

## Comparison of the effect of qualitative and quantitative evaluations on realization of cognitive, affective and psychomotor objectives in students

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**Abstract:** The purpose of present study was to compare the qualitative and quantitative evaluation on the realization of cognitive, affective and psychomotor objective in students. This investigation is based on causal-comparative approach. 160 students of third grade were sampled using multistage cluster sampling and completed the questionnaire of mathematics educational progress, assessment of affective characteristics, and teachers also completed physical skills checklists. Results has shown that between two groups there's a meaningful difference and the Quantitative group earned higher scores in comparison to Qualitative group of cognitive variable. Results shown there was not any meaningful difference between the two groups (Quantitative and Qualitative) in terms of affective variable. Results also expressed there is not any meaningful difference between the two groups in terms of psychomotor.

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### 1. Introduction

Doubtless evaluation in educative system has special importance because based on educative system in different levels we can select skillful forces and expert for every society. Educative evaluation in education is the largest and superior element for every country and has a special position. Evaluation for learning is educative appliances not only supervises on students learning and control it, but also increases learning. The important purpose of evaluation is increase the quality of learning. Evaluation is the parcel part of instruction and it should perform mid instruction continuously (Stiggins, 2005) educative evaluation is the process of determination, provide descriptive and judgment information about value or importance of programs educative purpose operation.

Based on two ways form tic and accumulative formative evaluation perform during educative period and at the end of every unit (Waddle, 2004). In formative evaluation the purposes is not giving concession or reproach the students, the purpose is detection of defects and poverty that there is opportunity to reform them. Because of this teacher may not acknowledge the result of evaluation to students and only try to implement or reform the goals or may formative evaluation is done without edit and give score, in accumulative evaluation all taught of students during an educative period are evaluated and its purpose give score to students and

judgment about the effectiveness of teachers work and curriculum or comparison different curriculums together. Also this kind of evaluation is performed to accept or denial person after education and after test, the people don't have any opportunity for compensate (Taras, 2002). Emphasis on accumulative evaluation and dominant of this evaluation cause problems that the important problems are lack of complete implementation goals of education, and also affects such as stress, limit of creativeness (Kretzis et al, 2002) in traditional education, evaluation is final step and it is used for making decision about instead of classification students focus on learning conduction (Krathwhol, 1956).

Evaluation, detect the needs, formulate the goals, provide facilities for learning - instruct and dispel available deficiency in all education section because of its importance and special position in acquisition of base skills. In evaluation system in different levels of goals, methods, tools, need to evaluation modern internationalities are unavoidable in from of terminal and continuous (Quantitative ,qualitative-combinational), traditional (quantitative), methods and based- result divide students to two groups strong and weak ,talented or obtuseness, active or inactive but continuous evaluation method don't obvious students strength or weakness and progress or not progress to higher grade but it follow the answer of this question: where is the student and do what I can do to progress .him/her? Traditional

evaluation that are performed based on accumulative. And in form of written and aural test it seems necessary based on two principals include replication and scholastic progress but it is not enough for conduction and shaping education and learning. As a result in evaluation process two principles are very important: functions of students are studied directly and its results for conduction of making decision, replication and evaluation of educational progress is done physics lesson, her/ his worry dealing with the students problem associate to affective area. (Schmidt.1987)

In affective it can be said children discuss with teachers in class. Working independence is given to them for making decision. They feel relax and they don't any tension and stress to obtain score. The classification of affective area is provided by Krathwol et al (1964) this classification is formed of five classes as follow show: receive, answer, valuation, organize the values and personification. Psychomotor characteristic refers to an activity that has psyche and bodily aspect. Therefore all learning goals depend to actions and dynamic bodily skills must be placed in this area (Stiggins, 2005)

Kibler and colleagues in 1970 classified this area with notice to the sequences of children growth, movement of bodies' organs and coordination between them includes: bodies total movements, subtle coordination movements, no theologian communication behaviors and theologian communication. In general about the importance of qualitative evaluation it can be said the evaluation can influence on student environment and learning direction that everyone is fulfilled as pedagogic valuable goals that system try to fulfill them this goals are include: improve the qualification of in recent years synchronous with any other countries, actions performed in our country for example, council of education at (Waddle, 2004) give mission to general education assistance to change the qualitative scale(0-20) to quantitative scale (descriptive)in students evaluation and they had to do it (Taras, 2002).

Experiments in some elementary schools that have necessary characteristic collection of education council legislate in direction of this change the studies group of preexperimental from second half, winter of 2010. This plan is done after experimental performance and carries out educational examinations for plans executive teachers from autumn year practically in some elementary schools (Kretzis et al, 2002) with notice of explanation the studies questions are include:

1-Is there any difference in qualitative and quantitative evaluation with notice to students access rate to goals?

2- Is there any difference in qualitative and quantitative evaluation with notice to student's access rate to cognitive goals?

3- Is there any difference in qualitative and quantitative evaluation with notice to girl and boys access rate to psychomotor goals?

## 2. Methods and Materials:

This research is casual comparative researcher with attention to dependence variable survey the social cause of its incidence, and tries to realize probability reason from affect. Researchers, first try to gain the influence of qualitative and quantitative evaluation fulfillment of cognitive affective and psychomotor goals by descriptive study and after survey and comparison them accessed to qualitative and quantitative differences and also determine the relationship between the levels of achievement to goals with attention to this kind of evaluation. With attention to this matter that descriptive evaluation plan performed from 2009-2010 in some areas of Yasuj in Iran based experiment so statistical society limited to this area and all three elementary students that are under descriptive evaluation plan and also the schools at the same level of them that are not under this kind of evaluation from a statistical society. in this research total number of society people are 1614 three elementary students from Yasuj, cluster sampling method is used in this research because two groups include, traditional and students who are evaluated by descript evaluation should participated in this research first 40 questionnaire are performed experimentally for determine volume of sample and variance of society was determined by respective formula, volume of sample was determined and estimated 160 person.

In this research with attention to the subject and nature of research the following tools are used:

*2.1. Scholastic Evaluation:* Scholastic progress test in mathematics course is used for scholastic evaluation of three elementary students. This test designed by (Stiggins, 2005). He designed questions according with every level of cognitive area (knowledge, comprehension and perception, application, analysis and combination) with guidance of supervisor master and content of lesson book than they are used for determine variability in view of evaluation and measurement master and experts of elementary education groups of Chaharmahalo-Bakhtyari also this tool have suitable constancy. In this research also thirty version of questionnaire for determine level of constancy are performed introductory after doing reform final performance is done then level of constancy was 83 percent.

*2.2. Affective Characteristics:* questionnaire for evaluation of affective characteristics in recent research life's quality's questionnaire is used for

evaluation of affective characteristics. This questionnaire is provided for evaluation of affective characteristics about elementary students by Ainley and Bourke in 1992 (Stiggins, 2005). This questionnaire is formed of 39 question and consists of seven scale that two scale are general (general satisfaction and negative emotion) and five scale are dedicated (social conjunction opportunity, progress and successful). In this research constancy coefficient of Cronbach's alpha total questionnaire (39question) is equal to 90 percent and Alfa constancy for particle of questionnaire scales was from 68 percent to 85 percent. Researcher in this research for cultural adjustment with society contemplation in research deleted some of questions. Derivative's questionnaire have 31 question that it s constancy was 90 percent.

2.3. *Check List of Bodily Skills for Evaluation of Psychomotor Characteristic*: check list of bodily skills is used by (Stiggins, 2005) for evaluation of psychomotor area. This check list is designed based on educational expectations in physical education lesson and by use of instruction method books in elementary period and also guidance for descriptive evaluation performance and it is used for evaluation the level of access to goals of psychomotor area. It is constancy coefficient is estimated about 91 percent by maker and it s reliability is trust worthy because evaluation is designed based on available educational expectations in instruction method books in elementary and guidance period and this expectations are formulated by experts of planning. Also in this research thirty version of questionnaire is performed to determine level of constancy then after doing reformation final performance is done and its constancy was 83 percent.

**3. Findings:**

The research hypotheses are examined in this section:

1- Is there any difference between qualitative and quantitative evaluation in level of students (girl and boy) access to cognitive goal?

It wasn't meaningful based on findings in table (2) about interaction of groups and sexuality (p< .05).

Table 1. Means of access cognitive goals in two groups

scales	groups	Mean	SD
qualitative	boys	15.35	3.44
	girls	14.56	3.05
quantitative	boys	16.66	2.71
	girls	16.05	4.32
total	boys	15.84	3.23
	girls	15.47	3.39

Table 2. Results of ANOVA between qualitative and quantitative groups in cognitive goals

Source of changing	df	f	p	Eta <sup>2</sup>	OP
group	1	5.85	.02	.04	.68
sexuality	1	1.46	.22	.09	.22
Group* sexuality	1	.02	.88	.01	.05

Therefore there isn't difference between cognitive evaluation in two groups based sexuality level of about sexuality in p<.05 wasn't meaningful Therefore there isn't different between cognitive evaluation in girls and boys.

2- Is there any difference between qualitative and quantitative evaluation in level of students access to affective goal?

Table 3. Means of access to affective goals

scales	groups	Mean	SD
qualitative	boys	138.48	10.94
	girls	142.19	12.00
quantitative	boys	137.13	13.91
	girls	138.79	14.78
total	boys	137.99	12.07
	girls	140.11	13.79

Table 4. Summary of analysis test of affective goal in two qualitative and quantitative evaluation group

Source of changing	df	f	p	Eta <sup>2</sup>	OP
group	1	1.26	.26	.01	.20
sexuality	1	1.61	.20	.01	.24
Group* sexuality	1	.23	.63	.01	.07

It wasn't meaningful based on findings in table (4) about interaction of groups and sexuality (p< .05).

Therefore there isn't difference between affective evaluation in two groups based sexuality level of about sexuality in p<.05 wasn't meaningful. Therefore there isn't different between affective evaluation in girls and boys.

3- Is there any difference between qualitative and quantitative evaluation in level of students access to psychomotor goals?

Table 5. Means and standard deviations of access to psychomotor

scales	groups	Mean	SD
qualitative	boys	19.90	3.99
	girls	21.35	4.03
quantitative	boys	21.70	1.39
	girls	20.24	2.85
total	boys	20.57	3.37
	girls	20.67	3.83

Table 6. Results of ANOVA between qualitative and quantitative groups in psychomotor goals

Source of changing group	df	f	p	Eta <sup>2</sup>	OP
group	1	.40	.52	.03	.10
sexuality	1	.01	.1	.01	.05
Group* sexuality	1	7.25	.09	.04	.47

The value of F wasn't meaningful about group in level  $p < 0.05$ . Therefore there isn't any meaningful difference between psychomotor evaluations in two groups.

Based on table finding f (table6) wasn't meaningful about interaction between group and sexuality in level  $p < 0.05$ . Therefore there isn't difference between psychomotor evaluation about girls and boys.

#### 4. Discussion and Conclusion:

Recent research survived comparison of influence the qualitative and quantitative evaluation on fulfillment the cognitive, affective and psychomotor goals in students.

The results show that there is meaningful difference between two group qualitative and quantitative based cognitive variable quantitative group obtained higher scores than quantitative group while in some previous researches (Kretzis and fellow workers 2002) qualitative group obtained higher scores. Kretzis and fellow workers 2002 in his research showed that continuous tests don't have meaningful influence on increase of scholastic function, but in (Krathwhol. 1956) research in mathematics lesson scores of quantitative group where higher than qualitative group.

This anisotropy in obtained results from this research than previous research may be because of different reasons: Perhaps familiarity with quantitative methods and students and teachers habit to that methods cause that they pay attention to this evaluation and credibility of This methods for them are higher than descriptive methods because in view of students and families it is important to obtain high score. Obtain a high score in mathematics lesson in research (Schmidt.1987) approved this Mather specially Obtain a high score is important because mathematic lesson is important for students and teachers. Anoder reason is that Perhaps better function of student (in qualitative group) is The result of better instruction .Third reason can be result of feedback of students function based on actual criterions(give score accurately) that this accurate feedback help to them to remove the mistakes and improve the function or scholastic progress.

The results show that there isn't meaningful difference between girl and boy students in two

qualitative and quantitative group based on cognitive variable (mean of qualitative group in boys and girls was 15.35 and 14.56 respectively and average of qualitative group was 16.66 and 16.05 respectively). The results of this research are not co extensive with the results of (Shepard, 2000) research it seems one of the reason is that because learning in the cognitive elementary level (mean knowledge and perception) it isn't see significant difference between girls and boys.

The results of analysis the data show that there isn't meaningful difference between two groups based affective variable The results of this research is consonant with (Kretzis and fellow workers 2002) research this analogy may be because of cultural condition in Iran society in which view of students and families toward schools is positive or it may be the result of relations good that this matter from a very desirable atmospheric in school and finally satisfaction from schools environment will be increased.

The finding shows that there isn't meaningful meaning between girls and boys student in two group qualitative and quantitative based affective variable. (Average qualitative group in boys and girls was 138/48 and 142/19 respectively and average quantitative group was 137.17 and 138.79 receptively. The results of this research is consonant with the results of (Kretzis et al, 2002) research but it is disparate with the results of (Schmidt.1987) and (Schmidt, 1987) research. Kretzis in his research show that girls and boys students under quantitative evaluation plan. Based on researches experience of students from class environment personality factors especially self-esteem (Kretzis et al, 2002) and control of students behavior in lesson class (Schmidt.1987) are important factors for life quality in school. But in Iran expect class experience another factors such as sights and view of families and instructors show that from childhood period appositve sight toward knowledge education is created in them. The results showed that there isn't meaningful difference between groups based psychomotor variable and it s reason is that teachers don't use distinctive especial scale for corporeal bodily activities. The results of this research is disparate with the results of (Waddle, 2004) research. He concluded that there is meaningful difference between two qualitative and quantitative groups that one of reasons is cultural difference.

Finally the findings showed that there isn't meaningful difference between girl and boy students in two qualitative and quantitative group based psychomotor variable (average qualitative group in boys and girls was 19.90) and 21/35 respectively and average quantitative group was 21.70 and 21.24

receptively). The results of this research is contractive with (Taras, 2002) research his research show that level access to bodily dimension goals for students under descriptive evaluation is higher than quantitative evaluation the reason is that where as students are in primitive levels of this skills don't see any significant difference.

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