

## **Comparative analyze of cooperative teaching techniques effects relying on Jig Saw technique with questioning method on academic achievement in Quran curriculum in elementary schools of Urmia**

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**Abstract:** Goal of this research is to analyze effects of cooperative teaching techniques relying on Jig Saw technique and questioning method on academic achievement in Quran curriculum in elementary fifth grade in comparison with lecture method. Method of research is quasi- experimental and statistical population contains all of the girl students who are studying in fifth grade elementary school in zone 1 of Urmia in academic year 90- 91 (2011- 2012). Sample volume is 71 persons that among these 45 ones settled in trial group, 21 ones settled in cooperative learning group based on Jig Saw technique, 24 ones in questioning group and 26 ones in witness group. Research tool in both groups was standard test of training and educating organization in the field of academic achievement in Quran curriculum in elementary fifth grade. Results of T- test showed that in both groups (cooperative learning based on Jig Saw technique and questioning) there is a significant difference between average of students scores after exam and before exam, this means that average of students scores after exam is more than their average scores before exam. Also results of Kovariance analyze test showed that effect rate of stated two methods in determining student's academic improvement in comparison with control group is the same and statistically there is no difference between them.

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### **1. Introduction**

#### *Matter expression*

One of the active methods that is regarded by most of the training experts today and is considered as a new approach in teaching is cooperative learning. Zu- chun Lin (2011, P2) believes that cooperative learning promotes team work that knowledge structure is acquired through discussion among group members. In other words cooperative learning term, cites to a kind of training model that students are organized into small groups in it and in addition to supporting their learning they have sense of responsibility to others and try to get their learning and other's to maximum level as much as possible (Keramati, 2005). One form of cooperative learning that has attracted attention to it in recent years and is based on Aronson social psychological analysis is called Jig Saw method (Hanze and Berger, 2007, P 30). Jig Saw is a kind of approach or cooperative strategy that keeps away itself from most of the problems that groups may face with it (same source). Tsai, Pei- Ling (2007) mentions to cooperative approach as one of the best methods that teachers can use it and Zun- Chun lin (2012, P2) knows it as one of the most effective tools in teaching and a potential way in learning, while in Iran's new education system it is offered as a desirable teaching pattern ( Behrangi

and Aghayari quotes, 2004, P 38). In this cooperative pattern students are organized into groups for studying one unit of book. And then each of the group's members studies one part of that unit and is responsible to educate it to other members. This means that they are bound to educate their instructions to others. However it is possible that results which are obtained from students challenges for learning their related content be different but needed responsibility is granted to all of the students with different abilities (Behrangi and Aghayari, 2005, P41). Second variable of this research is another approach of active teaching method. This approach that is called Socratic Method is questioning method, it is a kind of method that through it teacher encourages students to think about a new concept or express an issue. In this method student tries to move from active to passive through mental efforts (Shabani, 2012, P142). This method is a non- linear one and is considered as non- direct teaching of teaching method's classification. In questioning method teacher asks clear questions in relation with content, concepts, academic rules, and materials and then gives sufficient time to students to think about answers. Question in class is considered as verbal response and answer is considered as reaction. Questioning method is used in every academic grade.

In some classes this method is superior to others (Fathi Azar, 2004, P252). On the other hand Quran- e Karim as Muslim's bible contains the most unique instructions for improving human life. This holy book has a special and valuable position in all of the human societies and particularly in world of Islam. So Quran as a rich source of divine leads man to think about himself, physical world, other world, time and place... and at the same time advises him to educate his sense through this way (Keshavarz, 2010, P 1813). It is considered as one of the most important, precious topics of training future generation. Meantime it is needed that elementary schools teachers that are as founders of substructure that play the most basic and the most important role and chain during academic life of people, being equipped with arrays and important teaching methods, particularly those methods, efficiency of which are verified in various researches, and be able to provide more success in various sections through making more rich the emotional and cognitive status forward various curriculum. According to acknowledgement of most of the psychology, psychiatry, and sociology schools, experiences and learning that occur in this period are the most important determining factors of people's character and mental health (Molla Zamani and Fathi Ashtiani quotes, 2006, P62). According to above instances and regarding Quran training importance, this research is intended during an experimental study to analyze effect of stated two methods (cooperative teaching with Jig Saw type and questioning) that most of researches show it's efficiency in curriculum and attitude upgrading in fifth grade elementary student's academic improvement. And seeks to answer that whether using these two methods in a curriculum such as Quran impresses or not. Which one of this methods is superior? And finally is it possible to help advancing curriculum goal and to provide success funds for students or not?

## 2. Research method

In this research regarding this goal that researcher was intended to analyze effect of cooperative teaching relying on Jig Saw technique in comparison with questioning teaching on Quran curriculum improvement in elementary fifth grade, and on the other hand regarding impossibility of monitoring and controlling all variables in research so quasi- experimental design research with pre- test and post- test along with witness group is used. Statistical population in this research contains all of the girl students studying in elementary fifth- grade in zone one of Urmia in academic year 90- 91 that according to obtained information from teaching and training organization they are 3050 persons. Sampling method in this research according to issue

and nature of research and also necessity of researchers teaching in real class with all it's particular features (and decreasing interventions in particular features of class), sampling will be available. Regarding that researcher himself is teacher and is teaching in academic zones of Urmia so he selects three academic classes that are equal in various dimensions (like scientific level, and family's cultural- social situation) and in one class considers Jig Saw teaching method, in another class questioning method and finally in third class considers witness group and performs necessary interventions. According to quasi- experimental design of research method 45 persons are placed in two trial groups and 26 persons are placed in control group. In this research standard academic improvement test of training and educating organization is used for evaluating rate of student's academic improvement. This tool that is designed for fifth grade elementary student's final evaluation, at the end of each semester is done as follows:

It should be said that according to following matters and in sum each student can in maximum obtain 2 encouraging scores:

1. Reading verses, approximately like educating tape.
2. Fluency in reading of about half of a full page.
3. Memorizing one page (or nearly one page of various verses) from Quran curriculum pages.
4. Memorizing at least 4 Quran messages of those that are educated in semester.

### 3. Method of deducing points in final evaluation

A: reading:

1. Deducing point due to wrong reading: for each wrong word (0.5) point deduces. If the wrong word is corrected- whether by student himself or by teacher's notification- no point will be deduced. And if a wrong word is repeated just one point will be deduced.
2. Deducing point due to quality and reading pace: if student can't read Quran verses and phrases normally and fluently or has a lot of pauses or reverts according to rate of deficiency, 2 points will be deduced in maximum.

B: Quran message: if student after reading text and translation of it is not able to explain it or give a sample of it or presented explanation is irrelevant to message point of message would not be deduced or according to the rate of deficiency the point will be deduced. It should be stated that researcher with inspiration of above matters determines some schedules separately for each student and score of each one is specified through it.

### Design of research

Schedule 1 shows the design of research (pre- test and post- test with witness group).

#### 4. Research result

First question:

Whether cooperative teaching method relying on Jig Saw technique is effective in student's Quran curriculum academic improvement in elementary fifth grade or not?

To answer this question and examining that whether student's pre- test scores in cooperative teaching group is different with their post- test scores, T- test is used in two correlative groups.

Descriptive criterion related to this question is reported in schedule 1.

Schedule 1: descriptive criterion of cooperative teaching group.

According to above schedule students average in post- test is more than pre- test. T statics also shows that this difference is significant in 0.001 level ( $t = -7.62$ ,  $sig = 0.001$ ). According to this result it can be concluded that cooperative teaching method relying on Jig Saw technique is effective in increasing student's academic improvement scores.

Second question: whether questioning teaching method is effective in students Quran curriculum academic improvement in elementary fifth grade or not?

To answer this question and examining that whether student's pre- test scores in questioning teaching group is different with their post- test scores, T- test is used in two correlative groups.

Descriptive criterion related to this question is reported in schedule 2.

Schedule 2: descriptive criterion of questioning teaching group.

According to above schedule students average in post- test is more than pre- test. T statics also shows that this difference is significant in 0.001 level ( $t = -6.98$ ,  $sig = 0.001$ ). According to this result it can be concluded that questioning teaching method is effective in increasing student's academic improvement scores.

Third question 5- 4

Is there a significant difference between effects of cooperative teaching method relying on Jig Saw technique with questioning teaching method in student's academic improvement of Quran curriculum in elementary fifth grade?

To answer this question Covariance analyze test is used for controlling student's pre- test scores and effect of cooperative and questioning teaching method on their scores. Also post- test scores of control group used for comparing effect of these two methods with normal methods on academic improvement. In schedule 3 results of examining regression grade for test of being appropriate using Covariance analyze are reported. Grade test examines this matter that whether covariance is equal between

pre- test and post- test In 3 cooperative questioning and controlling group.

Schedule 3: results of regression grade test for examining compatibility of group's covariance matrix in pre- test and post- test scores.

As f statics are not significant in schedule 3 it can be concluded that regression grade in three groups was not equal and covariance analyze test can be used.

Group's descriptive criterions are reported in schedule 4.

Schedule 4: group's descriptive criterions in post- test

According to above schedule with controlling student's pre- test scores, group's difference with each other is significant ( $F = 13.07$ ,  $sig = 0.001$ ). Rate of effect also shows that group membership variable determines 28% of students post- test changes. Also statistical square 1 shows adequacy of sample volume for performing covariance analyze. For more examining of group's difference results for pair comparison of groups are reported in schedule 5.

Schedule 5: results of pair comparison of cooperative teaching method, questioning and control groups.

According to above schedule cooperative teaching method is significant with control group in 0.001 level. As average of cooperative method is high it can be concluded that this method has more effect on increasing student's scores than control group. Average of questioning method is also more than control group and is significant in 0.002 level. So questioning method has more effect on increasing student's scores than control group too. Also result of schedules 9- 4 shows that there is no difference between cooperative and questioning method. So both methods are effective on increasing student's scores equally.

#### Discussion

Results showed that average of students scores in post- test is more than their average in pre- test so it can be stated that cooperative teaching method relying on Jig Saw technique was effective on increasing student's academic improvement scores. In this field various researches are reported that students who are participating in cooperative groups prosper more academic improvement. Researches of Keramati (2002), Geravand (2004), Payami Bosari, Fathiazar and Moosavinasab (2006), Karimi (2007), Khaledi et al (2011), Keramati and hoseini (2008), Yarani, Kadivar and Mirzakhani (2008), are of those that totally consist with this research. Also average of student's scores in post- test is more than their average in pre- test so based on this result it can be stated that questioning method was effective in increasing student's academic improvement scores.

Expectation level	score	Evaluation rate	Evaluation matters
Reading normally and fluently	9	4 lines	Reading verses of first sessions of each curriculum
Reading gently and clear	9	4 lines	Reading verses of last sessions of each curriculum
After reading Quran message and it's full translation be able to explain message with his expresses or give a sample of it by using illustrations or without them.	2	2 messages	Quran message
	20	sum	

Schedule 1: design of research (pre- test and post- test with witness group)

post- test independent variable	pre- test choosing and replacing randomly			Group
T <sub>2</sub>	X	T <sub>1</sub>	R	Trial
T <sub>2</sub>	X	T <sub>1</sub>	R	Trial
T <sub>2</sub>	-	T <sub>1</sub>	R	Witness

Average s- error	s-error	average	No	situation
0/41	1/88	17/43	21	Pre- test
0/40	1/87	18/49	21	Post- test

Schedule 2: descriptive criterion of cooperative teaching group.

Average s- error	s- error	average	No	situation
0/39	1/90	17/81	24	Pre- test
0/32	1/59	18/56	24	Post- test

Significant level	F statics	Mean of squares	Freedom degree	Sum of squares
0/15	1/94	0/42	2	0/84

Schedule 3: results of regression grade test for examining compatibility of group's covariance matrix in pre- test and post- test scores.

s- deviation	mean	No	group
1/88	18/49	21	cooperatvee
1/59	18/56	24	questioning
1/85	17/93	26	control
1/77	18/31	71	Total

Schedule 4: group's descriptive criterions in post- test

Significant level	s- error	Mean difference	group	group
0/06	0/14	0/37	questioning	cooperative
0/001	0/14	0/70	control	cooperative
0/002	0/13	0/43	control	questioning

So many researches are indicated about this hypothesis that questioning method is effective in student's academic improvement. For example it can be cited to researches such as Hajbagheri (2008), Mokari Agh Esmaili (2010), Talebi et al (2010) that

state very positive effect of above method and consist with results of this research very well. Effect of cooperative learning was a little bit better than effect of questioning method on student's academic improvement but this effect was not statistically

significant. In other words statistically both methods were equally effective on increasing student's scores and there was no difference between cooperative and questioning group. In researches of Mokari Agh Esmaili (2010) and Haj Bagheri (2002) there was no difference between these methods in promoting students academic improvement that consists with results of this research.

### 5. Suggestions

1. about using results of this research it should be stated that regarding positive effects that cooperative learning generally and Jig Saw technique particularly and also questioning method had on student's academic improvement in Quran curriculum it is suggested to teachers and incharges to conduct these methods in teaching Quran lessons and evaluate results exactly in a long process.

2. regarding managers basic role in collecting facilities, particularly for conducting cooperative learning, it is needed to settle educational classes for managers to make them able to cooperate with teachers in conducting this design.

3. Considering necessity of correct conducting of cooperative learning with the Jig Saw type in curriculum classes, it is advised to teachers to become familiar with practical and theoretic grounds of this method through instructions interim working and regarding necessity of concordance with parents and their important role in cooperation with teachers, educating- explaining periods should be settled for them.

4. It is advised to collectors of curriculum books and educational planners to design content of book in such a way that leads teachers to active methods of teaching like above methods. It is suggested to the teachers who are teaching in education system to truly and friendly cooperate with each other and settle consulting sessions and find resolutions for problems that see in this way and discuss about them to provide a successful conduction of these methods.

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