Explanation of Learning Opportunities of Rationality (aql) Curriculum based on Islamic Resources

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Abstract

The main aim of the present study is developing and validating learning opportunities` for rationality curriculum. The research method was Mixed Method and the qualitative and quantitative methods have been used to carry it out. The statistical sampling in the qualitative section consisted of all curriculum experts, out of whom 11 were selected using goal-oriented sampling. The quantitative statistical sampling comprised of 352 elementary school teachers whom were selected using cluster sampling. The research data were collected from content analyzing, semi-structured interview and researcher-made questionnaire. In order to determine the validity, content validity and to check the structural validity, operating analysis, and to estimate the reliability of the questionnaires, Cranach's alpha coefficient was used. The findings showed that the results obtained in the qualitative section are in agreement with those obtained from the qualitative section. According to the research results, learning opportunity in rationality curriculum is strengthening senses especially eyesight and hearing of students; contemplation on nature and discovering its inherent order; inquisitiveness and inquiry; and increasing and constructing knowledge.

Key Words: rationality- Islam- curriculum- learning opportunity

1. Introduction

In the philosophy of education, cultivation of reason and rationality has been similarly esteemed as a central educational aim or ideal. Historically, philosophers of education whose positions otherwise diverge dramatically have consistently articulated, endorsed, and defended educational visions to which the cultivation of reason, or the fostering of rationality has been central. In contemporary discussions the cultivation of reason continues to be defended by many as an important educational aim or ideal (siegel, 2008).

A comprehensive Islamic philosophy of education was defined in the first World Conference on Muslim Education in (1977) that: "Education should aim at the balanced growth of the total personality of Man through the training of Man's spirit, intellect, rational self, feelings and bodily senses" Long before the Greek philosophical texts were translated into Arabic, Muslims had an encounter with the concept of reason/intellect as outlined in the Qur'an and the Hadith. Like love, charity, wisdom, spirituality and art, rationality is a fundamental human response to the call of reality. It enables us to disclose the intelligible structure of the order of existence. It invites us to overcome our corporeal existence and connect with the world of nature in primarily rational and moral terms. It urges us to establish a socio-political order based on virtue, justice and freedom. The Qur'an presents a view of the human person according to which our humanity is formed by 'rationality' (*'all, nutq*) and those other traits that are equally central to our task to give a meaningful response to reality. The Qur'anic rationality thus extends from the empirical and conceptual to the moral and the spiritual.

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The Prophet of Islam has defined 'intelligent person' (*al-kayyis*) as one who "controls his ego and prepares for the afterlife". (Tirmidhi, *Al-Qiyamah*, 25). In Islamic law and theology, a person must be 'sane' or 'intelligent' (*aqil*) in order to be responsible for his/her actions because there is no religious responsibility (*taklif*) without having sanity or reason (*'aql*). The verb 'a-q-l, to intellect or to use one's reason, literally means to hold, to protect and to guard. Thus ma'qal means 'fortresses. This is the same meaning conveyed in the English phrase "intelligent person" (Kalin, 2012).

The Qur'ān is the main reference and source of knowledge for Muslims. It logically follows that understanding the concept of thinking should also be referred to the Qur'ān. Even though the word 'intellect' is mentioned 49 times in the Qur'ān, and there are hundreds of verses that urge Muslims to think, the theory of thinking from the Qur'anic perspective has not been extensively explored to guide Muslim educators, curriculum designers and developers (Ishak and Yusoff, 2015).

Hence, this paper attempts to explore learning opportunities for rationality curriculum on Islamic resources Scince to days teacher are more often disenfranchised from curriculum development and requirement to use prespecified activities found in adopted textbooks and to follow officially approved standards for teaching although teachers draw on aspects of students ` background, interest and prior learning, their design are valued for their contributions to official curriculum goals. Nonetheless teacher creativity is required to make lessons effective and in many ways teachers and students enact their own curriculum (McNill, 1996). Thus, in this research the researcher attempted to identify learning opportunities with respect to rationality curriculum. The general purpose of this study is thus to investigate learning opportunities of rationality curriculum in the form of one research question as:

1-   What are the learning opportunities of rationality curriculum on Islamic text?

2. Research method

2.1 Type of research

The present study was conducted through mixed method using combinational exploratory approach. In the qualitative stage, at first, the framework of learning opportunity of rationality curriculum was designed based on Islamic texts (Quran) through content analysis and interviews. Later on, this framework was evaluated via descriptive survey methods on the qualitative data collected. Finally, an overall interpretation was conducted on all quantitative and qualitative data. Analyzing the data and research findings was conducted in three separate parts: text mining, interviews and questionnaire. In text mining part, the data was analyzed through content analysis. In order to do so, Quranic verses related to reason and rationality were collected and recorded. Then, these verses were analyzed word by word so that their key points could be extracted. In the third stage, primary codes were created and the primary concepts were brought out of the codes. Finally, their coordination with primary codes was examined and basic and organizing concepts were extracted.

The second step was dedicated to analyzing findings from interviews. Since the interviewer dynamically creates the concept during the interview (Abed and Nasr Isfahani, 2014), the findings from interviews were analyzed using Colazzi method in seven steps. First, the interviews were transcribed accurately. Then, they were reviewed and read several times to highlight the key sentences related to the subject. Later, concepts were formulated through elaborating on explicit concepts and were categorized into conceptual clusters. Finally, clusters were combined in an orderly way so that the collected data could be comprehensively described. Then, findings were validated after referring to the samples from findings. The findings of the qualitative section are used not only for answering the research questions but also for developing a quantitative data collection instrument. After doing content analysis and transcribing the interviews we extracted the basic subscales related to learning opportunities for developing rationalistic curriculum and incorporated them into the questionnaire. As a result, the present study uses a combinational exploratory approach (Creswell and Plano Clark, 2007).

2.2 Population and sample

The statistical population of this study is comprised of two groups: a) Iranian curriculum experts– we ran semi-structured interviews with 11 education experts who compose the study sample of the qualitative section; and b) elementary school teachers who form the study sample of the quantitative section – samples were taken from the Shiraz school.

2.3 Sampling method and the sample size

The present study initially used targeted sampling method for the selection of curriculum experts (Creswell, 2007). In fact, the experts selected as the study population were "significant samples" (Williams, 2006:79). The size of the sample from curriculum experts was not calculated quantitatively since very small or large samples are not recommended for qualitative studies and such criteria as data saturation and information redundancy show the adequacy of the sample (Onwuegbuzie and Leech, 2007:242).

We also use cluster random sampling for the selection of 352 elementary school teachers. The sample size was calculated via different Cochran's sample size formula to specify the number of elementary teachers. Additionally, after performing the research work, the test statistical power was calculated and with regard to the fact that the statistical power was equal to 1, the adequacy of the sample was confirmed.

2.4 Data collection tools

The present study uses content analysis, semi-structured interview and   researcher-made questionnaire. The researchers interviewed the experts on their perspectives concerning the topic. The validity of the interview was considered and confirmed by the respondents. The reliability of the questionnaire form was examined by three knowledgeable experts in the field of qualitative research methods. They studied the summery of issues and determined categories with the triangulation method (comparing the results of the interview and the questionnaire). Since there were no standardized questionnaires on the research subject, we used a researcher-made questionnaire to collect data from the intended sample. In order to determine the content validity of the interview and the questionnaire, we surveyed the views of 12 faculty members of Isfahan University's Faculty of Education who enjoyed the required specialty. The Cronbach's Alpha was deployed for estimating the reliability and internal Initial studies on 36 respondents from the sample population and analyses of the questionnaire showed that the questionnaire has a reliability of 85.1%

2.5 Methods of collection and analysis of information

In fist step, data was analyzed through content analysis. In order to do so, Quranic verses related to reason and rationality were collected and recorded. Then, these verses and traditions were analyzed word by word so that their key points could be extracted. In the third stage, primary codes were created and the primary concepts were brought out of the codes. Finally, their coordination with primary codes was examined and basic and organizing concepts were extracted.

In second step interviewees were analyzed. Several procedures exist for the analysis of data extracted from interviews through which we can investigate the statements and views of interviewees (Campbell, McNamara, O., & Gilory, 2004:125-147). Normally, there are several stages or steps for analyzing the data collected via from interviews, including data preparation, data organization, data reduction in the form of categories via data codification and condensation, and finally, data presentation in the form of images, tables, or discussions (Creswell, 2007:148). The present study also follows these stages of data analysis. The interviews were performed in person and using a recorder. Then, the interviews were transcribed and typeset. After that, data categorization was performed with the MAXQDA Software Program. Finally, the researchers verified the reliability and presented the findings in the form of tables and discussions. In order to collect the required data, the researchers administered also the questionnaires among the elementary school teacher either in person or via post or electronic mail. 352 copies were collected. The researchers employed *confirmatory factor analysis*

3.   Research Findings

3.1 Questions: What is the learning opportunity for rationality curriculum on Islamic text? Since the method of this research is a combined approach, the findings are therefore presented based on the research questions. In text mining part, the data was analyzed through content analysis. In order to do so, Quranic verses related to reason and rationality were collected and recorded. These verses were analyzed word by word. Then, primary codes were created and the primary concepts were brought out of the codes. Finally, their coordination with primary codes was examined and 5 basic and organizing concepts were extracted (as seen in figure 1).
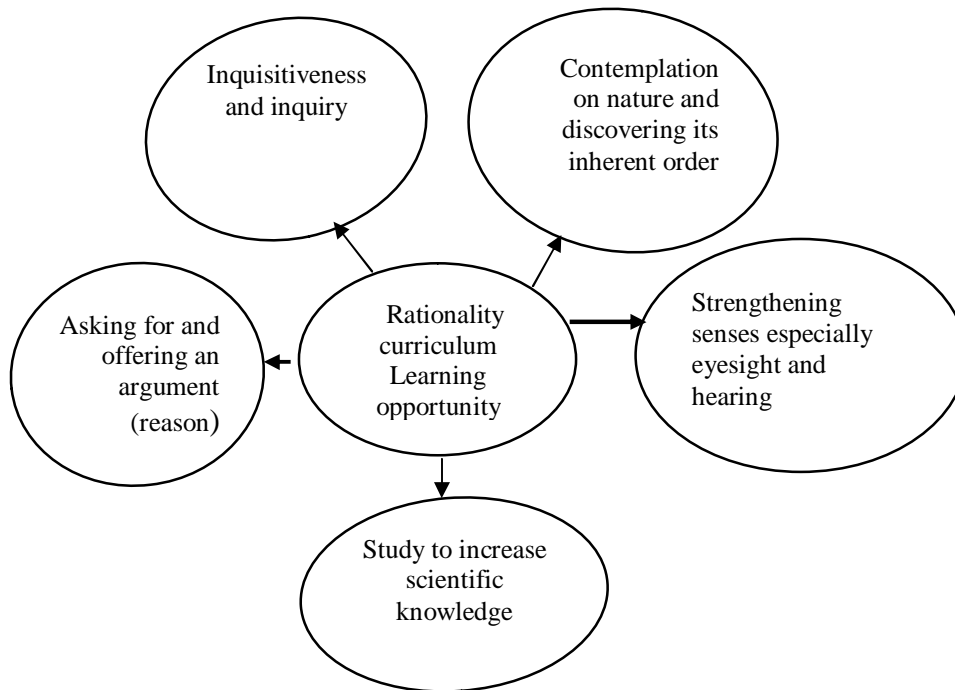
Figure 1: learning opportunity in rationalistic curriculum based on Islamic text

The data were analyzed in the interviews by the use of categorization method. After the transcription of the text of 11 interviews, 168 propositions (codes) were extracted. After the analysis of the content based on the propositions, 107 propositions were obtained in the second stage and 77 propositions in the third stage and the main categories were determined. With regard to the importance of the subject in this article,

Table 2: The most important learning opportunity for rationality curriculum stated by interviewers

Learning opportunities	No.
Observing phenomena precisely	4
Contemplation on natural signs and expressing them5	5
Stimulating the inherent curiosity in child	5
Giving students the chance to give their reasons and arguments	4
Doing study and research	6
Asking for and offering an argument	5

In quantitative section according to the model proposed in methodology section (figure 1) based on the concepts and criteria extracted in the qualitative section (interview and content analysis), a 53-item questionnaire was designed about learning opportunities of rationality curriculum. These questionnaires were then given to primary school teachers in Shiraz. After that, data categorization was performed with the Lisrel Software Program via confirmatory factor analysis. In this analysis, in case the factor load is less than 0.3, the item is deleted and the model is executed in the application. After factor loads were investigated, fit indices of the model in both with and without corrections were calculated.

Table 2: Indices of the model in explanatory factorial analysis for proposed model

Model	$\dfrac{x^2}{df}$	RMSEA	PNFI	NNFI	CFI	IFI	AGFI
model without corrections	2/76	/088	0/69	/71	/67	/79	/65
model without corrections	2/3	/052	./74	/91	/9	/9	/89
	< 3	<08	>/5	>/9	>/9	>/9	>/8

As it could be seen, fit indices of the original model without corrections were not in a desirable condition. In other words, the original model did not have an acceptable fit index; thus, corrections were required to improve the indices. Thus, after making some minor corrections and opening up the way for some items, the fit index of the model increased in the sample under study. Figure 1- 5, demonstrates the confirmatory factor analysis of the modified model.
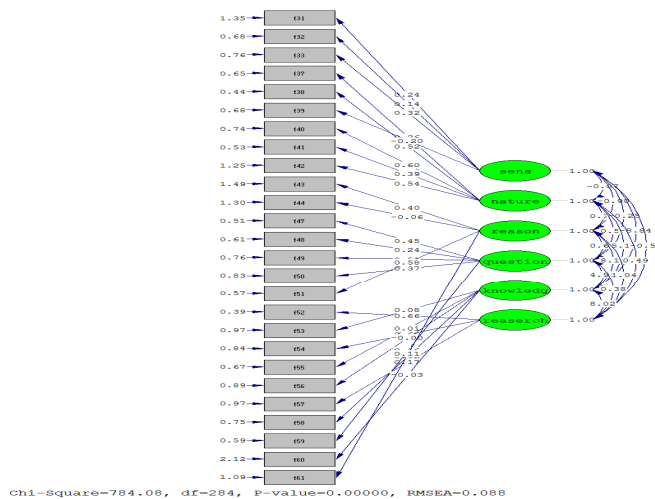

Chi-Square=784.08, df=284, P-value=0.00000, RMSEA=0.088

Table 2: Learning opportunities for rationalistic curriculum based on Islamic text

Dimension	Items
Sensory approach and strengthening senses especially eyesight and hearing in students	Observing phenomena precisely
	Observing phenomena and elements of nature
	Listening to the surroundings for joy and appreciation
Contemplation on nature and discovering its inherent order	Comprehensive view toward nature
	Study and investigate the creation of humankind and nature
	Contemplation on natural signs and expressing them
	Becoming precise on phenomena in nature
	Going around nature
	Scientific study of human body
	Discovering the order in and nature and expressing them
Inquisitiveness and curiosity	Stimulating the inherent curiosity in child
	Facing ambiguous and vague incidents
	Making strong guesses about phenomena
	Showing curious behavior to look for answers
	Doing experiments and studies based on questions
Scientific study to create knowledge	Extracting meaning and concepts from experiments
	Doing study and research
	Inquisition and investigating scientific affairs
	Expanding the range of studies in science, art and religion
	Emphasizing on preparing papers, summarizing and bibliographical interpretation
	Participation of students in scientific conferences
Asking for and offering an argument	Giving students the chance to give their reasons and arguments
	Giving students the chance to face problems to
	Inferring solutions and reasoning about them
	Evaluating reasons and findings

4.   Discussion and Conclusion

The results of the present study showed that regarding nurturing rationality teachers must provide learning opportunities in order to strengthen senses especially eyesight and hearing of students; contemplation on nature and discovering its inherent order; inquisitiveness and inquiry; and increasing and constructing knowledge.

Strengthening senses especially eyesight and hearing: The Qur'an contains numerous references to knowledge that is obtained through the senses, and to man's responsibility for the proper application and channeling of his powers of observation, hearing, speech, and intuition. The *Quran* deems 'hearing' and 'sight' as valuable instruments in the process of learning (16:78). Thus Islamic science developed in scientific inquiry the method of observation and experimentation (Kamali, 2003). The text provides, for example: God brought you out of the wombs of your mothers when you knew nothing, and He gave you the hearing, and the sight, and the heart ... (16: 78). All knowledge is therefore acquired through the use of these faculties.

Contemplation on nature and discovering its inherent order: Quran believes that nature is a rich source for scrutiny, recognition and investigation and requires humankind to think about days and nights, creation of skies, the moon and the sun, humankind, revival of the earth, winds and raining. And said: He has made subject to you the Night and the Day; the sun and the moon; and the stars are in subjection by His Command: verily in this are Signs for men who are wise (16:12) 'Surely, in the creation of the heavens and the earth, and in the alternation of night and day, there are signs for those with minds. (3: 190). and in the alternation of the night and day, in the provision Allah sends down from heaven with which the earth is revived after its death, and in the changing about of the winds, there are signs for people who understand. (45:5)"

The Holy Qur'an repeatedly encourages man to reflect upon the Visible World, in order to acquire its knowledge', not as independent intellectual exercise, but in the name of his Lord, because all the laws of nature are placed into it, in such an intelligible manner that they also point to the Absolute Realm. That is, as per Islamic Worldview, the physical sciences should necessarily be considered as creations of Allah, the Ultimate Creator. (Osman, 1991as quoted by Al-Hudawi, 2012).

The rational power is nourished through the process of acquiring 'right' comprehension of the principles of truth and reaching at correct knowledge of things in the physical universe. (Al-Hudawi, 2011). And mankind is inspired to study and understand the natural forces. This view of nature influenced the scholars of the so-called 'Golden Age of Islam' to undertake scientific activities that resulted in the vast corpus of scientific works of that era (Faruqi, 2007).

Based on thing mentioned above students have to observe nature and to reflect on the beauty and wonder of nature and be aware of Allah as the provider of everything pupils, for instance, must practically involve in planting of seeds, watching and observing their growth. Pupils must be taken to flower gardens, river; poultry and animal farms for them to see the wonders of Allah. They should be shown such natural endowments as sky, sun, rain, stars and many others while relevant examples must be drawn from them as well (Aderbayo, 2011).

Asking for and offering reason: There are many verses in the Qur'an which, on the basis of consequential signification, can be said to accept the authority of reason. In other words, the Qur'an makes statements which cannot be accepted without accepting the authority of reason. The people, who do not reason, are those who do not make use of their intellect and their faculty of thought. Such are not fit to be called human beings. The Qur'an includes them among the beasts. The Qur'an defines various problems in terms of cause-and-effect relationship. The cause-and-effect relation-ship, or the law of causation, is the foundation of rational thinking. This law is honored by the Qur'an and is also employed by it. Islam's outlook on reason is based on its intrinsic merit that is inspired by nothing less than conviction, as opposed to blind imitation of the custom and legacy of the past. The objectivity of reason is to be ensured by its independence from conventional practice which does not necessarily provide correct knowledge and guidance. To this effect, the Qur'an has recounted the attitude of its deniers and the typical response they have given to the Prophet Muhammad: Nay, we follow the way of our ancestors- even if their ancestors did not know nor were they rightly guided (Q. 5:104; also 2:170). This was also the response that Prophet Abraham and many other prophets received from idol worshipers but the text retorted it in such terms: both you and your ancestors were clearly misguided (Q. 21:52; 7:70; 11:87).

Muhammad Iqbal went so far as to say in this connection that the Qur'an marked the birth of the "inductive intellect" and it is a religious obligation therefore of every Muslim to master the inductive method to uncover the laws of nature (Iqbal, 1982 as quoted by Al-Hudawi, 2011). In this regard, students need to be provided with enough room for discussion, reasoning aloud, reflection and evaluation of important matters regarding moral or social crises. They should be given opportunities to open up their minds, deliberate on their ideas, express them and defend them if they can, and likewise to evaluate the ideas of others and correct theirs if the others are more 'reasonable and worthy Related to this (Rosnani, 2008).

Inquisitiveness and inquiry: precision and inquiry are two very important methods of improving intellects and Quran requires humans to ask what they do not know from the ones who are knowledgeable. For Quran, doubt and curiosity are two inherent characteristics of a curious creature that could help him find an answer in himself. In fact, Quran raises questions about God (14:10), Quran (47:24), system of the universe and humans, creation of the earth and the skies (7:175), creation of humans (86:5) etc. and uses this technique to stimulate humans to think and nurture intellects. Quran systematizes the dialogue with human through basic questions and asks it audience to process these basic concepts in his elevated mind. The holy prophet Muhammad (PBUH) states: Knowledge is in treasure boxes the key for which is inquiry. Shorty it is vital that students Face to ambiguous and vague incidents, encouraged to Make strong guesses and do experiments and studies based on questions.

Study to increase scientific knowledge (ilm):   In the Islamic theory of knowledge, the term used for knowledge in Arabic is *'ilm*, which, as Rosenthal has justifiably pointed out, has a much wider connotation than its synonyms in English and other Western languages. 'Knowledge' falls short of expressing all the aspects of *'ilm*. Knowledge in the Western world means information about something, divine or corporeal, while *'ilm* is an all-embracing term covering theory, action and education. Islam is essentially a religion of knowledge;' and the pursuit of knowledge is a 'religious obligation' (Osman, 1991, p. 1). 'Allah praises the scholars, as He says *"Say: 'Are those who know equal to those who know not?' It is only men of understanding who will remember (i.e. get a lesson from Allah's Signs and Verses)"* *[al-Zumar 39:9]*. Islam calls us to seek knowledge said that seeking knowledge is a way to Paradise. He (peace and blessings of Allah be upon him) said: "Whoever follows a path in the pursuit of knowledge, Allah will make a path to Paradise easy for him." (Narrated by al-Bukhaari, Kitaab al-'Ilm, 10).

According to verse 9 of Surah Al-Zumar, the major prerequisite for rationality is science and knowledge (ilm). God firstly invites humans to contemplate on Quran's enlightening verses and secondly requires them to study nature and writings of scientists and scholars. Since knowledge really affects thought and behavior (Abul-Aynain, 1992, p. 76). Students must be encouraged to acquire the knowledge (ilm), to extract meaning and concepts from experiments, to expand their range of studies, to prepare scientific papers and to participate in scientific conferences

Finally, we have to consider two issues, first in all learning opportunities and situations teachers must attract students` attention towards God science within the epistemological scheme of Islam, and the rational mind is neither free nor fundamentally detached from religion. Rather, it is directly related to divine knowledge. Consequently, it does not make sense to rationalize oneself out of religious belief. In the literature this comes to an expression through a general absence of critical reasoning. Epistemological doubt is explained away with the help of a comprehensive world view which does not, and cannot, separate between the rationality of the human being and divine revelation (Kvamsoe, 2010).

And second, these learning opportunities are related while this relationship doesn't follow a linear order. Knowledge is gained through observation and experimentation backed by reflection, as in the Following verses: Say: Travel in the earth and see how He made the first creation (Q. 29: 20). Have they not travelled in the land so that they should have hearts with which to understand? (Q. 22: 46). The first part of these verses refers to observation, and the second part to the use of reason, reflection and understanding. Experimental work is thus an indispensable tool for the understanding of nature. The text also teaches that there are realities in the physical world that we do not perceive through our senses: But nay! I swear by that which you see and that which You do not see (Q. 69: 38).

Acknowledgement

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