

Original Article**The Effect of multi-media conversational style education on increasing communication skills of female students.****mehdi Mahmoudi*¹, Nazila Khatib zanjani, Marjan Masoomifard³**

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Received: 2021/06/22**Accepted:** 2021/10/22**Abstract**

This study was conducted to investigate the effect of conversational style education through multimedia on increasing communication skills of female students. The research method was quasi-experimental and the statistical population included female students in sixth grade of District 2 of school system in Tehran(Iran), of whom 60 were selected by cluster sampling and placed in two groups of control and experiment. Data collection tools included Attar's standard communication skills questionnaire (2007) whose face validity was confirmed by eleven teachers using Delphi technique and its reliability through Cronbach's alpha coefficient for subscales, emotion management, others perception and assertiveness. It was equal to 0.92, 0.89 and 0.88, respectively. Research data were analyzed using SPSS.22 software. The results showed that there was a significant difference between the mean scores of the control and experimental groups regarding students' communication skills at the level of 95%. Students' communication skills in conversational style through multimedia were better than students trained in the traditional way. The results of this study indicate the positive role of interactive teaching through multimedia in increasing the communication skills of primary school students, and this emphasizes that schools and educational institutions need more multimedia tools to deepen Learn and enhance learners' communication skills.

Keywords

Multimedia, Communication Skills, Conversational Style, Elementary Students.

Introduction

There are different definitions of the concept of communication in the theoretical literature of research. The word communication can be defined as being social and being together [1]. Effective communication is an essential element that helps students in many activities. Stakeholders in education should be aware of the fact that poor communication in students may interfere with students' motivation and learning [2].

Communication skills are critical to maintain relationships in daily and professional life and are defined as the process by which opinions, ideas, information, feelings and attitudes are passed from one person to another. Communication is a competency that can be appropriate as the ability to interact and be considered effective with others [3] and is the most basic condition for teaching in a healthy way [4]. Studies of Elksnin and Elksnin [5] indicate that people with communication and social skills deficiencies are often rejected by others, which can lead to psychological problems that even continues in adulthood.

It seems that due to the importance of communication skills of this special age group and their psychological characteristics, if these students become familiar with the skills, they can communicate with their friends, family members and neighbors and get involve with them

physically and emotionally. If they don't learn these skills, when they enter a group, they won't know what to say and how to behave, and they won't be able to establish social interaction with others [6]. What is clear is that socio-communicative competencies on one hand, and emotional competencies on the other, can both be learned and play a major role in the application and transfer of cognitive abilities [30].

Today, technology has become an integral part of human life and has penetrated the field of education. Digital technology has greatly transformed the nature of classroom learning. In fact, it is not understandable for the academic community and schools to quench their thirst for knowledge without computer technology [7]. One of the manifestations of technology in today's schools is the growth of multimedia, which is communication through the use of words and images that lead to the spread of learning. Simply, multimedia involves the use of a computer to present and integrate text, graphics, audio, and video, through interfaces and tools that allow the user to navigate, interact with, create, and communicate with the computer [8].

Media plays a number of roles in education that have to do with communication and instrumentation. These roles fall into three categories: (a) the delivery of instruction, in which media are used to convey specific content, (b) the construction of mediated environments, in which media help students explore and construct understanding of a body of knowledge, and (c) the development of cognitive skills, where media are used to model, engender, or extend mental skills. Multimedia is the presentation of words and pictures that are designed to enhance learning. Words can be spoken or printed (such as text on a screen). Images can be static (such as pictures, diagrams, maps, or photos) or dynamic (such as videos). The logic of multimedia education is that students learn better from words and pictures than words alone.[10]. It is a form of multi-user environments (MUDs) that are in fact a type of learning environment in which the learner enters a virtual environment with the help of multimedia technology to gain new experiences [30].

The concept of multimedia refers to the use of different types of media (electronics), such as text, audio and images. Advances in information and communication technology have enabled computers to provide multimedia information, but multimedia is now the medium of access to and search for global resources, as well as forms of interaction with classmates, teachers, and experts [11].

The use of multimedia increases the motivation and quality of students' learning and helps the students to learn concepts and topics more easily. Educational multimedia products can provide organized programs of learning experiences for individuals or groups in which Special emphasis is placed on learning through different senses [12]. Also, the findings of Mohammadjani and Safarnavadeh [13], entitled as "The study of the effect of Internet on the development of social skills of elementary school students" indicated that the use of the Internet and multimedia increases the development of students' social and communication skills such as Skills of respecting others, taking responsibility, dating and participating in group activities. In fact, educational multimedia, due to their multisensory nature, can easily adapt to a variety of learning styles and provide easy learning and sustainability with various forms of interaction [14].

Now, considering the great importance of multimedia in education and learning, in its production, it is necessary to pay attention to the criteria and principles obtained from scientific research. Because non-compliance with these principles leads to high costs and reduced quality of multimedia. One of the new principles in the field of multimedia is the principle of personalization (conversational style). In a conversational way, by emphasizing the personal aspects of education (using words like you and me) and using first and second person pronouns, education can be taken out of seriousness, so the learner can easily receive the concepts and information. Generally, the expression and transfer of information through dialogue is a way to facilitate the process of information processing for the learner [10].

Research shows that when content is conveyed through conversational style, learners learn better [15]. Research on word processing shows that when people feel they are talking to the other

party in a more comfortable and informal environment, they try harder to understand than to just get information [16]. Thus, the use of conversational style in a multimedia program encourages the learners that they should strive to understand the other party's conversations, so expressing information in a conversational way can be a way to align with mental processes in the learner.

Schrider, Rischlett, & Zander's research on the effect of the principle of personalization on multimedia learning: The predictive role of students' individual interests shows that there are more positive effects on learning performance in the form of conversation than in the form of formal language. Also, the results of the study of Nili, Khazaei, Moradi and Emami [14] entitled Applying the principle of personalization in the design and production of multimedia in e-learning environments indicate that in new technologies such as multimedia in the field of e-learning should be approached using adaptability and personalization. Also, the production and design of multimedia products based on the principle of personalization requires specialized tools and advanced software knowledge. The research of Molkeni, Kostiuk, Baker, and Okumbo [18] entitled Incorporating effective e-learning principles to improve student engagement in mathematics shows that the inclusion of evidence-based e-learning principles in multimedia design leads to high-level academic engagement in students. Also, when compared to a traditional classroom, adhering to the principle of personalization and redundancy significantly increases performance and concentration, and attracts students' attention, fosters deep learning, and minimizes cognitive burden, leading to improved interaction and eventually better educational results.

Wang and Crooks [19] also found that the combination of the principles of visualization and personalization of multimedia learning is effective in learning the culture of a foreign language. It shows that students expressed a more favorable attitude towards their educational experience in terms of personalization. The findings of Mourinho and Meyer [20] in a series of scientific research on botany and a multimedia lesson on the formation of lightning through a computer show the difference between formal and conversational versions of the lesson in both versions. The same information was provided, comparisons were made, and in the personalized version, the computer spoke directly to the learner, and the result showed that students who learned the material in a conversational style performed better on the tests than the students who received the information in a formal style. The principles of personalization and visualization in multimedia learning may add to their impact on students' learning and lead to a positive attitude towards educational conditions and improve students' judgment.

Mokhberi Ahmadi (a study entitled The effect of presenting verbal content in a conversational way on learning and retention and motivation of 7th grade middle school students conducted a science course using a quasi-experimental method conducted the experimental group of the content through educational multimedia conversationally) In general, the results showed the superiority of learning and retention and motivation for academic achievement of students who received the material through multimedia in a conversational manner. Meyer et al. [21] in a study entitled Social Symptoms in Multimedia Education concluded that providing conversational content increases learning and retention. Tsayang and Tutf research [22] entitled Creativity in primary education: The role of multimedia, refers to the role of personal, social and communication growth in students' creativity and show that multimedia has an effective role in increasing the creativity of elementary students Play.

Method

Purpose of this research is part of applied research and in terms of data collection, it is part of prospective research, ie experimental, and is in the group of quasi-experimental designs, the diagram or diagram of which is as follows in table 1.

Table 1. Pre-test-post-test design diagram with control group

Re	T1	X	T2
Rc	T1	-	T2

The statistical population of this study consists of all primary school students in the sixth grade of girls' schools in Tehran in the academic year of 1998-99. Due to the fact that the present study is an experimental research, cluster sampling method based on the placement of sixth grade students in classrooms has been used for sampling. In this way, all education districts of Tehran were written on sheets and the education district in question was randomly selected for research and after selecting the primary school, one of the four classes, one class in A simple random lottery was assigned to the control group and another class formed the experimental group in the same manner.

Data collection tool was a 30-item questionnaire to assess the communication skills of perfumers [23] whose questions include communication skills such as how to deal and communicate with others, commenting and expressing themselves in front of others, emotion management (feeling happy and sad Measures the ability to understand others and the like when communicating with others. Attarha prepared this questionnaire by studying the interpersonal communication skills of Harji and Dixon [24]. Each question is scored from one to three; In this way, in the questions that are inverted, the questions (29-24-21-19-16-12-11-10-8-6-5-3-1) of the options are scored in reverse and In normal questions, option 1, one point and option 2, two points and option 3, three points are awarded, and finally, from the sum of scores, the total score is calculated. The reliability of the questionnaire was tested twice by its producer, once with Cronbach's alpha method with a reliability of 0.76 and the second time using the retest method with a reliability coefficient of 0.89. Formal and logical validity was used to determine the validity of the questionnaire. In this way, the researcher has asked questions according to the theoretical foundations of research and communication skills proposed by Harji et al. Using the judgmental method (Delphi) which is based on sending questionnaires to experts several times and receiving their opinions and correcting cases until reaching the maximum consensus of experts has been provided.

Due to the fact that the sixth-grade students solved some of the questions that were abstract and difficult for them to understand, the researcher modified the questions of the questionnaire while preserving its concepts and meanings and modified them in a simple, objective and age-appropriate manner. The communication skills questionnaire was used as both a pre-test and a post-test in this study. Then, to conduct the research, researcher-made multimedia software was used and before performing the test, the necessary planning was done in terms of providing the equipment and facilities required for the test, preparing the environment and setting the program time to start the test. In order to prepare the learners for how to use the computer and CD before the main performance, they were taught so that they do not waste much time during the test and the learners' anxiety is reduced during the performance. In addition, the attractiveness and novelty of computer training has been reduced, in order to minimize annoying factors during execution.

Also, due to the limited number of computers, students were divided into two groups of 15 people, and accordingly, one computer was allocated for each learner. The multimedia CD in the form of 12 sections and seven sessions had different topics, which include the features of the CD in motion and fixed color images, speech, writing, music and presentation of spoken content in a conversational manner.

Findings

Descriptive information of communication skills is presented in Table 2, separately for pre-test and post-test in the experimental and control groups.

Table 2. Descriptive indicators related to communication skills scores

Group / stage		sample number	Average	standard deviations
Test	Pre-test	30	58.342	1.473
	Post-test	30	79.520	2.562
control	Pre-test	30	53.642	2.163
	Post-test	30	54.789	2.780

According to Table 2, the mean of pre-test and post-test of communication skills in the experimental group were 58.342 and 79.55, respectively, and in the control group in pre-test and post-test were 53.642 and 54.789, respectively. The standard deviation of this variable in pre-test and post-test of the experimental group is 1.473 and 2.562, respectively, and its standard deviation in the control group in pre-test and post-test was calculated 2.163 and 2.780, respectively. As the results shows the mean of the experimental group in the post-test is higher than the mean of the control group. Since the use of covariance test depends on the observance of some assumptions, first, indicators such as the normality of the dependent variable distribution and the homogeneity of the regression slope of the variable in the experimental and control groups have been examined to reduce the possibility of bias.

Table 3. Kalmogorov-Smirnov test to evaluate the normality of communication skills variable in two groups

Variable	Group	stage	statistics	df digree	Significance
Communication Skills	Test	Pre-test	0.200	30	0.09
		Post-test	0.180	30	0.162
	control	Pre-test	0.200	30	0.09
		Post-test	0.177	30	0.08

According to Table 3, Kalmogorov-Smirnov test for normal distribution of variable communication skills in the experimental group in the pre-test with a degree of freedom of 30 and a significance level of 0.09 and in the post-test with a degree of freedom of 30 and a significance level of 0.162 and in the control group In the pre-test with a degree of freedom of 30 and a significance level of 0.09 and in the post-test with a degree of freedom of 30 and a significance level of 0.08 is confirmed. Therefore, because the whole significance level is greater than 0.05, the data have a normal distribution ($P > 0.05$).

Levin test was used to investigate the assumption of homogeneity of variances in the experimental and control groups based on the communication skills variable. The results of this test are given in Table 3.

Table 4. Analysis of variance test to examine the homogeneity of regression slope in communication skills variable

Statistical index of the source	total squares	df degree	F	level of significance
Group	1.642	1	0.271	0.721
Pre-test	6.733	1	0.824	0.364
Group * Pre-test	0.015	1	0.003	0.873
Error	73.452	56		
Total	69345.000	59		

In Table4, the interaction effect of the group and the pre-test scores of communication skills were

investigated to investigate the homogeneity of regression slopes. Regression scales are confirmed ($P > 0.05$).

In the following, the research hypothesis is examined. The research hypothesis is introduced in a directional way to be examined in more detail.

Research Hypothesis: Teaching in a conversational style through multimedia increases the communication skills of elementary school students.

For this purpose, univariate analysis of covariance test was used. The reason for using this test is because in the research design introduced in Figure 1, the researcher has used the pre-test as a control variable to control the effect of previous preparations and to adjust the effect of this variable.

Table 4. Results of analysis of covariance between two groups in post-test of variable communication skills

	Total squares	degrees of freedom	statistics	Significance level	effect size	test power
Pre-test	7.632	1	243.639	0.001	0.936	1
Group	1543.365	1	1.717	0.278	0.087	0.243
Error	68.855	57	-	-	-	-
Total	71435	-	-	-	-	-

According to Table 4, the results of analysis of covariance between the post-test of the two groups are confirmed by eliminating the effect of the pre-test on the communication skills variable with degree of freedom 1 and $F = 243/639$ and a significance level of 0.001. The independent variable with an effect size of 0.936 explains the variance of the communication skills variable and the test with a power of 1 classifies the null hypothesis. Therefore, it can be said that conversational style education through multimedia has an effect on communication skills of primary school students ($P < 0.05$).

According to the results of Table 4, the research hypothesis is confirmed and the null hypothesis is rejected, so it is concluded that teaching in a conversational style through multimedia has increased the communication skills of female elementary school students.

Discussion and conclusion

The aim of this study was to investigate the effect of interactive teaching style through multimedia on increasing communication skills of elementary school students in Tehran. To test the research hypotheses, the communication skills of students who were trained in a conversational style and through multimedia were compared with the communication skills of students trained in the traditional and conventional methods. In general, the results indicate that there is a significant difference between the communication skills of students (experimental group) who were trained in a conversational style and through multimedia compared to traditional and conventional education (control group). In this way, the communication skills of students who were taught in a conversational style and through multimedia, are higher than students who were taught in a conventional way. The results showed that conversational style education through multimedia has been effective in increasing students' communication skills. Considering the confirmation of research hypotheses and the effectiveness of multimedia conversational teaching methods, after a while, it was observed that students saw an improvement in their communication skills, and after a conversation with teachers, counselor, principal. As well as the parents of the students, they argued that using conversational style and multimedia teaching to teach communication skills increases this ability in elementary school students so that feedback in social settings Receive positives and prevent them from facing negative feedback and facilitate interpersonal relationships for them. Khazaei et al. [14]; Mourinho, Meyer [20] and Meyer et al. [2] also show

the results of the effectiveness of multimedia education in the field of learning and memorization because multimedia as an active and modern educational method with capabilities such as using multiple senses in the process. Education, engaging the learner, flexing the learning environment, paying attention to the specific needs of primary school children are effective. It seems that the reason for increasing the communication skills of elementary school students in the experimental group, in contrast to the students in the control group in this study, is the use of the principle of personalization (conversational style) and multimedia educational. Thus, by using a conversational style, the learner feels that he is talking to the other party in such a way that a social relationship is formed in the learner's mind and he feels that he is participating in a conversation in a multimedia environment and trying to Understand what the other person means. Because in a conversational way, the material is presented in a friendly and informal way so that a social relationship is formed in the students' minds and they feel that they have participated in a conversation, so they try hard to understand the meaning. Which ultimately led to deeper processing by them resulting in better and more desirable outcomes in the learning process. Music was used and required hearing and vision, and students used both sense of sight and hearing to receive information, so elementary school students were taught conversational multimedia after a while. It was reported by parents and teachers that they use words such as please, please and thank you and show polite behaviors such as standing in front of adults and greeting. In studies conducted by Meyer et al. [21] and Mourinho & Meyer [20], the results showed that presenting content in a conversational way, increases learning according to the results of these studies as well as other studies. Like Meyer and Clark [25], he described the effect of personalization as a principle of multimedia design called the "principle of personalization". This principle states that learners learn more when words are colloquial than when they are formal. Meyer and Clark say using the principle of personalization in multimedia educational design encourages students to process input and use words in a conversational way to learn more. And that conversational skills training can increase social popularity among peers [9].

The study shows that the multimedia approach helps students in learning. [26] [27] [28] [29] They stated that in students, visual and audio stimuli increase the level of learning and play an effective role in academic motivation. has it. And as the research of Schrider, Reichelt, Zander [17] shows that multimedia education in accordance with the principle of personalization (dialogue) is more stable than education in the formal format, which is also consistent with the results of research [10].

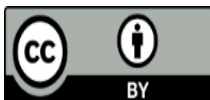
Tsayang and Tutf [22] also emphasized the positive impact of indigenous (culture-based) multimedia on increasing elementary school students' creativity in a study entitled Creativity in Primary Education: The Role of Multimedia. In fact, multimedia provides information. In addition to stimulating students' sensory system through images, color, sound, and movement, they are also challenging. Looking at the results of the present study and other researches, it can be explained that computer technologies and educational multimedia change the role of teachers and educators and make students active in educational environments.

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