدارس	٤٥٨٧٤٥٧	٤٥٨٧٤٥٩	احمد صالح عبدالرحمن العسعوسي
		عبدالله بن سهيل	تيماء	٨	النجاشي	٤٥٧٦٨٢٤	٤٥٧٦٨٣١	باقر علي عباس باقر
	بنات	أم معبد	القصر	٣	نصر بن سيار	٤٥٧٤٢١٤	٤٥٧١٨٩٨	بلقيس عبداللطيف جمال
		هالة بنت خويلد	الواحـــة	٣	٦	٤٥٥٧٥٩٧	٤٥٥٨٠٥٦	مريم خميس الدوب
الثانوية	بنين	خالد بن سعيد	تيماء	٦	النجاشي	٤٥٧٤١٨٥	٤٥٧٤١٨٤	سعيد عماش السعيدي
		الجهراء	القصر	٣	مرشد الشمري	٤٥٧٠٩٤٤	٤٥٨٠٣٢٢	فالح هبر الشمري
	بنات	النوار بنت مالك	الواحـــة	١	طريق٢	٤٥٥٨٦٤٦	٤٥٥٨٨٤٢	أمل رامز احمد هاشم
		الجهراء	القصر	٣	حاجب بن زرارة	٤٥٧٣٦١١	٤٥٧٠٩٨٠	فوزية حميد سيد صالح

قائمة بأسماء مدارس منطقة الفروانية التعليمية المختارة عشوائيا المشاركة في تطبيق الاستبيان

المرحلة		اسم المدرسة	المنطقة السكنية	قطعة	الشارع	رقم الهاتف	رقم الفاكس	اسم الناظر
رياض الأطفال		السـلام	العارضية	٨	الأول	٤٨٨٠٥٦٦	٤٨٨٠٥٦٥	عواطف علي المسعود
		الفجـر	الفردوس	١	الأول	٤٨٨٦١٠٥	٤٨٨٧٨٠٥	غنيمة حسين ندوم
الإبتدائية	بنين	نعيم بن مسعود	جليب الشيوخ	٤	بين شارعين ٢٠٠-٢٥٠	٤٣٣٠٨٠٦	٤٣٤٣١٨٦	حسين علي حسن قبازرد
		احمد عطية الأثري	الفردوس	٤	الأول	٤٨٩١٤٧٣	٤٨٩١٤٥٩	سليمان محارب ناصر
	بنات	نفيسة بنت أمية	الفردوس	٦	الأول	٤٨٩٢٤٥٢	٤٨٩٢٤٣٠	لميعة علي حسين
		العمرية	العمرية	٣	--	٤٧١٨٩٧٢	٤٧١٢٩٨٩	حمدية حبيب سيف
المتوسطة	بنين	الفروانية	الفروانية	٦	١٠٧	٤٧٤٢١٣٩	٤٧٤٢١٨٧	خليل ابراهيم الطباخ
		عبدالله بن حذافة	الفردوس	٦	الرئيسي	٤٨٨٣٦٩٨	٤٨٨٣٦٩٧	ناصر علي حسين دشتي
	بنات	الرابية	الرابية	١	٢٦	٤٧٤٢٩١٥	٤٧١٧٠٥٣	مريم محمد المهيني
		الفردوس	الفردوس	٧	الأول	٤٨٨٧١٨٤	٤٨٨٦٧٣٨	شيخة عبدالله الحبش
الثانوية	بنين	ابن العميد	العمرية	٥	٤	٤٧١٦٢٥٩	٤٧٣٢٩٥٥	علي حسن البحراني
		صالح بن الرويح	العارضية	٥	٥٧	٤٨٨٢٤٣٠	٤٨٨١٥١٤	محمد سليمان عبدالله الفاضل
	بنات	أم الحكم بنت أبي سفيان	العارضية	١٠	الأول	٤٨٩٠٦٦٠	٤٨٩٧٣٩٨	عادلة رشود الرشود
		حواء بنت يزيد الأنصارية	الأندلس	٩	الرئيسي	٤٨٠٧٥٤٤	٤٨٠٧٦١٠	رسمية محمود المسلم

APPENDIX H

Map of the State of Kuwait