

Effective Methods of Teaching in Sciences with a Religious Approach

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Abstract: There are various methods of teaching in sciences the application of which is totally helpful for learners. The methods that contemporary psychologists have allegedly discovered through their experimental researches have already been cited in Holy Qur'an fourteen centuries ago in a more precise form and opened new chapter in education. As the book of guidance of humankind and perennial record of divine laws, Holy Qur'an has taught these educational methods to the man by way of indication or elaboration. Through its deep excavations Holy Qur'an has provided human instructors with practical lessons which are ever-applicable in educational sciences and their related fields in all times and every context. These pedagogical methods have frequently been used by Holy Prophet (SAW), Immaculate Imams and also such prominent Islamic instructors as Ibn Khaldun, Avicenna, Ajori, Khatib of Baghdad and etc., for instructing the believers. These methods could be articulated in three categories as follows: 1) gradual method 2) dialogical method 3) repetition based method.

[Seyed Taghi Kabiri, Kobra Rahimzadeh. **Effective Methods of Teaching in Sciences with a Religious Approach.** Journal of American Science 2012; 8(3):150-154]. (ISSN: 1545-1003). <http://www.americanscience.org>. 18

Keywords: educational methods, gradual, dialogue, repetition.

1) Problem Setting:

It has been asserted in Holy Qur'an that: "*And it is not righteousness that you should enter the houses at their backs, but righteousness is this that one should guard (against evil)*" (Albaghara 2: 189) and it has been narrated from Imam Muhammad Bagher (P. B. U. H) in the interpretation of this verse that "everything should be done in its own way" (Hakimi, 2001: 311/1).

The abovementioned holy verse alludes to the rational principle of decision of right way of doing something from the existed ways which has also an indispensable significance in education and the realization of its objectives; since if we do not pace on the right path our educational aims would never come true and thus our educational system will remain barren. Thus, pedagogical methods should be dealt with as the focus point of every educational system.

There are, hence, various effective methods of teaching in sciences among which we only debate on three methods that have been emphasized on in Holy Qur'an and prophetic traditions and have also been indicated to in psychology and educational sciences that is gradual method according to which learning is a gradual and step by step process that is done through various stages, dialogical method or question/answer method which aims at correct thinking it is indeed a reflective movement that leads the learner to knowledge and makes learning a pleasurable process and repetition based method that plays a constructive role in human affairs we could say that repetition is an appropriate method for learning for the positive dispositions come as an

effect of frequency of practice and repetition on which we debate in more details below:

2) Gradual method

Among the educational methods that have been reiterated in Holy Qur'an and prophetic traditions is gradual based method that leads the learner to his final destination step by step the application of which in education brings success and has been endorsed as an appropriate method in learning by Muslim thinkers and experimental researches of contemporary psychology also show that learning distribution or practicing it during a long span of time with several breaks helps the learners to stabilize their learnt stuffs in their memories. These latter researches have also shown that this method of learning is much better than learning through concentration according to which learning is performed during a continual span of time without any break. This method has also been applied in Holy Qur'an as it has been transmitted to the believers by Holy Prophet in 23 years may they be able to learn and imbibe its concepts and messages. And this has strongly assisted the believers to fathom and memorize Divine Word and if it was wholly descended within a short period of time it would hardly be understood and memorized (Nejati, 1997: 263).

3) Gradual Method of Education (Teaching)

God has sent the Scriptures and Holy Prophets to guide the people and also he did this gradually; as the child enters the school and thrives step by step until he/she comes to higher stages of knowledge and

morality; in the same way the Lord sent his holy prophets and descended holy words by some of them until it came to Muhammad the Last Holy Prophet and his Holy Book Qur'an the perfect book as God himself describes: "*This day have I perfected for you your religion and completed my favor on you and chosen for you Islam as a religion*" (Al-Ma'edah 5: 3). This verse is a witness to the perfectness of Islam and the Holy Word that God has descended to the believers by it as the epilogue of revelation. Moreover, Holy Qur'an has abided by the policy of graduality in two cases that is both in communication and expression; although it could be descended at once but it has simultaneously been communicated and applied to human affairs step by step and in a gradual manner.

4) Graduality in Communication and Expression

Holy Qur'an has paid a serious attention to graduality as it has been descended to Holy Prophet Muhammad (SAW) during 23 years so the people could gradually learn it and imbibe its concepts and meanings and this has been helpful in understanding and memorization of Holy Qur'an; because if it was descended at once the believers would face many problems in fathoming Divine Word.

Not only God has descended the Holy Qur'an in a gradual manner he has also expressively described the philosophy of this graduality in Qur'an: "*And it is a Quran which we have revealed in portions so that you may read it to the people by slow degrees, and we have revealed it, revealing in portions*" (Al-Isra' 17: 106).

That is to say, Holy Qur'an has been descended in a long period of time (23 years) so the believers could operationalize its ideas in their life and this also implies that Qur'an is a book that is not merely a didactic record but its contents are supposed to be operationalized. If all holy verses were descended at once it would have to have been operationalized wholly at once too, because the reformation of a corrupted society could not be done in one day, thus, Holy Qur'an was descended in 23 years so it could be operationalized thoroughly in Muslim community and the believers be able to imbibe the Qur'anic concepts (Makarem Shirazi, 1994: 12/48).

The Lord has descended Holy Qur'an in a gradual manner to make its learning and memorization easy for Muslims, because they were only relied on their own intelligence and memory as there were scarce resources of stationery available for literate Muslims. However, if Holy Qur'an was descended at once, Muslims could not memorize and imbibe them (Sabuni, 67; Ramyar, 203).

God has thus described the process of communication and expression of Holy Qur'an: "*And*

those who disbelieve say: why has not the Quran been revealed to him all at once? Thus, that we may strengthen your heart by it and we have arranged it well in arranging" (Al-Forqan 25: 32).

This verse explains why the Divine Word has been revealed to Holy Prophet not at once for divine knowledge needs an extended heart to dwell in and 23 years was an opportunity for Holy Prophet to extend his heart for divine truths and thus the believers who are to memorize and imbibe the holy verses should extend his/her heart a la Holy Prophet before anything else (Hosseini Hamadani, 1404: 467/11).

The teaching of sciences, in general and practical sciences, in particular, is done in a gradual manner that is to say that the teacher teaches the chapters of that science to his pupil one by one. It is so that teaching and learning results in an outline of learnt subjects (Tabatabaei, 1417: 210/11).

As Ibn Khaldun has once said: learning is a gradual process that the pupil goes through as he is initially unable to understand the problems unless through sensational estimation. Having wrestled with technological issues, then, his understanding gradually becomes flourished and thus he specializes himself in technology, but if he was taught the telos of knowledge from the very start his mind would certainly fail to understand it. His mind will become exhausted and presume that knowledge is essentially difficult and refuse to learn (Introduction, 2, 2006, 1130).

5) Graduality in Practice and Comparison

Islamic texts not only have dealt with graduality in "communication and expression" but they have also placed a strong accent on practice and comparison. The interpreters are of the belief that graduality has its root in traditions and human behavioral facts since it is human mental and spiritual relationship with a behavior that makes it impossible to give it up. If human traditions to be fought abruptly nothing would be gained but failure.

Eradication of some strong and ill-looking habits that have been done for a long period of time insofar as they have become an inseparable part of one's behavior, then, is not a simple task for many people because it needs a strong will, great deal of effort and continuous practice and this is not within the limits of many people's capacity. The best way for being relieved from bad habits is acting by way of graduality, thus. As there were many ill-looking habits among Arabs before the emergence of Islam and it was hard to tell them to leave their bad habits. Thus, Islam used two methods for treating these habits. The first method is treatment adjournment until the time that faith dwells in their heart and helps them to replace their bad habits with good ones

(Nejati, 265). It is the reason why those verses of Holy Qur'an that have been descended to Muhammad in Mecca univocally invite the people to monotheism (Ramyar, 1985: 204; Hojjati, 2005: 48).

The second method that Islam proposes for releasing Muslims from their ill-looking habits is gradual mental preparation of them. Qur'an used the latter method as the treatment of wine drinking (binge) and usury, that is to say, it initially made it disgusting in the eyes of the community without outlawing it. It proscribed Muslims from wine drinking in the next step. The first verse that was descended on wine drinking tells that the harmful effects of wine are more than its positive effects. As you can see it for yourself, this made the wine disgusting in the eyes of Muslims and Prophet's disciples set it aside while there were still Muslims who drunk (Nejati, 1997: 266; Hojjati, 2005: 51).

God says: *"They ask you about intoxicants and games of chance. Say: in both of them there is a great sin and means of profit for men and their sin is greater than their profit. And they ask you as to what they should spend. Say: what you can spare. Thus does Allah make clear to you the communications, that you may ponder"* (Al-Baghara, 2: 219).

After the revelation of abovementioned verse, Holy Qur'an strongly forbade Muslims from wine drinking. This was done when some of Prophet's disciples were drunk and read the Holy Qur'an wrongly. Thus, Holy Qur'an forbade praying for drunken men (Hojjati, 2005: 51). And God revealed the following verse to the Holy Prophet: *"O' you who believe! Do not go near prayer when you are intoxicated"* (Al-Nesa', 4: 43).

Thus, Muslims were obliged not to drink wine five times a day and this mentally prepared them for the next stage that is complete abandonment of wine drinking.

"O' you who believe! Intoxicants and games of chance and (sacrificing to) stones set up and (dividing by) arrows are only an uncleanness, the Shaitan's work; shun it therefore that you may be successful/ the Shaitan only desires to cause enmity and hatred to spring in your midst by means of intoxicants and games of chance, and to keep you off from the remembrance of Allah and from prayer. Will you then desist?" (Al-Maede, 5: 90-91).

As we can see Holy Qur'an used a gradual method for eradication of intoxication. If the intoxication prohibition was pronounced in Mecca it would work negatively but it is done in Medina when the believers have mentally become ready for the prohibition.

Ibn Khaldun is of the belief that human knowledge receptivity is a gradually perfected capacity and develops as human mind gets involved

in technical problems. Foreign languages should be learnt after learning one's vernacular (mother tongue) (Introduction, 2, 2005: 1130).

Therefore, gradual method is the best educational method that has been indirectly indicated in Holy Qur'an and prophetic narrations and the method that contemporary psychological researches have endorsed.

1) Dialogical Method (Question and Answer Method)

Question/answer is the method through which the teacher encourages his/her pupils to think about a new concept. In this method learners try to move toward the unknown from the known.

In this method, teacher does not teach the new materials directly but incites the minds of his/her students through previously designed questions to discover the new concepts by intellectual cultivation. But these questions should be designed more consciously with the intention of provoking students' minds (Sha'bani, 1998: 294).

The main goal of this method is showing a way of thinking to the student. This method is indeed an intellectual movement which leads the learner to knowledge and strengthens human epistemic faculties (Kadivar, 2002: 155).

Question and Answer in Education

Islamic teachings have represented the dialogical method of question/answer in academic places as a method for intellectual equilibrium and an epistemic virtue (Ghanimeh, 1992: 258).

In this method the learner is not merely a listener but he/she is an active moment in the process of learning, thus, the teacher is obliged to incite learners' minds by his/her questions and the student is told to not pass his unknowns into silence (Arasani Gilani, 1996: 54).

A strong accent has been placed on this method in several verses of Holy Qur'an as in the following verse that the Lord says: *"And we did not send before you any but men to whom we sent revelation-- so ask the followers of the reminder if you do not know"* (Al-Nahl, 16: 43).

Having asked inciting questions, thus, Holy Qur'an encourages its addressee to think and challenges his/her mind and helps him/her to cultivate his/her intellectual faculties and makes the learning a pleasurable activity insofar as Holy Prophet Muhammad and Immaculate Imams (SAW) have been benefited by this method and have used it in their teachings; Holy Prophet used this method to challenge the believers' minds and internalize Divine Words in their souls.

Therefore, dialogical method of question/answer has initially been used in Holy Qur'an and Holy Prophet and Immaculate Imams have strongly emphasized on it insofar as scholars define the question as a half of the knowledge. This method came to the throne in the 2nd century and the scholars largely used it and Ibn Abbas made it his method and was of the belief that this is the method through which intellectual talents could be detected (Ghanimeh, 1992: 258).

Then this method aims at recognition of talents and incitation of thoughts, capabilities, interests, strengthening argumentation faculty, evaluation and judgment, benefiting from past experiences and giving self-trust to the students" (Sha'bani, 1997: 295).

Taking previously debated points into serious account it becomes clear that the development of knowledge hinges upon dialogical method of question/answer. Thus, Islam describes the method of question/answer as an indispensable educational method.

2) Repetition Method

One of the educational methods that has been emphasized on in Holy Qur'an and has frequently been used by Holy Prophet and Immaculate Imams in expression of divine truths but their repetitions of these truths are not tedious tautologies.

Then, repetition plays a constructive role in human issues as it reveals new aspects of the truth and pushes forward educational plans.

Repetition Method in Education

Holy Qur'an is a book for humankind and education needs some significant points to be repeated may it deeply affect the reader's mind but this repetition must be done in multifarious forms.

Qur'anic repetitions have been done for different purposes. For example, a story might be multidimensional and its many educational messages would not come to an end with one recitation; every time one specific aspect of it becomes revealed (Ma'refat, 1385: 529).

Imam Khomeini has beautifully elaborated on the etiology of Qur'anic use of repetition method: you know that Holy Qur'an is a miracle and it has been descended for the development of humankind. Human evolution needs many pints to be repeated. If you are to train a baby you should severally repeat one issue in different forms (Sahifeih Noor, 1996: 153/9).

Undoubtedly, prescribed religious rites are repeated to be internalized in believers' minds (Ibn Sina, 2003: 491).

Different Qur'anic exegeses have elaborated on the significance of repetition:

"Repetition is a reaction to human inappeasable ego that resists moral advices" (Kashani, Tafsir e Safi, 1415: 320-4; Sabzevari, 1419: 156/9; Kashani, Zondatol Tafasir, 1423: 73/6; Tabarsi, Javameol Jame: 1997: 453; Thaghafi Tehrani, 2010: 493; Kholasatol Manhaj, 1994: 116).

There are many verses in Holy Qur'an that God has frequently spoken of the Hereafter, paradise bounties, hell, Adam and Eve, and the Devil's enmity with humans and other similar issues to internalize eternal truths in the heart of the believers.

The repetition of such divine issues as hereafter, paradise, hell, Qur'anic parables is not boring but it is provocative and interesting and an important principles of eloquence to convince human beings of eternal issues (Hossein Shah Abdulazimi, 1363: 236; Makarem Shirazi, 1994: 433/9).

Generally speaking, repetition of ideas has led to their internalization in peoples' minds. The researches of contemporary psychologists have also confirmed the importance of repetition in learning (Nejati, 1997: 248).

Therefore, repetition and practicing are key methods of learning in education. These methods help the learners of sciences and techniques to be specialized in their fields of study.

Conclusion

Therefore, it is wisely contrived educational methods that make educational efforts effective. The methods that have been derived from Holy Qur'an and prophetic traditions could pave the way for contemporary education as their application by Holy Prophets, Immaculate Imams and great Muslim instructors revolutionized the Islamic culture and civilization in early days of Islam. Then we should use the method of graduality in teaching sciences specially those sciences that is associated with practice so the learner could specialize himself in that technique step by step in the same way that Holy Qur'an has gradually been descended to Muslims and Islamic laws have been dictated to Muslim community step by step like the ban of wine drinking and usury.

The dialogical method of question/answer should also be applied in education as it is an intellectual movement that leads the learner to knowledge. The learner is not a listener in this method but he has an active role in learning and thus his intellectual faculties become cultivated and the learning becomes a pleasurable process and his spirit once becomes thirsty of knowledge. And finally the method of repetition whose role in learning is totally

indispensable both mentally and physically as perfection is a fruit of practice.

Of course, educational methods are not limited to the methods that have been dealt with in this essay but there are other kinds of educational methods that might be discussed in other essays.

Acknowledgements:

Authors are grateful to the Department of Theology, Khoy Branch, Islamic Azad University, Khoy, Iran for support to carry out this work.

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2/13/2012