

The content analysis of holy messages textbook of first and second grade of high school considering training field components based on Shannon entropy model

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Abstract: The present study was designed to analyze the content of the recently written book of holy messages for the first and second grade of high school based on Shannon entropy model. Our statistical sample was the holy messages of the first and second grade of high school based on components such as rationality, thinking, faith, science and practice. Analysis units were book pages and research method was content analysis. The data had been analyzed through Shannon entropy model. First, we estimated indicators frequency and normal frequency, then informational mass and finally, significance coefficient had been analyzed with the aim of all data analysis. The results showed that the highest significant coefficient was related to rationality component and the least one was related to science and practice.

Key words: *Components of religious training; Content analysis; Shannon entropy model; The recently written book of holy messages*

1. Introduction

Education and training can enforce spiritual and physical improvement and meet all of human being personal, social and economic needs. All of human being life dimensions are correlated with education and training which, especially the religious one, will enforce the relationship between creature and the creator and guide them to commitment and responsibility acceptance (Loudin, 2005). Pedagogical affairs ignorance by education office can take away them from their purpose in schools. If education office neglects all of personality and pedagogical aspects of children, it will be restricted pedagogical center and such an institution cannot bring up high minded men with extended capacity. We expect hard workers teachers and trainers to approach themselves to fundamental revolution purpose of education and training and be up to date in training field (Taghipour, 2007). Education and knowledge acquiring area is an instrument for teachers acknowledgment that spend their valuable time for students training and we reminded that the fundamental component of pedagogical matters is training and education. Educational and cultural activities need attraction, thus teachers can apply art instrument in order to transfer these valuable points to students. Education extent is as much as a country extent and schools create a link between society and education office but, occasionally, some schools do not play their role as a medium and the education office messages and their development that are people up to date with people's needs, do not appear

in society. It is promising that education office perspective about training is comprehensive and considered all of its dimensions (Sajadi, 2004). An essential component among all of pedagogical materials in schools educational plan is holy messages book.

In recent years, emergence of new needs in religious education area and new events in education, devoted most attention to learning attitudinal aspects of religious education, necessity of taking advantage from modern methods of religious education and training, for forming religious behaviors and religious perceptions. Enforcement through religion recognition and thinking about it, required educational experts to take ready for forming new schedule for religious education and training and this require comprehensive investigation and accurate planning (Shareatmadarey, 2003).

There have been numerous attempts in this regard and "the holy messages book" is the first output of this blessed activity. National implementation of the third book project was coincided with education ministry curriculum alignment and national curriculum application. It means that after two years from national application of holy messages book, it must be reconsidered and recollect. It was the most advantageous opportunity for religious training and education group in compilation office to review this book and improve its deficiencies. We have choose the approach of religious education and training program guide and monotheistic oriented nature. With attention to the fact that national curriculum approach looks like this approach, there is a noticeable alignment among

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them. Previous guide of education and training curriculum was based on holistic target pattern in cognitive, emotional and behavioral areas and preceding holy message book had been gathered based on it. Thus this is our planning and performance framework, while targeting of pedagogical and training curriculum, in national curriculum had been done in completely new and unique framework.

The foundation of this pattern is nature prosperity and attainment of various aspects of pure life, integrity, comprehensiveness and balanced attention to six areas of education that are based on coherent and integrated framework. This framework will guide executors and planners in formulation of different levels of goals (Khodayar and Fathi, 2009).

In the target model, five elements of rationality, Faith, knowledge, practice and ethics and four areas of students relationships with God, self, creation and creature had been defined and developed cohesively and had focused on the relationship with God (Bagheri, 2012). Thus these five elements will be defined in an interrelated and intertwined framework and each of them can be the beginner of training course according to students situation and needs and enforce other elements and deepen them. Among all of these elements, rationality is the most important one and other elements will be defined based on it, also, each of them has a definite rank (Amini, 2009). Learners should learn whichever brought in the curriculum lessons. They will learn these materials desirably, if there had been a correlation between this content and their capability. Authors should follow learn ability criteria (Karimi, 2009).

One of the most important ways of implementing the theories in real world is embedding them in the framework of the textbooks. Content has a unique characteristic that is the direct relationship with student's spirit. The content of the textbook must be useful but what is means by that? We shouldn't have only materialism view but we should reinterpret interests through Islamic view. Our curriculum development center must have complete and comprehensive view about genuine and fixed needs that focused on human perfection and take help from research and define the content of textbooks base on needs (Maleki, 2008).

1.1. Literature review

The results of the research that conducted by Ghasemi and Jahani (2009) showed that about 1.1% of religious books objectives are at creation level and the coefficient of creative involvement in science textbooks is less than 0.25. Dehghani (2010) showed that the social skills level in social training books was less than average; also, their pictures were at moderate level.

Peyravaninia (2010) analyzed textbooks content of pre-university level with regard to paying attention to Quran and Quranic concepts and concluded that humanity science course books, pay

most attention to Quran and Quranic concepts and it's the least and even zero in other course books, especially, technical textbooks.

Ansarian and Dabestani (2011) showed that involvement indicator of students with course book content was 0.03 and involvement indicator with questions and pictures were 0.75 and 0.08, respectively.

Zabihi (2011) showed that about 75% of attention to life skills in textbooks was indirectly. Salehi, Abedini and Mansouri (2013) found that in the textbooks, the most frequency and significance level was related to paying attention to follow regulations and the least one was related to the impact of traffic regulation on security.

The results of the research conducted by Çobanoglu et al. (2009) and Waters (2011) showed that the content of the textbooks and education was relatively correlated with learners' mental construct but it was not enough. Furthermore, teachers and trainers while teaching should pay attention to course books content and learner's characteristics in order to fill the course books gaps. Also the results of Stine and Butler (2011) emphasized that teachers should enrich text books through tuition books.

The researchers conducted by Olson (2009) and Keay (2010) showed that schools should show more persistence on improving children social capabilities and the content of textbooks and fictions should be designed in such a way that foster children behavioral attitudes in social skills areas.

Ozgeldi and Esen (2010) and Keklik (2011) found that there was a kind of mismatch between mathematics homework's type and the level and defined objectives of mathematics books for elementary schools and the elementary schools curriculum principles were inconsistency and the level of basic science books such as mathematics, physics, English and chemistry was relatively low.

The research conducted by Unterrainer et al. (2012) showed that there was a positive relationship among different forms of spirituality, extraversion and welcome acceptance of experience and it had a negative relationship with neuroticism. Moreover, there was a relationship between overall religiosity and openness to experience and consciousness. So that, religious spirituality might be representing an important dimension of human personality. In this research there were not any significant relationships between compatibility and religious spirituality.

Saroglou meta-analysis (2014) that had been done on religious studies and character showed that all religion dimensions among religiosity, spirituality and fundamentalism and consciences appeared as important characteristics of religious characters and there was a positive relationship among all of them.

So, it can be inferred that one of the most important lessons in primary, secondary and high schools is Islamic training and education that is known as "the holy messages" in the first and second grade of secondary schools. This research attempts to investigate the content of the "holy messages book" based on Shannon entropy model.

2. Methodology

In this research, the content analysis method had been used and the page was the unit of analysis. The holy messages textbook of first grade of high school, including written and pictorial sections is an important reason for selection of page as an analysis unit to include all of these cases.

The holy message textbook of the first and second grade of high school categories, are based on five target components of rationality, faith, knowledge, practice and ethics from first and second grade respondents point of view.

First, the frequency of each message will be calculated according to categories and in correlation with respondents and all of the following stages will be done regularly according to frequency table data.

First stage: frequency matrixes of frequency distribution table should be normalizing according to following formula:

$$P_{ij} = \frac{f_{ij}}{\sum_{j=1}^n f_{ij}} \quad (i=1, 2, m, j=1, 2, n) \quad (\text{equation 1})$$

P: normal frequency matrix j: category number

F: category frequency m: respondent value

I: respondent number

Second stage: calculate each category informational load and put them in an appropriate column according to the following formula:

$$E_j = -k \sum [P_{ij} \ln P_{ij}] \quad (j = 1, 2, n) \quad k = \frac{1}{\ln n} \quad (\text{equation 2})$$

P: normal frequency matrix j: category number

M: respondent value Ln: logarithm

I: respondent number

Third stage: Significance coefficient of each category should be approximated through the categories informational load; there is a linear relationship between each category informational load and significant coefficient. Use the following formula to approximate significant coefficient:

$$W_j = E_j \sum_{n=1}^m E_j n_j = 1 \quad w_j = \frac{E_j}{\sum_{i=1}^m E_j} \quad (\text{equation 3})$$

E_j: each category load m: respondent value

W_j: significant coefficient

J: category number

There is a direct relationship between each category informational load and significance coefficient. It should be noted that in E_j calculation, values of P_{ij} that equals zero, had been replaced by small value of 0.00001 because of the probability of error answer and infinite value in mathematical calculations, but j is an indicator that determines each category significant coefficient in each message and takes into account the responses form.

On the other hand, we can categorize the categories that resulted from messages; we also take into account the **w** vector (Azar, 2002).

2.1. The research indicators

The research quality depends on its components that were constructed and designed based on the research topic. In this research that is based on the content analysis of "holy messages" textbook of first and second grade of high school, its training components and dimensions will be analysis and all of them presented in Table 1.

Table 1: Training components and their pertaining indicators

Component	Indicator
Rationality	Relationship with self (God-focused relationship) Relationship with eminent God Relationship with other human beings (God-focused relationship) Relationship with creation (such as natural environment) with the focus on God
Faith	Relationship with self (God-focused relationship) Relationship with eminent God Relationship with other human beings (God-focused relationship) Relationship with creation (such as natural environment) with the focus on God
Knowledge	Relationship with self (God-focused relationship) Relationship with eminent God Relationship with other human beings (God-focused relationship) Relationship with creation (such as natural environment) with the focus on God
Practice	Relationship with self (God-focused relationship) Relationship with eminent God Relationship with other human beings (God-focused relationship) Relationship with creation (such as natural environment) with the focus on God
Ethics	Relationship with self (God-focused relationship) Relationship with eminent God Relationship with other human beings (God-focused relationship) Relationship with creation (such as natural environment) with the focus on God

After determining the measurement indexes, our purpose is collecting the data and analysis them, based on Shannon entropy model and we mentioned

the amount of weight given to each index in "holy messages" textbook of first and second grade.

2.2. Statistical population, sample and sampling

Our research area was the holy messages textbook of the first and second grade of high school from two respondent points of view (first and second grade students) and because we considered all of these grades holy messages textbooks, we did not do sampling. We choose these books because we except to observe training areas components here.

3. Data analysis

This research include quantitative analysis of holy messages textbooks of first level of high schools

Table 2: frequency distribution of weight given to training areas components in the content of the recently written book of holy messages

Books \ Components	Ethics	Practice	Knowledge	Faith	Rationality
First grade of secondary school	63	62	91	53	57
Second grade of secondary schools	62	66	93	77	50
Total	125	128	184	130	107

Table 2 shows that we can rank the components of the recently written book of the holy messages, based on the amount of attention to them as follow: rationality (p107), faith(p130), knowledge(p184), practice (p128), ethics(125), the least attended component is rationality(p107) and the most attended one is knowledge(p184).

First we normalize the data according to the following formula in order to investigate the

that is designed based on five targeted components of training area .First we approximate the sum of frequencies, based on each component in holy messages of the first grade of high school that had been shown in table 1 and in the next stage, the data of this table will be normalized based on Shannon entropy model and we can calculate the significant coefficient of each category.

3.1. Analysis results

The weight given to training field components of the recently written book of holy messages

significant coefficient of each component base on Shannon entropy model:

$$E^j = -K \sum_{m=1}^j \{p_i^j \ln p_i^j\} \quad (i=1, 2, m, j=1, 2, n)$$

P: normal frequency matrix j: category number

F: category frequency m: respondent value

I: respondent number

The normalized data of these components had been presented in Table 3.

Table 3: normal table data of attention to training areas components in the content of the recently written book of the holy messages

Book \ Components	Ethics	Practice	Knowledge	Faith	Rationality
First grade	0.504	0.484	0.495	0.408	0.533
Second grade	0.486	0.516	0.505	0.592	0.467

After the data normalization, information load of each component will approximate through second stage formula of Shannon entropy model that calculates each component information load and put them in an appropriate column.

(Equation 2): $E^j = -K \sum_{m=1}^j \{p_i^j \ln p_i^j\} \quad (j = 1, 2, n)$
 $= \frac{1}{\ln n}$

P: normal frequency matrix j: category number

M: respondent value Ln: logarithm

I: respondent number

The value of each component information load had been shown in Table 4.

Table 4: the table of information load of training field components in the content of the recently written book of the holy messages

Components	Ethics	Practice	Knowledge	Faith	Rationality
Information load value	0.432	0.431	0.430	0.419	0.428

In the last stage, we can approximate the training field significance coefficient in the content of the recently written book of the holy messages

(Equation 3): $w_j = \frac{E_j}{\sum_{i=1}^n E_j}$

Ej: each category load

n: respondents number

Wj: significant coefficient j: category number

Each category that shows the most information load also will show the most significance level (wj).

It should be noted that while Ej calculation, we replace the Pij value that equals zero with 0.00001.

Table 5: the significance coefficient of training areas components in the content of the recently written book of the holy messages

Component	Ethics	Practice	Knowledge	Faith	Rationality
Significance coefficient	0.202	0.201	0.201	0.196	0.200

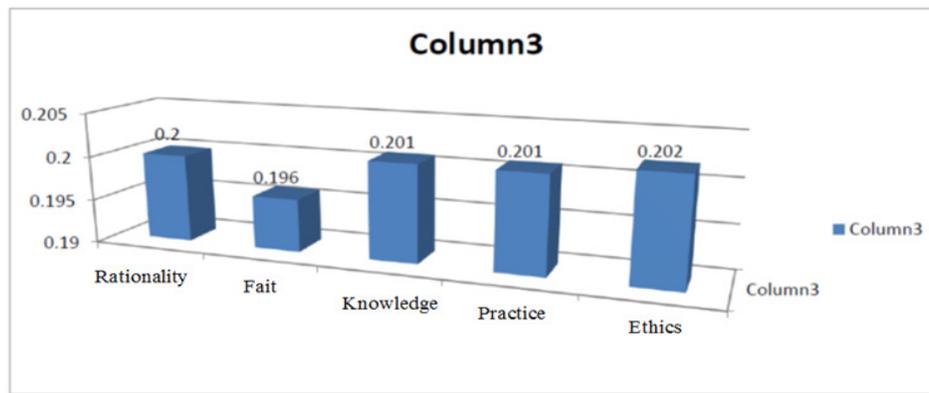


Fig. 1: Significance level of training components in the content of the recently written book of the holy messages

Table 5 and Fig 1 show that in the entire recently written book of the holy messages, the most significance coefficient is related to ethics and the least one is related to faith component, but the significant coefficient in all of them is relatively same.

4. Discussion and conclusion

In the current research ,it has been identified that the most significance coefficient is related to rationality and the least one is related to knowledge and practice .The results show that the significance coefficient of religious training components are rationality component, faith component and knowledge and practice components and their significance coefficient is 0.200 ,0.196,0.201 ,0.201 , and 0.202, respectively .

There is an agreement between these research findings and the results of Ansarian et al. (2002) research that analyzed the content of life and religion textbook, student's involvement index in content is 0.03. Thus this book had not been written in an active manner and there is a correspondence between this research and previous research findings .The previous researches have pointed to inactivity of religion and life textbook content. The students involvement indicator in questions is 1.71 thus it is not written in an active manner and there is an agreement between this finding and the previous researches that has been mentioned in the literature review section of this study. The student's involvement indicator in pictures is 1.13, thus they have been written an inactive manner and there is a correspondence between these findings and the previous researches findings. The student's involvement indicator in activities is 1.3, thus it has been written inactively and since there is no previous study about it, we ignore its correspondence.

There was an agreement between this research findings and Zabihi (2011) findings that were related to the content analysis of holy messages textbook of primary school and life skills education. They had shown that these five books had indicated the life skills components about 335 times and in 75% of

these indications, they did not taught students, the life skills directly, but the book content, attended it indirectly.

Generally, we concluded that there had been less attention to some of components of the holy messages textbook content. The least significant component are pictures , activities , and recommendation components and they have failed in attracting students' attention and involving them in learning process but the most significance is related to the content of the holy messages book .

We can remove this deficiency through student's involvement in activities, pictures, and recommendation. Meanwhile, in some of lessons, there are a few numbers of recommendations and planners must attend to this important point. The significance level of all of religious components is not the same and the most significant ones are rationality and ethics and the least important ones are knowledge and practice. At the end, it is recommend that each lesson related activities and students involvement in them and the components of knowledge and practice should be attended more seriously.

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