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Identification of the Advantages of Academic Achievement Tests for Ninth Grade Students in District 9 of Tehran

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ABSTRACT

This study aimed to identify the advantages of achievement tests forninth-grade students in District 9 of Tehran. A descriptive survey method was used for the study. The study's statistical population included allninth-grade male and female students studying in district 9 of Tehran (2016-2017). According to the inquiry received from the district's Education Department, it included 3620 students. The statistical sample size of 360 people, with an approximate volume of 10% of the population, was selected by random cluster sampling. The main data collection tool was a researcher-made questionnaire and interview used as a complementary tool. Descriptive statistics, statistical index of central tendency, dispersion index, and Friedman ranking test were used for data analysis. The results showed the strength points of academic achievement tests such as creating coordination in teaching budgeting, students' familiarity with four-choice questions, strengthening students' scientific strength, the possibility of comparing students with their situation, and healthy competition among students.

Keywords: *Academic achievement, achievement tests, educational system*

INTRODUCTION

One of the main tasks of education in any country is transferring the cultural heritage of society, developing students' talents, and preparing them for active participation in society. Therefore, it is necessary to educate people to take charge of various affairs and, consequently, the issue of success or failure in education is one of the most important concerns of any educational system in all societies. The success and academic achievement of students in any society indicates the educational system's success in goal targeting and paying attention to meet individual needs. Therefore, the educational system can be considered efficient and successful when it has the highest figures in the academic achievement of its students at different stages. Education is one of the main pillars of the country's economic, social, cultural, and political growth and development, and today its role in improving the living conditions of individuals and society is obvious to everyone (Tabatabaee and Ghadimi Moghadam, 2007).

Kozma examined the effect of the educational system on students' academic achievement and concluded that a dynamic education system prevents a decline in student morale (Kozma, 2005). Academic achievement is considered as one of the dimensions of the education system development. This means the success of students in passing the courses of a certain educational level or the success in learning the curriculum. On the contrary, academic failure is one of the problems of the educational system and shows itself in different ways, such as students failing to

achieve the goals of the relevant educational levels or failing the course or repeating the relevant courses, and early dropout and uncertainty (Heidari, 2011).

Teacher and student awareness of the effectiveness of educational and learning activities and measures will be an incentive to continue their learning-teaching activities. Furthermore, recognition of shortcomings of the learning-teaching process helps them to take conscious actions to correct their learning disabilities and misunderstandings. In fact, the results of assessment and evaluation of academic achievement should be used to improve students' learning (Ahmadipour, 2012).

Over the last few years, the General Department of Education of the provinces, and consequently, the General Department of Education of Tehran and District 9 of Tehran, held an exam every year in two stages called the Academic Achievement Test. This test, along with its positive aspects such as reviewing lessons, practicing speed tests, the possibility of comparing students, etc., has vague and negative points. In the case of reviewing and eliminating the shortcomings and defects, it can have more positive effects. Since these tests are costly and at the same time disrupt the normal flow of daily school activities and different points of view are raised about their effectiveness, they should be evaluated and reviewed, their strengths are identified and to be continued if their strengths outweigh their weaknesses. These exams were held in the education department of district 9 in line with other departments in the country, but in 2014, new management was introduced, and it was no longer held. Therefore, the evaluation of these tests by teachers and executives is of great importance and can provide a somewhat realistic understanding of the efficiency and effectiveness of these tests. Accordingly, the purpose of this study is to identify the benefits of academic achievement tests for ninth-grade students of district 9 of Tehran.

Theoretical Foundations of Study

Academic achievement

Academic achievement indicates the achievement of educational standards and goals (Reber, A. S., 1985). In other words, it means success which is used to determine progress in education. Academic achievement is defined as a measurement through testing, while in general concept it is distinct from the tests of aptitude and intelligence. Crow, D. L., & Crow (1956) argue that progress means the extent to which learners benefit from learning in specific areas of learning. According to Erfani (2010), academic achievement is the acquisition of knowledge or skills in school subjects usually determined by the test scores or the scores given by the teacher. According to Stephens, J. W. (1960), the problem is not that other aspects of educational goals are ignored, but the fact is that academic achievement is the sole responsibility of all educational institutions established by the community to promote the beneficial academic achievement of students, and this is an abstraction of children's specific behaviors related to mastering or learning words related to studying of lessons, solving math puzzles, drawing, etc. Trow, W. C. (1970) believed that academic or educational achievement is an actualized ability or level of ability in school assignments usually measured by standardized tests, expressed in "age or grade" units, and are based on the norms of an extensive sampling of student performance (Trow, 1970).

Steinberg, L., (1993) also believed that it includes student achievement, ability, and performance related to a person's cognitive, emotional, and social development. Academic achievement is

related to learning the principles and the ability to act effectively on goals and related issues (Steinberg, 1993).

Academic achievement is one of the most important factors that affect the opportunities and development of a person's life. Finishing high school, which is largely related to academic achievement, is of particular importance. A high school dropout, which severely limits subsequent opportunities, is associated with socially destructive and self-destructive behaviors that include substance abuse, unemployment, low income, welfare dependency, and delinquency and crime (Rutter, M & Giller, 1983; Haveman, R &Wolf, 1984; Steinberg, L, Blinde, p.,&Chen, 1984; Hawkins, J. et al., 1986; Loeber, R.,& Stutmer, 1987; Hinshaw, S.1992, 123; Hawkins and Lishner, D.1980; Erfani, 2010).

Studies have shown that people with motivation to make great progress in doing things, including learning, surpass those who lack this motivation. For example, in McClelland's (1961) study, two groups of subjects who differed in their motivation for progress performed a single assignment. In this single assignment, subjects changed the mixed letters given to them into meaningful words. In the beginning, both groups had similar performance, but as the assignment progressed, the group with high progress motivation came ahead of the group with low progress motivation. However, conclusive results of the above research have not been obtained in the studies conducted in this regard. In some cases, the performance of people with high motivation for progress has been equal to that of people with low motivation for progress and even lower than them. Revisions of McClelland's original theory (Atkinson, R. C., 1963, 32) have justified the above inconsistencies as follows: people with high motivation for progress are not very interested in doing simple and ordinary tasks, and therefore their performance in such tasks, despite the high level of motivation for his progress, will generally be at a low level.

Also, people with high motivation are not interested in doing very difficult tasks because there are no honors in doing very simple tasks. According to Atkinson's theory, highly motivated individuals with moderately difficult tasks (neither too difficult nor too easy) achieve great success. Sears studies showed that those who tend to choose goals that are moderately difficult, while people who are very worried about failure often have very large or very small goals (Kharazi and Alinaghi, 2004).

Teaching, Learning, and Assessment Objectives

Learning is a process that makes education possible. Education is used when learning needs to move in a certain direction to support students in a specific knowledge with a specific skill, level, time, and method. In other words, learning is a cumulative phenomenon. It is created under the influence of previous supported learning and training in the past and shows itself as a performance in the present.

Confirming this issue, it is necessary to create ongoing learning opportunities to link previously-stored items to newly learned ones in order to build foundations for improving and changing the quality of human perfectionist behaviors. A new perspective of psychology on learning in terms of the balance between teaching and learning has turned this process into a continuous information processing activity. A process that has provided a common ground between the theories of behaviorism, cognitivism, metacognition, and constructivism in recent decades thanks to new electronic technology. According to the information processing theory of Glanter, Mills, Pribram, and Moore, behaviorist strategies can be used for learning what questions (facts), cognitive strategies for learning processes and principles (how), and constructivist strategies for

learning why questions (high-level thinking and situational and contextual learning) in e-learning (Ebrahimzadeh, 2007).

P Parry, S.B (1999) considered that the advent of digital technology requires new educational theories along with old theories (Zarei Zavaraki, 2005). However, Eikenberry (1999) believed that the electronic revolution in learning continues without any specific perspective (Zarei Zavaraki, 2005). Because the efficiency of learning is in line with critical and creative thinking in higher education and critical thinking is a kind of holistic (gestalt) activity, it needs a cognitive model that originates from within and exudes from the outside.

A process that can measure these behavioral changes requires tools that gather information about changes in learning behavior. Behavioral changes do not happen all at once; therefore, the result of the change in behavior is also measurable. In other words, clinical observation should be performed to properly measure learning behaviors (Haghighi et al., 2013).

In the environment of distance learning and online learning, assessment outcomes are sometimes used to compare academic performance and determine the academic achievement of the distance learner in order to highlight the difference between traditional and distance education methods. In this process, the learner knows what is being assessed and what its purpose is. Therefore, he uses feedback to correct his learning. The learner can better use the results if the assessment criteria for the distance learner are specified. The unofficial repeated assessment determines these criteria. When the learner is confronted with activities such as assessment, he/she not only call for concepts and skills but also reinforces them in the process. This reinforcement is seen more in matters of a hierarchical and sequential nature. Repeated assessment helps the learner to understand the important points and key messages and to acquire the skills to do the task. It also helps the teacher and the instructor to provide the necessary content to reduce the shortcomings. Assessment activities correct the learner's misunderstandings

Academic Achievement Assessment

Academic achievement assessment is a regular process to determine the extent of students' progress in achieving educational goals. Therefore, evaluation is not a series of irregular measurements and does not make sense without considering educational goals. Evaluation is more comprehensive than measurement. Measurement is a quantitative description of a student's behavior, but evaluation of an individual's behavior provides a quantitative and qualitative description. Valuation is a value judgment about the presence or absence of traits that have been measured.

The first step in evaluating academic achievement is to determine and identify academic goals, so that teacher and student educational activities become oriented and purposeful. Evaluation should be in line with educational goals and have the necessary coherence to measure the degree of success, its achievement, and determined goals (Fallahi and Abdollahi, 2017). According to this assumption, valuation is of three types:

1. Initial evaluation: The purpose of this type of evaluation is to be aware of the level of abilities and previous preparations of the student, to recognize the learning problems in previous lessons, and to compensate for the probability deficiencies in previous learning. In other words, “It is a measurement of the extent to which a learner is comforted by the prerequisites of a new lesson." This type of evaluation is performed at the beginning of the school year or at the beginning of

each course session. The questions of this assessment for students are related to what they have learned in the previous year or the previous lesson. The type of test used is usually teacher-made and the criterion-referenced because the main purpose of this type of evaluation is to be aware of learners' problems in learning precise educational goals.

2. Formative Evaluation

This assessment is done during the education process when learning is taking form and is developing that is why it is called formative evaluation. The purpose of this type of evaluation is to be aware of the strengths and weaknesses of students' learning and to correct the teaching method by the teacher. Other benefits of formative evaluation include the ability to pay attention to individual differences, peer evaluation, and the possibility of evaluating group activities. Formative evaluation questions are asked from the learned lessons and are presented with regard to knowledge, attitude, and skill goals (Sharifan, 2012). The type of tests used in the formative evaluation is in the form of a written test, a self-evaluation checklist, a group activity observation checklist, or a functional observation checklist. The purpose of self-evaluation is to involve the student in the process of evaluating individual performance and to give students the opportunity to make fair judgments in the evaluation of personal activities. The group effort of the student, the degree of cooperation of the group members, the type of responsibility of the individuals, and the skills of the thinking process are evaluated through a group checklist. A functional observation checklist can be used for qualitative judgment of learning processes and practical portfolios of students (Ramezani, 2016). Informative evaluation, the personal judgments of the teacher, as well as the opinion of the parents, are sometimes taken into account. Formative tests are taken during the course period (end of the learning phase of a chapter or lesson) or at certain times (Shahabadi, 2013).

3. Final Evaluation: It is called the final evaluation because it is taken at the end of the course (semester or academic year), and it is compact because it can measure students' intensive learning over the length of a course. The final evaluation evaluates all that students have learned or examples of all they have learned. In these evaluations, two types of criterion-referenced tests (with the aim of determining the total amount of learners 'learning) and norm-referenced tests (with the aim of determining the total amount of learners' learning), as well as normative tests (with the aim of comparing the performance of individuals with each other), are used. Normative tests depend on a relative criterion. For example, we compare and rank students' progress. The entrance exam is a clear example of this type of evaluation, i.e., those who have obtained the highest score in the exam enter the university according to the capacity of the universities. The system and measurement can be quantitative or qualitative (descriptive) in each of the mentioned evaluations.

Concept: It is the purpose of the general topics of learning. The concept may cover many examples that have something in common. The text of a lesson is usually organized around one or more large concepts and a number of small concepts. A concept may be a fact, an event, a definition, a principle, a theory, a skill, an attitude, and so on. In other words, the type of concept may be a cognitive, skill, or attitudinal.

Educational goals: Goals refer to the educational expectations that learners are expected to achieve after teaching a lesson. Tyler, Levy, and Greenland consider the educational goal as expressing desirable changes in learners' behavior in terms of knowledge, practice, and attitude; For example, students will:

-Explain the causes of the Iran-Iraq war.
-Explain how complementary proteins act.
- Be able to build a closed electrical circuit.
- Be interested in God, Prophet, and Imams (Mir Arabshahi, 2008).

Levels of goals: Educational goals are usually classified into three groups: cognitive, skill (psychomotor), and attitudinal (emotional). Each of these goals also has different levels, from simple to difficult. Cognitive goals: they include goals that deal with remembering, recognizing, understanding, and developing mental abilities and skills such as application, composition, and evaluation. This is the most important area of work for evaluators and teachers in evaluation. Most tests are currently used to measure learners' performance in cognitive behaviors. The most appropriate means of measuring cognitive goals are written and oral tests. Assessment involves the use of different techniques and puts a great emphasis on performance observation. Assessment is a type of clinical analysis and performance prediction, while the test is a tool and a means of measurement (Fallahi & Abdollahi, 2017).

Methodology

The present study is applied and mixed research (quantitative and qualitative) in terms of purpose and research method, respectively. The quantitative method is of descriptive survey type. The statistical population of this study includes all male and female high school teachers in District 9 of Tehran. The research population is 594 students, according to the inquiry obtained from the education department of the region. The statistical sample size of 360 people was selected through a simple random sampling method according to the estimation Krejcie & Morgan table. Two library and field methods were used for data collection. Interviews with 10 professors of educational sciences were used to evaluate the benefits of the ninth-grade academic achievement test. The main tool in this study was a researcher-made questionnaire to evaluate the strengths of coordinated tests of academic achievement of schools. This questionnaire had 28 closed questions. The opinions of several experts in the fields of psychology and educational sciences were used to assess the content validity of the questionnaire, while an experimental test on 30 people and the calculation of Cronbach's alpha coefficient were used to assess the reliability of the questionnaire. The obtained coefficient value was 0.87 is considered acceptable. Descriptive frequency statistics and Friedman inferential statistics tests were used to analyze the data.

Findings

The results showed that 47% of the statistical sample was male, and 53% was female. 11% of the statistical sample was single, and 89% were married. 6% of the statistical sample had work experience between 1-10 years, 23% between 11-20 years, and 72% between 21-30 years. 17% of the statistical sample studied in the fields of basic sciences, 79% in humanities, and 4% in arts. 4% of the statistical sample had postgraduate education, 75% had a bachelor's degree, and 21% had a master's degree. To rank the strength points, the Friedman test was used first, followed by the importance of the listed strengths. Tables (1) and (2) show the results of the analysis.

Table 1: Rankings of each of the strong points of the ninth-grade academic achievement tests based on opinions of teachers

Strength Points	Ranking Averages
Coordination in observing teaching budgeting	9.83
Healthy competition between students	8.17
Strengthening students' scientific strength	9.35
Creating healthy competition between teachers in a school	6.46
Identification of successful teachers of each region and their encouragement	6.3
Identification of inefficient teachers and corrective measures	5.18
Giving appropriate feedback to parents on assessment results	8.05
Possibility of evaluating school principals according to academic achievement tests	6.03
Familiarity of students with four-choice questions	9.51
,Familiarity of students and parents with concepts such as rank percentage, and level	7.74
Providing the possibility of comparing the student achievement with her own situation	8.43
Helping to improve the teaching-learning process	6.96
Providing counseling services to parents according to the test results	6.17
Preventing academic failure and helping students' academic growth	6.82

Table 2: Friedman test

Variables	Current situation
Chi-square	692.85
Degrees of freedom	13
sig	0.0001

Considering Chi-square values and significance levels (692.85 and 0.0001), there is a difference between the ranks of each of the strongest points of the ninth-grade academic achievement tests from the teachers' point of view. The importance of each of the strengths is shown in Table (3)

Table 3: The significance level of each of the strengths

Strengths	Average	Standard deviation

Coordination in observing teaching budgeting	4.15	0.89
Familiarity of students with four-choice questions	4.08	0.83
Strengthening students' scientific strength	3.97	0.88
Providing the possibility of comparing the student achievement with her own situation	3.67	0.91
Healthy competition between students	3.63	1.2
Familiarity of students and parents with concepts such as rank, percentage, and level	3.5	0.96
Giving appropriate feedback to parents on assessment results	3.41	0.97
Helping to improve the teaching-learning process	3.33	0.89
Preventing academic failure and helping students' academic growth	3.26	1.2
Creating healthy competition between teachers in a school	3.23	1.1
Identification of successful teachers of each region and their encouragement	3.17	1.22
Providing counseling services to parents according to the test results	3.01	1.22
Possibility of evaluating school principals according to academic achievement tests		
Identification of Inefficient secretaries and corrective actions		

According to the data of Table (3), among the mentioned strengths, the following were of great importance: 1-Coordination in observing teaching budgeting 2. Familiarity of students with four-choice questions 3-Strengthening students' scientific strength 4-Providing the possibility of comparing the student achievement with his/her own situation 5- Healthy competition between students 6- Familiarity of students and parents with concepts such as rank, percentage, and level 7. Giving appropriate feedback to parents on assessment results 8- Preventing academic failure and helping students' academic growth 9- Helping to improve the teaching-learning process.

Conclusion:

The purpose of this study was to identify the advantages of achievement tests for ninth-grade students in District 9 of Tehran. According to the data analysis of this question, the most important strengths of the coordinated academic achievement tests are coordination in observing teaching budgeting, the familiarity of students with four-choice questions, strengthening students' scientific strength, providing the possibility of comparing the student

achievement with his/her own situation, healthy competition between students, the f amiliarity of students and parents with concepts such as rank, percentage and level, giving appropriate feedback to parents on assessment results, preventing academic failure and helping students' academic growth and helping to improve the teaching-learning process. These findings are consistent with the results of studies of Moradi et al. (2014), Keramati et al. (2012), Mirafshar et al. (2012), Ganji et al. (2012), Sarmadi et al. (2010), and Payana Stasio (2006). An explanation of these results, it can be said that the implementation of academic achievement tests is held simultaneously and in a coordinated manner in all schools in the region. Therefore, teachers inevitably have to teach according to the schedule, and if some of the lessons are not taught, there will be a problem for the students, and the teacher will be responsible for this problem. Common school exams are held in written and descriptive form, and students are not very familiar with the test questions if they do not participate in the exams of private, scientific institutions. Academic achievement tests provide students with the experience of test questions and test scheduling, they gradually become prepared for successful participation in the entrance exam and employment tests, and they also get acquainted with concepts such as rank, percentage, and balanced score. Feedback on student performance at the class, school, and district levels can provide a relatively comprehensive understanding of his or her educational background, prompting teachers and parents to seek appropriate remedial action. Evaluation of the class status compared to other classes and comparison of the performance of teachers with other teachers causes the teachers to improve the quality of their education, and as a result, the possible shortcomings of some teachers and specific schools will be eliminated.

A-Solutions of the improvement of academic achievement tests in four parts are as follows: Encouraging active principals and teachers to perform the test accurately, using experienced teachers in making questions, careful supervision of the department of education on the optimal performance of tests, comparing the performance of schools and teachers in the region, preparing an appropriate report on the performance of the school and teachers in the exams and put it on the bulletin board, explaining the philosophy and necessity of conducting academic achievement tests for principals and teachers, providing appropriate feedback to principals and teachers and determining the test schedule and the test level from the beginning of the year.

B- Strategies for standardizing the questions of academic achievement tests between schools are: Observing test budgeting with the teaching content, using of standard question bank, group designing of questions by experienced teachers and secretaries, evaluation of questions before implementation, and reviewing the text of the questions and options, combination of different questions (test, correct-incorrect, and short answer), asking questions from all levels of learning and limiting the number of test stages to three.

C- Strategies for increasing students' attention to academic achievement tests include: encouraging top students in exams, the inclusion of academic achievement test results into classroom assessments, encouraging students who have progress in exam results compared to the previous ones, providing appropriate test feedback to parents, providing appropriate advice to parents about tests and encouraging students to study to improve in tests results.

D- Strategies for increasing the effectiveness of academic achievement tests are: reviewing of questions after the test in the classroom by teachers, paying more attention to parts of the test where students' performance has not been appropriate; explaining the importance and necessity of conducting academic achievement tests for parents and students, assessment of student's

individual performance and feedback to parents, timely notification of exams and test level, more attention of principals and teachers to tests in implementation and evaluation, introducing top students at the district level, performing a survey of students and parents in the quality of exams, performing lesson-by-lesson exams and teaching the correct methods of answering the relative tests. These findings are consistent with the results of studies of Salehi Najafabadi (2014), Niaz Azari (2012), Gholam Ali Lavasani & Amani (2012), Kalantar Ghoreishi et al. (2012), Moshtaghi (2012), Ziser (2011), and Rich Jan (2006). An explanation of these results, it can be said that various elements play a role in the improvement of the quality of academic achievement tests, including the role of principal, teachers, parents, and students. Lack of sense of responsibility and lack of cooperation between principals and teachers in the proper implementation of academic achievement tests causes other factors to not function properly and, consequently, not to play their role properly. Encouraging principals and teachers, attracting their cooperation, using the experiences of experienced principals and teachers, monitoring and explaining test objectives, and clarifying financial issues can increase the cooperation of principals and teachers. Standardization of questions with a purposeful design according to the table of contents, purpose, reviewing, experimental implementation, and analysis of results using evaluation and assessment indicators can play an important role in standardizing of questions. Students will show more interest in these tests depending on the attitude of the principal and teachers, parents' encouragement, and involvement of the results in the evaluation and reflection of the results at the school and district level. In general, the effectiveness of tests can be increased by proper performance, timely analysis, monitoring student performance, providing advice to parents, etc. According to the study results and based on the design of many strong points of academic achievement tests, it is suggested to continue the implementation of academic achievement tests in schools. It is suggested to study the effect of conducting coordinated academic achievement tests on students' academic achievement on a lesson-by-lesson basis. It is also recommended that the level of teachers 'and students' satisfaction with the performance of academic achievement tests on holidays along with the payment of fees to teachers and principals be investigated.

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