The effect of descriptive evaluation of elementary school third grade subjects on academic achievement of students

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Abstract

The goal of this research was the effect of descriptive evaluation of elementary school third grade subjects on academic achievement of students and its comparison with traditional evaluation. The statistical population of the research included all female third grade students of elementary schools in ZarrinShahr in academic year of 2012-2013 who were a total number of 742 students as well as the elementary school third grade teachers who were a number of 34 teachers. Among them a number of 147 students and 28 teachers were selected via cluster sampling. Research methodology in this study was of survey-descriptive type. The research tools were checklists and a questionnaire of opinion toll, made by the researcher. To assess the validity of the tools used, the face validity and content validity were used and the validity of the questionnaire was estimated as a=0.93. Chi square test was used to analyze the research questions. The results of the research showed that using different methods of descriptive evaluation has been effective in improving the students' performances in such subjects as the Holy Quran, social sciences, arts, science & Persian, while it has not been effective in improving their performances in such subjects as **heavenly gifts** (the Holy Quran for elementary students) and mathematics. Finally, the results of opinion toll showed that the teachers found descriptive evaluation more suitable than traditional evaluation in evaluating all the third grade subjects of elementary school.

Keywords: Evaluation, Descriptive evaluation, Traditional evaluation, Students' performances.

1.   Introduction

Not very long ago, the policy-makers' concerns of the educational system of Iran was largely quantitative expansion of the education and, as far as possible, attempts were made to respond to the families' wide and developing requests regarding education for their children and also to frovide a minimum of education for all children. During recent years, such concerns changed from quantitative development of "availability of education" to a more essential concept of "quality improvement", and paying attention to the quality has been one of the issues, regarded by the policy-makers. Activity in improving the education quality is doubtlessly more comp [located than activity in its quantitative expansion since the effective factors in quality improvement are very distinct, including a range of activities from improvement and modification of in-service educations to modification of curricular programs. All such modifications should lead in improving the quality of learning in the classroom (Hasani, 2009), p.11). In most countries, the report of procedure is made clear through the scores, given by teachers. But the fact is that, in descriptive evaluation, the students' all activities are assessed form all perspectives. Showing the students' achievements by only scores leads in negative competition among the students, resulting in spoiling the human potentials and even economic resources. Rastegar(2008) stated that the scoring system leads in creating disappointment and lack of motivation among students (Asakereh & Bahrani, 2012). In fact, in case getting 20 at school shows that student do not have any weaknesses in a given subject and leaning has well occurred in them, what is the reason why we observe that there are some students with great scores who are unable of performing many basic and essential skills (Daviran,2007). This point is where the qualitative- descriptive evaluation is used in favor of learning. In doing so, there will be no such a thing as class exams and yearly exams, the fear and anxiety created by exam giant will be replaced by an angel of hope and kindness, an internal motivation for a better and more deep learning will be created in the students and the traditional slogan "what was your score at school today?" will be replaced by "what did you learn at school today?". By asking such a question, the children practically remember and review their knowledge at home and in the society. Thus, no student will be punished due to getting a low score and will not be under many mental stresses due to the parents' force and being ridiculed by fellow students and the other people around them and the unpleasant outcomes, being witnessed for several times, will not occurred. Conversely, everyone can continue his/her way to improvement based on his/her innate talents and in a suitable condition, provided by the teachers and in a calm and tension-free environment (Daviran, 2007). In using traditional evaluation, the act of evaluation is considered as the teachers' last activity and the teachers examine the extent of achieving learning

goals among the students at the end of teaching-learning processes. Thus, final examinations or evaluations form the basis of the teachers' work. In other words, in this perspective, learning becomes distinct from evaluation, each of which following a separate goal. However, in qualitative-descriptive evaluation, the issues of evaluation and teaching-learning are not distinct from each other. At every moment of learning, there exists evaluation. Evaluation proceeds parallel with his teaching-learning process, improving step-by-step with it. The goal of both streams is learning. From this perspective, evaluation can be considered as used for more and better learning in education (Hasani, 2009).

Descriptive evaluation system in Iran has been implemented with the aim of creating basic and essential changes in the existing evaluation system, with regard to the modern approaches in teaching-learning processes as well as the effective styles of evaluating students on the basis of the instructions by the high council of education organization in some elementary schools since academic year 2004-2005. In this system the focus in on changing the quantitative scale (scoring 0-20) to a qualitative scale (descriptive evaluation) as well as final evaluation to formative evaluation (Hasani, 2006). The high authorities, in charge, in the high council as well as the design executives in voce-presidency of general education and training affairs expect that reach the goals of modifying the teaching-learning procedure in classrooms, enhancing the mental health level and regarding the different domains of the students' personalities through experimentally implementing descriptive evaluation project. In descriptive evaluation, the teacher will use such tools as portfolio, anecdotal record , checklists (behavior list), assignments, academic achievement report, feedback, self-assessment and fellow-assessment as well as different kinds of performance and formative evaluations to reach such goals. Concerning the effect of different methods of descriptive evaluation on the students' academic achievement, many studies have been done, among which was Rozy (2011). In a research, Rozy showed that academic achievement of descriptive evaluation project was more done for students at traditional schools and also there was a significant difference between the attitudes towards schools among the two groups. Moreover, the research conducted by Nakhaie (2009) regarding the effect of descriptive and traditional evaluation on the students' academic achievement sowed that the descriptive evaluation system enjoyed a high efficacy on the students' academic achievement. In another research regarding implementing the descriptive evaluation project in 9 elements of descriptive evaluation in Isfahan province, Bahrami Gahrouie (2009) concluded that the mean of teachers' satisfaction as well as the extent of the parents' satisfaction with students regarding descriptive evaluation project were above average. A research on the topic of effect of evaluation (quantitative-qualitative) on the extent of school anxiety among students showed that, in teaching-learning process, descriptive evaluation was prior to quantitative evaluation and that descriptive evaluation was successful in reaching the aim of improving mental health in teaching-learning environment in creating calmness among the students while learning (Nicknejad,2008). Furthermore, in another research on the topic of effect of descriptive evaluation on students' cognitive-affective and psycho-motor characteristics showed that the extent of third-grade students' academic achievement level, studying at those elementary schools applying descriptive evaluation project in the cognitive variables such as math knowledge, science & Persian as well as the extent of meta-cognitive awareness were significantly higher than they were at those elementary schools not applying this project (Rezaie & Seif,2007). In his research, Leahy (2005) concluded that scoring the students' leanings by itself does not result in their future learning's. In fact, the first this a student does is looking at his/her own score on the exam paper, and then looking at his/her fellow student's score sitting next to him/her. In a research, Teo, Carlson & Matheieu (2006) showed that, during years studying at elementary school, such variables as social and affective environment dominating classroom as well as absence of tension in classroom influence the academic achievement and maintaining mental health among the students more than other factors do.

Changing class evaluation system to improve the students' learning conditions is a phenomenon seen in most countries in the world. This phenomenon originates from two approaches: a modern approach of learning psychology, e.g. cognitive & **creatorism**, and the other, approach of educational reform movements and international comparisons (Seif, 2004; Eggen & Kauchak,2001). In this respect, regarding that there now exist the two quantitative & descriptive evaluation in the education system of Iran and that the approach of the evaluation system of learning at elementary school level is moving towards descriptive evaluation, the necessity of examining the effect of different evaluation methods on students' academic achievement is evident, and the extent of the efficacy of this educational approach on different subjects should be examined. Thus, with regard to the importance and necessity of this matter, the goal of this research was examining the effect of different evaluation types (traditional, descriptive) of elementary school third-grade subjects on academic achievement of students, studying in the third-grade at elementary schools.

2.   Research Assumptions:

1. Using descriptive evaluation method is effective in improving students' performances in Holy Quran.

2. Using descriptive evaluation method is effective in improving students' performances in heavenly gifts.

3. Using descriptive evaluation method is effective in improving students' performances in social sciences.

4. Using descriptive evaluation method is effective in improving students' performances in arts.

5. Using descriptive evaluation method is effective in improving students' performances in mathematics.

6. Using descriptive evaluation method is effective in improving students' performances in science

7. Using descriptive evaluation method is effective in improving students' performances in Persian.

8. The teachers make use of descriptive evaluation method for evaluating the third-grade subjects (Holy Quran, heavenly gifts, social sciences, arts, mathematics, science, Persian) at elementary school level more than other methods.

3.   Research Methodology

The present research was descriptive and a survey type. The statistical population of this research included all third-grade female students, studying at elementary schools as well as their teachers at the schools in Zarrinshahr, Iran. The total number of third-grade female students and teachers at elementary schools in Zarrinshahr were 742 and 34, respectively. From among them, a number of 3 schools were randomly selected via cluster sampling and finally a number of 147 students and 28 teachers were selected on the basis of Mourgan's table. Data collection was made through field work. The tool used for this research was researcher-made and was given to the supervisors, advisors and teachers to determine its validity, having applied the suggested modifications, it was confirmed. To determine the reliability of questionnaire, Chronbach Alpha method was used. The total index of scale in this research was calculated as a=0.93. The data analysis method was descriptive-inferential, which the descriptive statistics used included frequency tables and percentages. Chi-square test was used for data analysis and inference.

4.   Findings

The first assumption: Using descriptive evaluation method is effective in improving students' performances in Holy Quran.

Table 1: Comparison of descriptive evaluation of students' performances in Holy Quran in September-October, October-November & November-December

Holy Quran	Sum	Percentage
	Very good+ good	Very good+ good[1]
(September-October)	126	84%
(October-November)	132	89%
(November-December)	140	95%

Table 2: effect of different kinds of descriptive evaluation on students' performances in Holy Quran

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	6.195	2	0.045

With regard to the results of descriptive evaluation in Holy Quran during the three months of September-October, October-November & November-December and concerning the extent of probability of significance level, calculated (0.045) from table 2 and its comparison with α=0.05(P-Value<α), the zero assumption was rejected, meaning that different methods of descriptive evaluation was effective in improving students' performances in Holy Quran. Thus, application of descriptive evaluation tools in Holy Quran has led to students' academic achievement.

The second assumption: Using descriptive evaluation method is effective in improving students' performances in heavenly gifts.

Table 3: Comparison of descriptive evaluation of students' performances in heavenly gifts in September-October, October-November & November-December

Heavenly gifts	Sum	Percentage
	Very good+ good	Very good+ good
(September-October)	144	98%
(October-November)	143	98%
(November-December)	145	99%

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[1] Note: in all the tables in this study, the combination of very good & good represents academic achievement in the related subject

Table 4: effect of different kinds of descriptive evaluation on students' performances in heavenly gifts

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	0.355	2	0.837

With regard to the results of descriptive evaluation during September-October, October-November & November-December in heavenly gifts, and concerning the extent of probability of significance level, calculated (0.837) from table 4 and its comparison with α=0.05(P-Value>α), the zero assumption was accepted, meaning that different methods of descriptive evaluation was not effective in improving students' performances in heavenly gifts. Thus, application of descriptive evaluation tools in heavenly gifts has not led to students' academic achievement.

The third assumption: Using descriptive evaluation method is effective in improving students' performances in social sciences.

Table 5: Comparison of descriptive evaluation of students' performances in social sciences in September-October, October-November & November-December

Social sciences	Sum	Percentage
	Very good + good	Very good + good
(September-October)	132	90%
(October-November)	133	91%
(November-December)	138	94%

Table 6: effect of different kinds of descriptive evaluation on students' performances in social sciences

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	13.809	2	0.001

With regard to the results of descriptive evaluation during September-October, October-November & November-December in social sciences, and concerning the extent of probability of significance level, calculated (0.001) from table 6 and its comparison with α=0.05(P-Value<α), the zero assumption was rejected, meaning that different methods of descriptive evaluation was effective in improving students' performances in social sciences. Thus, application of descriptive evaluation tools in social sciences has led to students' academic achievement.

The fourth assumption: Using descriptive evaluation method is effective in improving students' performances in arts.

Table 7: Comparison of descriptive evaluation of students' performances in arts in September-October, October-November & November-December

Arts	Sum	Percentage
	Very good+ good	Very good+ good
(September-October)	144	99%
(October-November)	144	99%
(November-December)	150	100%

Table 8: effect of different kinds of descriptive evaluation on students' performances in arts

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	12.408	2	0.002

With regard to the results of descriptive evaluation during September-October, October-November & November-December in arts, and concerning the extent of probability of significance level, calculated (0.002) from table 8 and its comparison with $\alpha=0.05$(P-Value$<\alpha$), the zero assumption was rejected, meaning that different methods of descriptive evaluation was effective in improving students' performances in arts. Thus, application of descriptive evaluation tools in arts has led to students' academic achievement.

The fifth assumption: Using descriptive evaluation method is effective in improving students' performances in mathematics.

Table 9: Comparison of descriptive evaluation of students' performances in mathematics in September-October, October-November & November-December

Mathematics	Sum	Percentage
	Very good+ good	Very good+ good
(September-October)	124	85%
(October-November)	134	91%
(November-December)	135	92%

Table 10: effect of different kinds of descriptive evaluation on students' performances in mathematics

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	10.780	2	0.005

With regard to the results of descriptive evaluation during September-October, October-November & November-December in mathematics, and concerning the extent of probability of significance level, calculated (0.341) from table 10 and its comparison with $\alpha=0.05$(P-Value$<\alpha$), the zero assumption was not rejected, meaning that different methods of descriptive evaluation was not effective in improving students' performances in mathematics. Thus, application of descriptive evaluation tools in mathematics has not led to students' academic achievement.

The sixth assumption: Using descriptive evaluation method is effective in improving students' performances in science

Table 11: Comparison of descriptive evaluation of students' performances in science in September-October, October-November & November-December

Science	Sum	Percentage
	Very good+ good	Very good+ good
(September-October)	114	91%
(October-November)	138	94%
(November-December)	130	96%

Table 12: effect of different kinds of descriptive evaluation on students' performances in science

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	10.780	2	0.005

With regard to the results of descriptive evaluation during September-October, October-November & November-December in science, and concerning the extent of probability of significance level, calculated (0.005) from table 12 and its comparison with α=0.05(P-Value<α), the zero assumption was rejected, meaning that different methods of descriptive evaluation was effective in improving students' performances in science. Thus, application of descriptive evaluation tools in science has led to students' academic achievement.

The seventh assumption: Using descriptive evaluation method is effective in improving students' performances in Persian.

Table 13: Comparison of descriptive evaluation of students' performances in Persian in September-October, October-November & November-December

Persian	Sum	Percentage
	Very good+ good	Very good+ good
(September-October)	128	88%
(October-November)	140	93%
(November-December)	138	95%

Table 14: effect of different kinds of descriptive evaluation on students' performances in Persian

Test type	Test statistics X^2	Degree of freedom	Probability of significance level(p-Value)
Chi-square	7.432	2	0.024

With regard to the results of descriptive evaluation during September-October, October-November & November-December in Persian, and concerning the extent of probability of significance level, calculated (0.024) from table 14 and its comparison with α=0.05(P-Value<α), the zero assumption was rejected, meaning that different methods of descriptive evaluation was effective in improving students' performances in Persian. Thus, application of descriptive evaluation tools in Persian has led to students' academic achievement.

The eighth assumption: The teachers make use of descriptive evaluation method for evaluating the third-grade subjects (Holy Quran, heavenly gifts, social sciences, arts, mathematics, science, Persian) at elementary school level more than other methods.

Table 15: usage extent of traditional & descriptive evaluation methods by teachers in the third-grade subjects of elementary school

Evaluation type / Subjects	Traditional evaluation(frequency)	Traditional evaluation(percentage)	descriptive evaluation(frequency)	descriptive evaluation(percentage)
Holy Quran	7	25%	21	75%
Heavenly gifts	4	16.7%	20	83.3%
Social sciences	9	36%	16	64%
Arts	5	19.2%	21	80.8%
Mathematics	12	44.4%	15	55.6%
Science	8	29.6%	19	70.4%
Persian	8	29.6%	19	70.4%

Based on the above table, it is observed that the teachers mostly used descriptive evaluation method for evaluating the third-grade subjects at elementary schools. On the basis of the above table, in general, the extents of descriptive evaluation for the elementary school third-grade subjects are as follow:

Holy Quran: 75%, heavenly gifts: 83.3%, social sciences: 64%, arts: 80.8%, mathematics: 55.6%, science: 70.4%, Persian: 70.4%.

5. Discussion

Concerning what has happened, it became clear that descriptive evaluation had high positive effects on the learners, particularly on their academic achievement, meaning that the results of comparison made between the effects of two types of traditional vs. descriptive evaluation on the elementary school third-grade students' academic achievement in the subjects of Holy Quran, heavenly gifts, social sciences, arts, mathematics, science & Persian showed that when evaluated descriptively in each month, the students revealed considerable improvements in their academic achievement in the subjects of Holy Quran, social sciences, arts, science & Persian, while such a result was not gained for heavenly gifts and mathematics. More research is needed to determine which factors have caused the descriptive evaluation not to be effective for these two subjects, and whether such results are going to be gained with other statistical populations and researches, and then, fundamental attempts should be made, congruent with the research results. Hence, descriptive evaluation had a considerable positive effect on most subjects. Thus, the results of this study, i.e. the efficacy of descriptive evaluation methods on the students' academic achievement in Holy Quran, social sciences, arts, science & Persian were congruent with those of researches conducted by Hasani & Ahmadi(2003). They showed that descriptive evaluation had a close relationship with learning quality. In their research, they stated that descriptive evaluation leads to increase the academic achievement and success. Moreover, the results of the study done by FathAbadi(2007) on the topic of "Analyzing the efficacy of qualitative- descriptive evaluation on achieving the cognitive-affective & psycho-motor goals in elementary period in Markazi Province, Iran" revealed that there was a significant difference between the groups of experiment & control regarding academic achievement in Mathematics, science, Persian & Persian Dictation. The scores of those students receiving descriptive evaluation project in such cognitive domain variables as mathematics, science, Persian & Persian Dictation were higher than the scores of the fellow third-grade students(the students, the same or similar to them), studying at those elementary schools, not receiving this project. The results of the research done by Nakhaie(2009) was congruent with our research results. Nakhaie (2009) found that form the teachers' perspectives in both groups (traditional vs. descriptive) and at the confidence level of 99%, the descriptive evaluation system had a high efficacy on the students' academic achievement, that descriptive evaluation was highly influential in achieving the teaching-learning process as well as the students' academic achievement, deepened the students' learning and exerted a positive effect on increasing students' individual abilities. However, traditional evaluation is only slightly able to reach the education goals. Also, the results of the research done by NickNejad (2008) showed that descriptive evaluation is prior to quantitative evaluation in the teaching-learning process and it can be claimed that descriptive evaluation approach in achieving the goal of improving mental health in teaching-learning environment and in creating calmness for students' learning has been successful; and these results were congruent with the results of the present research and confirmed them. Parallel with the results of this study, Namvar, Rastgu, AbulGhasemi & Seif Derakhshandeh (2011) concluded that qualitative-descriptive evaluation had a positive effect on the students' affective dimension and caused to increase self-confidence and to decrease anxiety among students. Furthermore, the results of another study done by Rezaie & Seif (2007) on the topic of "The effect of descriptive evaluation on students' cognitive-affective and psycho-motor characteristics" showed that the third-grade students' academic achievement levels at those elementary schools, receiving descriptive evaluation project in such cognitive domain variables as mathematics, science & Persian and in the extent of meta-cognitive awareness were significantly higher than those of students at schools, not receiving this project. Thus, regarding the last assumption, analyzed this question that "Which evaluation types do the teachers use more for evaluating the elementary school third-grade subjects (Holy Quran, heavenly gifts, social sciences, arts, mathematics, science & Persian)?" the results revealed that the teachers preferred to use descriptive evaluation rather than traditional evaluation for all above-mentioned subjects. It might be because of this reason that they were in direct contact with the students and observed the effects of descriptive evaluation for many times; so, they were inclined to adopt this method. Thus, as a general conclusion based on the above-mentioned findings, it can be stated that the educational policy-makers and authorities should pay special attention the descriptive evaluation of learners and , as far as possible, replace the descriptive evaluation with traditional evaluation; since in another research done parallel with this study, it became clear that descriptive evaluation is educational by itself, and that a teacher, evaluating the students step to step will be able to recognize their strong & weak points and can take essential actions to improve them. More research needs to be done to make clear that what factors cause descriptive evaluation to be effective in students' academic achievement so that the fundamental actions, congruent with found results, be done to make smooth the paths ending in the learners' academic achievement.

6.   References

Hasani,M (2009) a guide to implementing qualitative-descriptive evaluation in the classroom, Tehran, Iran, Abed Pub.

Hasani,M; Ahmadi,H(2006) descriptive evaluation: a modern model in educational evaluation, Tehran: Madreseh Pub.

Bahrami Gahrouie,S(2009) a research on the topic of "analyzing the extent of teachers' and the parents' satisfaction with implementation of descriptive(qualitative) evaluation project at elementary schools in Isfahan

Daviran, S (2007) qualitative evaluation & learning, regarding a academic achievement evaluation & training evaluation, January.

Rezaie,A.A.; Seif, A.K(2007) the effect of descriptive evaluation on students' cognitive-affective & psycho-motor characteristics

Rouhani,A; Maher,F; Aghaie,A; BorjAli,A (2008) descriptive evaluation within traditional system based on the classroom environment, affective features and the elementary school students' creativity , Danesh scientific & research magazine- research in educational sciences, Azad university of Khorasghan, Nom. 14,pp 71-79, 2008

Seif, A.A.(2004) the concept of assessment and its effect on teachers' teaching methodology and students' learning quality, the article combination of the 1st conference of educational evaluation, Tehran: Medicine & Purity

Sharifi Pasha, H (2005) assessing the performance in teaching-learning process, article combination of national-engineering conference of terms in Education, pp 34-323, Tehran, education & training research center

FathAbadi, J. (2007)   "Analyzing the efficacy of qualitative- descriptive evaluation on achieving the cognitive-affective & psycho-motor goals in elementary period in Markazi Province, Iran" M.A. Thesis Dissertation, educational research council of education organization of Markazi Province, Iran

Nakhaie, M (2009) comparison of traditional & descriptive evaluation in students' academic achievement at elementary schools in Tehran, 2008-2009

NickNejad (2008) the effect of evaluation (quantitative-qualitative) on the amount of school anxiety among the third-grade students at elementary schools in Tehran

Rastegar,T.(2008) evaluation at the employment of education, the 6th print, Tehran, Monadie Tarbiat cultural organization publication

Rezaie,A.A.; Seif,A.A (2007) the effect of descriptive evaluation on students' cognitive-affective & psycho-motor characteristics,

hasanZadeh,K(2011) the effect of descriptive evaluation on quality improvement of teaching-learning process among elementary school students in Tehran from the teachers' perspective, academic year 2010-2011, M.A. Thesis Dissertation, Payamenour university

Rozy(2011) analyzing the effect of descriptive evaluation on academic achievement and on the elementary school fourth-grade students' attitude towards school in general, city of Iranshahr, academic year 2010-2011