Views Of Elementary Education Programme Members on The Impact of Resource Use on Student Performance

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ABSTRACT

In tandem with the rapid speed of technological innovation, the incorporation of technology into educational settings is also accelerating. For the purpose of enhancing students' performance and fostering the internalisation of content, it is becoming increasingly necessary to make certain that students maintain their concentration on the topics that are being taught in the classroom.

In order to determine the opinions of pre-service teachers regarding the influence that projection and overhead projectors have as instructional instruments on student accomplishment, the purpose of this research project was to conduct an investigation. A total of 184 senior pre-service teachers participated in the survey. Of them, 36 were from the social studies teaching department, 70 were from the science teaching department, and 46 were from the pre-school teaching department. For the purpose of the study, the data obtained from the questionnaire were analysed with the use of the SPSS software programme. A t-test that was independent was utilised in order to ascertain whether or not there is a significant connection between the responses of pre-service teachers and their gender and origin. In addition, a one-way analysis of variance (ANOVA) was carried out in order to determine whether or not there is a significant connection between the responses of student instructors and the departments in which they are employed. It was discovered that the learning effects of using an overhead projector were inconsistent when compared to the effects of using a projector.

In accordance with the findings of the study, students have the perception that the utilisation of a projector and an overhead projector contributes to the improvement of education by adding diversity and reducing monotony. Additionally, it helps to generate a learning atmosphere that is lively, pleasant, and user-friendly thanks to its contribution.

Key Words: Teaching Technologies, Use of Material, Overhead Projector and Projector, Student Attitudes, TTest, One-Way ANOVA

INTRODUCTION

According to MEB (2000), contemporary civilization is characterised by rapid technological advancement, the widespread transmission of information, the continuous production of new technologies, and intense competition on a worldwide scale. The most important and urgent problems of the twenty-first century are those pertaining to education and technology. Since the rapid development of information and instructional technologies has a substantial impact on education as a whole, it is imperative that these technologies be incorporated into all educational endeavours wherever possible. During the third quarter of the 20th century, educational goals were the driving force behind the introduction of various instructional technologies such as radio, television, video, and overhead projectors. Computer technology, the internet, and other related innovations are the most significant factors that have a considerable impact on the development and quality of educational institutions in the present period.

As stated in the research carried out by ðspir and colleagues in 2007, as well as indicated by Middlehurst in his work from 1999 to 1997. According to Rıza (1999), the utilisation of educational technology in conjunction with particular objectives, textbooks, methodologies, tools, apparatus, evaluation, and assessment has the potential to significantly boost the capacity for creative thinking. According to Koşar and Çiğdem (2003), technological advancements in the current era have enabled the incorporation of new opportunities into educational endeavours, resulting in the enhancement of both settings and procedures. Previous research have demonstrated that students' motivation, the learning environment, information retention, problem-solving, and critical thinking can be enhanced through the use of technology, provided that it is utilised appropriately (Yıldırım, 2000). Increasing the number of educational materials that are utilised in the classroom is of the utmost importance in order to facilitate the students' learning of the subject matter. In today's classrooms, it is generally agreed upon that visual and aural aids are quite important. For the purpose of making effective use of the visual and auditory components, it is essential to have a complete understanding of the features of each kind.

According to Kucukahmet (1999), these traits, despite their apparent simplicity, have a major influence on the quality of the education that is provided. According to Ayvacı et al. (2007), there are studies that provide evidence that suggests the utilisation of overhead projectors and projectors in a purposeful and

appropriate manner could potentially result in favourable outcomes throughout the learning process. For this reason, it is essential to incorporate a wide range of auditory and visual aids into learning environments that need the participation of the greatest number of senses (Dursun, 2006; cited in Fidan, 2008). This will ensure that the acquired knowledge is retained for a longer period of time. Students will have an easier time achieving the goals that have been established for them if they are provided with an educational environment that is effective. There have been numerous studies that have demonstrated that the implementation of various educational technology components in the classroom leads to positive outcomes in terms of students' performance in a variety of academic domains.

Studies conducted by Akdeniz and Yiğit (2001), Kibos (2002), and Yumuşak and Aycan (2002) have demonstrated that the use of a wide range of instructional materials, including models, experiments, games, anthologies, and scenarios, in conjunction with the incorporation of computer-assisted resources, has been demonstrated to enhance the performance of students. Furthermore, the findings of Şahin et al. (2001) demonstrated that education that was based on modelling yielded favourable outcomes. This is because teaching technologies have the potential to provide authentic experiences that are difficult to convey through conventional means. According to Ozkutuk and Orgun (2001), the utilisation of these tools has the potential to enhance the quality of internalisation and learning by offering a comprehensive selection of alternatives. The students' attitudes, which can be either positive or negative, towards educational tools and equipment are a crucial component that affects the integration of technology in the classroom.

This factor can contribute to either positive or negative outcomes. By gaining a knowledge of the perspectives held by students, it is essential to develop educational policies and techniques that are more effective in making use of technological resources. Since this is the case, it is of the utmost importance to carry out research projects that aim to discover the perspectives of students with relation to technical products. In response to the increased attention that has been paid to the matter, a great number of research have been carried out. Akpınar et al. (2005) conducted a study with the purpose of examining the perspectives of primary school pupils about the utilisation of technology resources in science lectures, as well as the extent to which teachers utilise these resources. The data that was obtained reveals that there are considerable differences between public and private schools, and the

perspectives of students regarding the extent to which they make use of technology vary significantly depending on the type of school that individuals attend.

A two-factor scale was designed by Frantom et al. (2002) in order to evaluate the perspectives of youngsters with regard to technology. This scale includes the elements of alternative properties, talent, and curiosity. There was a significant disparity between the results received from elementary and secondary school pupils on the sub-scales that were stated earlier, as was discovered through an assessment of the results. Furthermore, they believed that attitudes vary not just between individuals but also between people of different genders. The purpose of the research that Dalton and Hannafin (1986) carried out was to investigate the influence that video, computer-assisted instruction, and interactive video applications have on the learning performance and attitude of students. Based on their findings, it was determined that computer-assisted training is the most effective mode of instruction, which means that additional interactive movies are not required.

According to Yavuz and Coşkun (2008), the outcomes of a research study indicate that interactive video training had a significant impact on the perspectives of students who had limited proficiency. This was in comparison to video and computer-assisted education. Gunter, Gunter, and Wiens (1998) investigated the influence that the use of computers in a technology education course at a university in Florida had on the manner in which pre-service teachers saw their own individual learning experiences. According to the findings of their research, the students' attitudes towards technology had improved, and they reported feeling more at ease when using it after they had completed their assignments. Yılmaz (2005) conducted an investigation into the impact of technology utilisation on students' attitudes and academic performance, which was the subject of her thesis dissertation. Her observation was that the availability of technical resources had a positive effect on both.

A similar study was carried out by Sevindik (2006), who investigated the influence that smart classrooms had on the attitudes and academic performance of college students studying in those classrooms. In the course of their preparation to become teachers of social studies and science, Asan (2002) investigated the perspectives of individuals who were going to become teachers in the future regarding computers. In general, the outcomes of the study demonstrated that students exhibited favourable attitudes and a high sense of ease when it came to

technology, specifically computers. It was observed that there was no difference in perspectives between students in the scientific department who were enrolled in computer classes and those who were not receiving computer education, independent of the department to which they belonged. This is something that should be taken into consideration considering that students in the first group had more favourable attitudes towards technology. It was not possible to identify any clear influence of gender on attitudes. The results of the study showed that experiences related to computers had a beneficial influence on the scores of attitude measurements. It is anticipated that the evaluation of the perspectives of students who actively participate in the teaching and learning process about instructional technologies and the focus placed on the significance of this topic would result in favourable consequences for education in general.

In order to achieve a condition of equilibrium in the field of education, it will be beneficial to make use of a variety of technological instruments in addition to the more conventional approaches. There is a widespread perception that the implementation of instructional technologies in the classroom results in increased levels of student participation and attentiveness. According to Jonassen and Reeves (1996) and Means (1994), a significant number of knowledgeable individuals are of the opinion that the successful implementation of pedagogical technologies has the potential to improve the educational system. The purpose of this study is to investigate the various points of view held by pre-service teachers in the primary education department with regard to the effects of two different instructional materials, notably an overhead project.

METHOD

This investigation was conducted utilising the survey procedure. The survey method is a technique utilised to define and clarify various entities, including events, objects, organisations, people, and disciplines.

Sample

During the spring 2004–2005 term, 184 fourth-year pre-service teachers from the education faculty departments of Muğla University (science teaching, classroom teacher education, pre-school teacher education, and social studies teaching) participated in the study.

Collecting Data

The researcher employed a 5-point Likert scale to gather data regarding the impact of

overhead projector usage on learning among pre-service teachers. Additionally, a personal information form was designed to obtain demographic information from the participants. The Cronbach Alpha coefficient formula, which was implemented in the SPSS 10.0 software, was utilised to ascertain the reliability of the scale at 0.93. This illustrates the dependability and administrative simplicity of the scale. To ascertain the extent to which the scale's items accurately capture the intended attitudes and bolster its validity, expert opinions were solicited. The purpose of the sixteen-item survey is to obtain students' perspectives on the impact that the use of a projector and overhead projector has on their study productivity. The following options correspond to the five factors on this scale: "Strongly disagree," "Strongly agree," "Undecided," "Strongly agree," and "Strongly agree." The score range of the scale is 5 to 1, given that each item is positive.

The analysis of data

The SPSS 10.0 software application was utilised for the analysis of the collected data. In order to ascertain whether gender and background significantly influenced the attitudes, an independent t-test was utilised. Furthermore, a One-Way ANOVA was utilised to examine whether the department variable could account for a significant variation in the perspectives of pre-service teachers.

FINDINGS AND DISCUSSIONS

The first sub-question that will be investigated is whether or not there is a significant difference between the perspectives of male and female pre-service teachers about the influence that using an overhead projector and a projector has on the learning process. To begin, I will provide the frequencies and percentages of the student population that are divided according to gender, as well as their perspectives on the impact that the use of projectors and overhead projectors has on education that is tailored to the individual needs of each gender. The primary objective of this research is to ascertain whether or not there is a substantial disparity in the perspectives of male and female pre-service educators about the impact that the utilization of an overhead projector as opposed to a projector has on the learning process.

We will begin by analyzing the distribution of the students' results according to their respective grades in order to get to the heart of this matter. The purpose of this study is to investigate the ways in which gender influences people's views of the efficiency of overhead projectors and projectors used in educational settings.There is not a significant differnce in the viewpoints of pre-service teachers regarding the

impact of utilizing an overhead projector and projectors on learning, depending on the context in which these issues were discussed, according to the findings of the t-test that are presented in Table 8 [t (182) = 1.17, p >.05]. As a result, one may argue that the manner in which people are brought up does not have a significant association with the attitudes that they have regarding technology. In addition, each item on the scale was examined to determine whether or not the environment and attitudes had a substantial influence on the findings.

According to the findings, the only item that demonstrated a statistically significant difference was item 12, which asserts that the utilization of overhead projectors and projectors in educational settings improves the efficacy and efficiency of learning. With regard to this subject matter, students from rural areas had a higher level of positive feelings (X=4.42) than their counterparts from urban areas (X=4.22). This could be due to the limited availability of modern gadgets for children living in rural areas, which may result in these children finding information of this nature to be more interesting and motivating from their perspective.

RESULTS

In order for students to be successful in the technologically advanced society of the twenty-first century, they need to have the skills necessary to solve issues and retrieve information. Since this is the case, it is very necessary to place a high priority on the incorporation of educational technologies into the process of teaching and learning. The importance of incorporating educational technologies into learning environments and expanding the range of instructional resources cannot be overstated. Unquestionably, there is a correlation between the employment of educational technologies in an acceptable manner and a rise in the level of achievement shown by students. To determine the viewpoints of pre-service teachers on the educational outcomes that are associated with the utilization of two technical devices, especially a projector and an overhead projector, the purpose of this research is to investigate the perspectives of these teachers.

According to the findings of the current study, utilizing an overhead projector and projector during instructional sessions has the potential to pique the interest of students and pique their curiosity. Furthermore, it has been disclosed that these educational resources are believed to bring diversity and excitement to the process of teaching and learning, to help reduce monotony in the classroom, to enhance the efficiency and effectiveness of lessons by adding more liveliness and color, to facilitate

faster learning, and to allow students access to materials that are typically not permitted in the environment of the classroom. From the findings of the research, it has been determined that there is no substantial difference in attitudes between the sexes. When contrasted with the perspectives of the male participants, it was found that the female participants had a more optimistic outlook on the situation. According to the findings of a study, pre-service teachers who were affiliated with the department of scientific instruction had more positive attitudes about particular items on the scale as compared to the department with which they were affiliated.

Statistical significance was determined to exist between these differences once the study was performed. The following items are: “In lessons presented with overhead projector and projector, I can better understand difficult and abstract topics and concepts and visualize them in my mind”, “In lessons presented with overhead projector and projector, learning takes place in a shorter time span”, “When overhead projector and projector are used in lessons, light, color, movement and sound features help me to constantly focus my attention on the information presented”, “I prefer lessons to be taught with overhead projector and projector to lessons taught with traditional chalk and black board”, “Using overhead projector and projector in lessons helps me to retain the information longer”, “Using overhead projector and projector in lessons makes learning more effective and efficient”, “Using overhead projector and projector in lessons allows me to observe the objects, phenomenon and events which are impossible to bring to classroom environment”, “Using overhead projector and projector in lessons eliminates the monotony in class and provides colorful, lively and interesting learning-teaching environment”, “Using overhead projector and projector in lessons makes me willing to learn.”

The assertion that "Incorporating overhead projectors and projectors into lessons improves the effectiveness and efficiency of learning" was determined to have a significant connection to the findings of the investigation. According to the findings, however, there was no correlation found between the students' attitudes and their upbringing. Furthermore, the research revealed that students who came from rural areas had more positive attitudes toward this matter in comparison to their peers who came from metropolitan areas. It has been suggested by research conducted by Yıldırım in the year 2000 that the effective utilization of technology in the classroom has the potential to boost students' motivation, problem-solving abilities, and critical thinking skills. In order to avoid taking any sweeping implications from the findings

of the study, it is essential to first acknowledge the inherent limitations of the research. The scope of this inquiry pertains solely to the particular sample that was carried out. Therefore, performing more research that includes pre-service instructors from other academic areas may lead to the finding of distinct elements. There is no doubt that the deployment of educational technologies plays a significant role in the accomplishment of excellent learning and teaching outcomes. Nevertheless, while combining educational technologies, it is of the utmost importance to take into consideration the students' learning level, aptitude, motivation, learning style, and expectations. Consequently, both students are motivated to participate actively in class and establish positive attitudes toward the educational materials that are being presented to them.

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