A study on the role of use of educational aid books in academic achievement among male secondary schools students of city of Kaleybar from view of teachers

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Abstract

The aim of this study to determine the role of educational aid books on the academic growth of secondary school male students of kaleybar City, East Azerbajan, from perspective of teachers. This was an applied research in terms of the objective and a descriptive one in terms of type. Methodology was causal-comparative (ex post). The statistical population included all male students in Kaleybar city's secondary schools, comprising 20 classes of 1018 people. Statistical methods applied were convenient and cluster sampling method; and according to Morgan’s table, 160 student were used as final sample, of which 80 were assigned to the group using educational aids and 80 to group not using the same. Data collection tools included researcher-made questionnaires and Hermans’s achievement motivation test questionnaire (A.M.T.). The Cronbach's alpha was used to estimate the reliability of the questionnaire (0.776). In addition, their validity was confirmed by experts in the field of education. And the data obtained from questionnaires were analyzed using SPSS version 18. The results indicate that the use of teaching aids in teaching increases student achievement motivation and academic achievement. Effectiveness of teaching aids in learning is significantly higher than average. In both groups, the effectiveness of the use of teaching aids in learning is significantly above average (the average is more than 3 and P value is less than 0.05). The accessibility of education aids for teachers and students was low.

Keywords: secondary school, academic achievement, achievement motivation, educational technology.
Introduction

There is no doubt that educational tools pave the way for education and have a valuable role in teaching, and teachers in advanced training systems who make maximum use of such tools and materials admit the valuable role of such tools. However, the term “aid” included in the expression “educational aid” is not proper. But the expression educational aid is commonly used today and educational authorities also seem to have accepted it. But what is most important of all is that today, items with the name of the educational aid are provided to students and teachers who meet none of the conditions of educational aid and education system, unfortunately, has not only kept silent on this issue but also sometimes supports it as well as we see that different books under the tile of educational aid are published on a wide level, which are mostly authorized by Ministry of Education. However, these books undermine the efforts of scholars in recent decade to purify the scientific materials of the textbook as the only thing these books do is to provide uniform answers to all questions including theoretical and practical ones, thus undermining the essence of education.

Rapid progress coupled with the long jump in science and technology in the second half of the past century has place heavy duty compared to the past period on all social authorities at the level of decision-making, particularly the responsibility of the educational authorities of the country. Many psychologists recommend that educational aid be created to promote new knowledge, science and progress of educational technology because they increase speed, accuracy and ease of teaching and learning (Piri, Ahd et al., 2003).

Training requires practice and learning and technology, effective use of teaching aids and various techniques realized in our schools only when our teachers are become familiar with them and believe in them and use them based on their belief in them. Use of educational aid causes students to use all of their senses for learning, because such aids provide tangible basis for thinking and making of concepts, and therefore, reduce verbal responses of the students (Sayf, 2001). Today educational authorities and experienced teachers recognize necessity of knowledge and use of educational aids more than ever. For optimal use and becoming proficient in the use of anything requires implementation of it. Given the importance of teaching aids, and comparing it with the expectation that the use of these devices during teaching should meet, this research aimed to understand the impact of teaching aid books on the academic growth of students of Kaleybar. The overall objective of this research was to study the impact of educational books on students’ academic growth among secondary school male students of Kaleybar from teachers’ viewpoints.

Secondary objectives
1 – Study of the use of teaching aids in teaching by secondary school teachers.
2- Study of level of cooperation of executives and managers of schools with teachers of secondary schools in the use of books as teaching aids.
3 - Study of level of cooperation of parents of schools with teachers of secondary schools in the use of books as teaching aids.
4 – Study of impact of teaching aid books on motivation among secondary school students.
5 - Study of impact of teaching aid books on academic achievement of secondary school students.
Hypotheses
1 - Amount of use of teaching aids (books, teaching aids, etc.) by secondary school teachers is not desirable.
2 - Level of cooperation of executives and managers of schools with teachers of secondary schools in the use of books as teaching aids is not good.
3 - Level of cooperation of parents of schools with teachers of secondary schools in the use of books as teaching aids is not good.
4 – Impact of teaching aid books on motivation among secondary school students is not as desired.

The importance and necessity of statement of problem
Without a doubt, the future of any society depends on effectiveness of its education, therefore, as efficiency and productivity of educational programs improves, the more will be health and prosperity of future generation. In Iran, the textbooks are centralized, i.e. textbooks are fed from a channel and a single text is taught throughout the country. But in countries like the UK, Australia, Sweden, the United States and New Zealand, textbooks are used in a decentralized procedure, in which a national curriculum is announced whose goal are made clear and the schools seek to reach the goals of the national program but there is no requirement that a single textbook should be used to achieve these goal. In most cases, teachers may choose from a variety of sources and resources; in other words, the teacher chooses the book he wants to teach (Ahangari, 2004).

Since human focused on learning from print material, listening to teacher’s words and then taking note and memorizing them have caused fatigue and discontent among children. Obviously, such a situation could not continue and cannot be sustained and it cannot fulfill the requirements and needs of the student, so the transformation of education occurs at the same time as changes in other areas occur and educational aids serve this need of students and teachers. Now the students are so aware that responding to their questions is impossible without deep study and knowledge. Education authorities and teachers together experienced the necessity of understanding and use of educational tools and accessories, such books, etc. Today, when we speak of profession of teaching, we speak of someone who knows how to teach better using the best methods and practices rather speaking of a false passion.

Thus, given students’ curiosity and desire for discussion and better understanding the basic concepts, the education system tries to take advantage of modern teaching methods and educational technology and highly qualified teachers from to achieve this. Also families’ desire to have children intelligence has led them to provide help and training books to their children. Thus, it was required to perform a research in in Kaleybar on effect on educational aid books on academic growth of secondary school children.

Theory and Literature
Many European countries and some Asian countries such as Korea, India and Malaysia today use educational technology in their current school curricula. Technology-based educational programs relies on the opinions advocating need of children for enjoyment of classroom experience in using technology to solve educational problems and search for practical solutions. This includes the preparation of programs including required information and awareness about the knowledge and skills to support and provide
educational technology-based activities (Haddadi, 2007).

Since technology and educational technology in today's society is very important, it is that each person enjoy technology literacy as necessary and also because the purpose of training on technology is to provide knowledge and information on technology as part of a formal education for all people, school is the best place to create and expand technological literacy (Adel, 2001). In technology-rich environments, students experience in all the main areas of the subject the positive effects of the environment on their academic achievement and have had increasing progress in their studies (Sayf, 2001). To achieve new learning experience, a higher level of reasoning and problem solving ability is required. The use of educational technology has a positive effect on students' attitudes and to change teaching practices in order to promote participation and teamwork and less lecture of teacher in classroom (Ghahremani, 2004).

For each subjects in each grade, a textbook is prepared and distributed. Teachers use teaching methods and educational facilities to transfer content of this books, thus creating in students the knowledge and new insights; through reading, understanding and perception of the truth of content of the books, students also realize that in case of deployment of that information, they can improve their quality of life (Motamednezhad, 2004). Fani (2000) pointed out that no matter how comprehensive the textbooks are, they may contain all scientific subjects required by students. Proper books other than routine textbooks should make student take more research activities and should provide more scientific material than textbook. Also, it should strengthen thinking, creativity and comprehensive view of the student rather than providing answers to the questions of the book and it should provide different solutions to students (Hosseini, 2009).

Hosseini (2000) argues about the role and the position of non-curriculum books in the teaching and learning process that if a training package is provided to students, parents and coaches, we could define non-curriculum books in it, so that all could use them to facilitate knowledge transfer, with the consolidation of knowledge in the students and scientifically motivating the use of it (same source).

In the classroom several factors, including the physical, mental, personality, and scientific states of teacher and teaching space and teaching aids, etc. are involved in learning. In the meantime, books and teaching aids are especially important because they combine theory and practice, by which students can place the material taught by teacher in their cognitive construct, and achieve meaningful learning. Educational equipment raise learning efficiencies in terms of quality and quantity; further, such equipment can objectify the content of textbooks (Ahadian, 1992). Khalkhali (1976) studied books of science and briefly comparing the curriculum of field of science of the US and the UK, concluded that the time considered for some scientific concepts of secondary school science books in Iran is different from the same concepts in the curriculum of the US and the UK. That is, in the said countries, these were taught to older age groups. He summarized the problems faced by teachers in commutating the contents of the books to children as follows (ibid): a) lack of laboratory facilities; b) large number of students; c) short education time and high size of content of book of science cause teachers not to use scientific and technological methods, which indicates there are many problems in teaching course of science that should be solved by ongoing training and workshops (Davaei, 2000).
Research Methodology
Scientific researches divided into three categories based on objective, which include fundamental research, applied research and development. This was based on this division an applied research.

In terms of how to collect the required data, scientific research can be divided into two categories as follows: a. Research (non-experimental), b. pilot study. Based on this division, in term of purpose, this is applied and in terms of nature, the present study is descriptive.

Statistical population
Statistical population refers to a group of objects or people who share a common feature, and which generalization can be made, and nature of research and members of population determine scope of population.

The statistical population included all male students in secondary schools of city of Kaleybar, who were 1018 people in 20 classes in four schools (School of Technology, Imam Hussein, the martyr Motahari, martyr Beheshti).

Determining sample size: Of 20 classes in the city of Kaleybar, 15 classes teaching aids and 5 classes did not use them or used them less frequently. The latter five classes were assigned to group who didn’t use these aids. Thus the sample was convenient. Since sizes of groups were equal, and to ensure that there was no problem comparing, of 15 classes enjoying the aids, 5 were chosen by randomized cluster sampling, and two groups were compared. In total, 160 questionnaires were returned, of which 80 related to group using the educational aid and 80 from the other group. Final sample size was thus 160.

Sampling
Sampling in this study was conducted in two ways: 1. convenient sampling:
The same five classes who either didn’t use educational aids or used less frequently. 2. Randomized cluster sampling: Since sizes of groups were equal, and to ensure that there was no problem comparing, of 15 classes enjoying the aids, 5 were chosen by randomized cluster sampling, and two groups were compared.

Data collection tools included Hermans’s achievement motivation test questionnaire (A.M.T.) and researcher-made questionnaires, which was confirmed by advisor professor and reader professor and other experts and covered extent of use by teachers of education aid and also to measure academic growth of students, their records and final records were used.

Measurement tool
To collect data, Hermans’s achievement motivation test questionnaire (A.M.T.) and researcher-made questionnaires were used and students’ GPA were used for measuring academic achievement. Researcher-made questionnaire consisted of demographic characteristics of the respondents, 5 items about the use of teaching aids and 4 statements about the impact of the use of teaching aids to facilitate learning. 4 and 5 –point Likert scale questionnaire was used.

Hermans achievement motivation questionnaire was built in 1970 by Harmans. Based on experimental and theoretical knowledge about the need for progress and based on literature, this questionnaire was formed. The initial questionnaire with 92 questions was
based on ten characteristics that distinguishes those with high achievement motivation from people with low achievement motivation and was prepared as follows.
1. High level of desire
2. Strong impetus for upward mobility.
3. Long resistance in the face of assignments with medium difficulty level.
4. Willingness to exert efforts again in doing incomplete homework.
5. Understanding of the dynamics of the time, the feeling that things happen fast.
6. Foresight.
7. Considering the eligibility criteria and merit in the selection of friends and colleagues.
8. Recognition through good performance on the job.
9. Doing assignments very well.
10. Low-level risk taking behavior.

The ten features was derived by Hermans from literature and adopted as the basis and guide for selecting questions.

After the implementation of the experiment and analysis of items and correlation calculation of all items with the whole test, 29 questions were selected as items of the final A.M.T. questionnaire. It should be noted that after analysis, there was no significant question in conjunction with the tenth feature in the final questionnaire, therefore, the final questionnaire was made only on the basis of nine features.

Items of questionnaire were unfinished sentences, followed by multiple choice; for the standardization of the questions’ value, for every 21 questionnaire, 4 options were written. These options were scored in terms of the intensity of motivation from high to low or from low to high.

Scoring of questions on the questionnaire was based on 9 questions based on which it was developed. Some of the questions were scored positively, others negatively. Questions 8, 12, .7 .4 .1 21 .20 .19 .15, a) 1; b) 2; c) 3; and d) 4 score were considered. In questions 14 .16 .17 .18 2 .3 .4 .5 .6 .9 .10 .11 .13, a) 4; b) 3; c) 2; and d) 1 score were considered, and scores varied between 21 and 116.

The total score is the score achieved from all questions; if it was high, it indicated high achievement motivation and if low, it was indicator of the fact that achievement motivation was low.

**Variables**
1. Secondary school teachers as those who were employed by ministry of education permanently and served as teacher in secondary school.
2. All secondary schools students who are enrolled in public schools.
3. Educational aids including all devices contributing to teaching of teacher including books, teaching aids, charts, posters, crayons, etc.
4. Academic achievement of students included achievement of predefined educational objectives measurable through GPA of students.

**Data analysis:**
1. How much books as teaching aids are used in teaching by secondary school teachers?
   Based on data from surveys of teachers of Kaleybar, 8% of teachers made very high, 44% high 44%, 4% average 4% low use educational aid books.
2. How much directors and executives cooperated with secondary school teachers in use of educational aid books?
Based on data from surveys conducted on 14 teachers of the secondary school of Kaleybar, 12% of managers and executives made very high cooperation, 40% high, 32% average and 16% low cooperation with teachers of secondary schools in use of aid educational books.

2. How much parents cooperated with secondary school teachers in use of educational aid books?

Based on data from surveys conducted on 14 teachers of the secondary school of Kaleybar, 28% of parents made very high cooperation, 22% high, 22% average and 28% low cooperation with teachers of secondary schools in use of aid educational books.

4. How much is the impact of educational aid books on building interest and motivation among students of secondary school?

According to studies, 94% of teachers considered the teaching aids as very effective in increasing interest in students.

5. How much is effect of educational aid books on student achievement?

Based on data from the survey, 95% of teachers believed that effect of teaching aids to enhancing achievement was very much. 97% of them believed that use the teaching aids in had a very essential role in attractiveness of their teaching.

Conclusion

This research aimed to investigate the impact on the academic growth of the educational aid books on achievement of secondary school student in Kaleybar city from view of their teachers. The followings are discussion and conclusion of the data collected.

It was concluded from the results that 8% of teachers made very high, 44% high 44%, 4% average 4% low use educational aid books. Given importance of educational aids and their comparison with expectations from their use in teaching, experienced teachers and education organization’s authorities recognize necessity of use of them to help learning more than ever. However, given the studies: half of teachers made less use of educational aids, perhaps because they had limited or no access to them and because managers didn’t provide required budget for buying of them.

Given the results, 12% of managers and executives made very high cooperation, 40% high, 32% average and 16% low cooperation with teachers of secondary schools in use of aid educational books, which were not good, and which might have been caused by tendency of managers towards traditional teaching method or their unawareness of miraculous impact of new teaching methods.

Thus, more the executives cooperate with teachers is required, which is important in motivation of teachers as well.

Results show that 28% of parents made very high cooperation, 22% high, 22% average and 28% low cooperation with teachers of secondary schools in use of aid educational books, which is very low, and which requires that programs to make parent aware of advantages of educational aids be provided by education organization and schools.

According to research conducted, 94% of teachers believed that use of educational aid was very effective in increasing students motivation and interest was very high, therefore the educational authorities have to try to equip schools with educational aids. According to results, 95% of teachers believed that effect of teaching aids to enhancing achievement was very much. 97% of them believed that use the teaching aids in had a very essential role in attractiveness of their teaching.

Educational method based on listening to teacher’s words and then taking note and
memorizing them have caused fatigue and discontent among children. Obviously, such a situation could not continue and cannot be sustained and it cannot fulfill the requirements and needs of the student. Now the students are so aware that responding to their questions is impossible without deep study and knowledge.

Learning is a very complex process and requires the involvement of multiple factors and learning in the classroom environment in particular has more importance and sensitivity. The fundamental difference between the class environment and outer environment requires scrutiny. In the classroom, the basic factors involved in learning include physical, condition, mental, scientific and personality characteristics of teacher, the content of educational resources, rules and regulations of education, education space. In the meantime, books and teaching aids are especially important because they combine theory and practice, by which students can place the material taught by teacher in their cognitive construct, and achieve meaningful learning.
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