

## Pathology of Shahab National Plan in Primary Schools of Shahryar, Iran

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**Purpose:** This paper aimed to examine the pathology of Shahab national plan in primary schools of Shahryar, Tehran, Iran.

**Methodology:** This research was conducted with a mixed exploratory method, that is, firstly, using semi-structured interviews and a qualitative method of the fuzzy Delphi type, the harms of Shahab National Plan were identified and prioritized, then the current situation of the harms was investigated using a quantitative descriptive-survey method. The statistical population of the qualitative part of the research was specialists and experts working in the Ministry of Education as well as university professors. The sampling method in this section was a targeted method, according to the principle of theoretical saturation, 15 of them were selected as a sample. The statistical population of the quantitative part of the research was made up of all the fifth grade teachers of the elementary school of Shahryar city, whose number was 441 in the academic year of 2018-2019. To determine the sample size in this section, the Cochran formula table was used and 230 people were selected as a sample, whose selection method was cluster random. The research tools were semi-structured interview, fuzzy Delphi questionnaire and researcher-made questionnaire. Reliability and validity in the qualitative part were obtained according to the audit strategies of the research. In the quantitative part, the reliability of the questionnaire was confirmed through Cronbach's alpha test, and it was used to confirm the formal and content validity of the questionnaire from the experts' point of view. To analyze the results in the qualitative part, content analysis of interviews and fuzzy Delphi were used, and in the quantitative part, one sample t-test was used in SPSS.

**Findings:** Based on the qualitative findings, the harms of Shahab plan were identified and prioritized in three areas: behavioral (including 14 harms), structural (including 19 harms) and contextual (including 25 harms). According to the analysis of quantitative data, the current state of harms was examined from the teachers' point of view.

**Conclusion:** The results of one sample t-test showed that most of the harms are at a level higher than the assumed average of the community and a few are at an average level or lower than the average.

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## 1. Introduction

Development of various sciences and the current advances in educational technology in educational and scientific organizations and institutions such as schools have opened new horizons for everyone. Accordingly, an important question arises, and that is how educational institutions and organizations in charge of education, such as education organization, as well as other related institutions, such as Iranian cultural and social organizations, can prepare the youth to participate in the community and in what way they are going to transfer the knowledge of the world community to them. In other words, these developments have made these organizations to seek to identify and select suitable people for various fields of study and jobs. To achieve this, the education organization should measure people's talents from a young age and during adolescence and guide people for their future path based on that. Therefore, traditional education in the current era, due to the presence of many powerful competitors who affect the right and power of people's choice, cannot properly recognize the Iran's education needs and facilitate educational activities to respond to these needs. In other words, in a traditional and passive educational system whose goal is to acquire predetermined information in an imitative process and retain information, the power of perception, reasoning, evaluation and understanding of students is not expected to be improved. Therefore, valuable steps should be taken for the future generation by using a suitable educational system and by taking advantage of the opinions and experiences of trainers and consultants (Abolhasani, 2014).

Identifying the exceptional talents at a young age is doubly important, because perhaps by not recognizing the talents of such people, they may end up on a different path where their talents remain unknown and our community will be deprived of the existence of these elites and geniuses in the future. The number of such talented and genius people in the community is not high and failure in their recognition diminishes the effect they can have on the progress of the country and this will cause a lot of harm to the country, so these people should be identified and trained in time so that they can take over the future of Iran as the elites of the community and provide the basis for the country's progress (Salighedar et al., 2014). Therefore, trying to identify, retain, direct and use top talents is one of the sources of advantage. The purpose of programs and services related to gifted and talented students is to strengthen, develop and improve their capabilities. Therefore, before any intervention, it is important to identify students and their capabilities (Siegel et al., 2016).

Continuous research on intelligence and talent shows that no single specific criteria can be used to determine intelligence (Smedsrud, 2018). Although gifted children can be found in all racial, ethnic, cultural, linguistic, economic, and disability groups, what matters significantly is how to accurately identify them, especially those from at-risk and underrepresented populations (Daniels and McCollin, 2010). In fact, the identification of gifted children plays a decisive role in planning school policies for such groups of children (Bergans, Privo and Schilze, 2016). Therefore, adopting appropriate policies to discover and guide gifted students is currently an important issue of educational organizations in different countries, each country uses special methods for this purpose, and these methods are diverse in different countries (Taghipour Karan, 2015). Curriculum in many countries is designed according to the abilities and talents of the majority of students and in order to achieve educational justice, but in some countries special planning is done for this purpose (Eslami and Ayati, 2011). Education Organization should pay special attention to the needs of highly talented people, because the timely identification of these talents will make them flourish and lead these people achieve individual success, and in addition to individual success, they will also be useful for the community, so it is necessary to have special programs to identify such people so that these people are identified at the right time and their talents are discovered and developed (Hallan and Kaufman, 2013).

Based on this, in Iran, this issue has been taken into consideration in the higher-level documents in order to realize educational justice. For example, the issue of discovering and identifying exceptional talents and guiding them is stated in paragraph 16 of the fundamental transformation document (Taghipour Karan, 2015). In this regard, Shahab national plan has been designed in Iran. This plan aims to identify the top talents in Iran that may remain unknown for various reasons and their talent may not be discovered, which will lead to the

loss of these talents and will cause irreparable harm to the community and the country. Therefore, in order to discover, identify and attract the best students, Shahab National Plan has been implemented, which starts from primary education and continues until the end of secondary school (Salighedar et al., 2015).

Also, identifying students' talents requires family and school cooperation, and teachers and educational institutions such as schools will not be able to do this alone. Therefore, the cooperation of two institutions, family and school, is necessary to achieve this goal. F. J. Monsek states that the three basic factors for identifying students' talents are family, school, and student's friends and peers, which mutually influence each other (Alipour, 2018).

As it was said, Shahab National Plan aims to identify the top talents that have not been identified and their talent has not been discovered due to various reasons such as poverty, lack of knowledge of parents and teachers about the children's and teenagers' talents, etc. To put it simply, in this plan, the responsible institutions did not wait for the exceptional talents to come to them, and they actively search and discover these talents by the methods discussed in this program, so that various restrictions do not prevent the discovery of these talents. Therefore, identifying the existing harms in the implementation of Shahab plan can help to eliminate the weak points and strengthen the points of this plan. However, the results of the research conducted on this plan, including Navidi's research (2019), showed that the conditions for the implementation of this plan were not suitable and that this plan was not successful in achieving its goals, therefore it is necessary to identify the harms of the implementation of this plan and the importance and priority of each harm should be determined so that by solving these harms in the order of their importance, the ground for the successful implementation of the Shahab National Plan will be provided in the future. Therefore, this research seeks to identify and prioritize the harms of Shahab National Plan and also examine the status quo of the identified harms in the schools of Shahryar, Iran. Based on what was said, this research aims to:

1. Identify the harms of Shahab National Plan
2. Screen and prioritize identified harms
3. Examine the current status quo of harms in primary schools of Shahryar, Iran

The review of the literature shows that there has not been much research about this plan. However, Navidi (2019) in his research, which was conducted to evaluate the experimental implementation of the Shahab plan, examined the pilot plan. In this research, Navidi concluded that the conditions for implementing the plan in the first year of its implementation was not appropriate. Also, the results of this evaluation showed that this plan in the pilot phase could not meet its goal, which was the identification of gifted students. Also, the results of this research showed that the existing cultural context was not compatible with the plan, and there were not enough resources to implement the plan, which were divided into two groups, software and hardware. In addition, results showed that there were other problems in this plan, including the vagueness of the plan and lack of transparency, the plan's incompatibility with the social context, the structural incompatibility of the plan, including the incompatibility of the predetermined goals with the approaches in the plan, lack of proper training to plan implementation officials and teachers. Also, Mansourkhani (2018) conducted a research titled evaluation of the implementation status of Shahab plan from the point of view of the teachers of Boyer Ahmad city in Iran with a descriptive-survey method. The results of this research indicated that the implementation status of Shahab plan in each of the social, verbal, mathematical, cultural-religious, artistic and sports-motor skills is more than average and also these results showed that the priority of talent factors are significantly different from each other. In other words, talent factors differed from each other based on their importance. Mazbouhi et al. (2017) also identified the obstacles and challenges facing the implementation of Shahab plan in primary schools. Results of the research showed that there was a difference between the opinions of male and female teachers. From the point of view of men, the most important obstacles to the Shahab plan are factors related to checklists and identification tools, followed by factors related to parents, and from the perspective of women, factors related to education and then implementation factors are introduced as the most important obstacles. Outside the country, researchers such as Ozkan et al.

(2020), Sabsingh (2016), Legam and Hovar (2014) have investigated similar plans for guiding exceptional talents in separate studies and have examined these plans in terms of their success rate.

## 2. Methodology

In terms of the type of data, the research method is included in both quantitative and qualitative methods, and both methods were used in combination, therefore, the research method used in terms of the type of data is a mixed method. In terms of the purpose, considering that the purpose of this research is the pathology of Shahab National Plan and because in applied research, the main goal is not scientific discovery, but testing and investigating the possibility of applying knowledge, the method of this research is applied study in terms of purpose and on the other hand, because in this research, it is tried to use the ideas and approaches that exist and to complete and develop these ideas, and also to go beyond these and to identify and formulate the harms of Shahab National Plan, so the method of this research can be developmental in terms of the goal. In fact, the method of this research is both developmental and applied in terms of purpose.

The statistical population of the qualitative part of the research was made up of specialists and experts in the Ministry of Education and university professors. The criteria for selecting experts was to have a doctorate degree and be familiar with the Shahab National Plan, have master's and bachelor's degrees, and working in various departments of the Shahab National Plan and familiarity with the plans of exceptional talents implemented in Iran. Therefore, the sampling method was purposive in the qualitative part. In purposive sampling, the goal is to ensure the use of a non-biased sampling method (Gal et al., 2017: 389-396). In this way, sampling continues until theoretical saturation occurs. This means that the information obtained from the examination of the answers of the new sample is of the same type as the previous answers and new solutions are not produced. Theoretical saturation in this research was done by conducting the "fifteenth" interview. Therefore, the sample size at this stage was 15. The population of the quantitative part was made up of all the fifth grade teachers of the elementary school of Shahryar, who were a total of 441 people in the academic year of 2019-2020. To determine the sample size in this section, Cochran's formula was used and 230 people were selected as a sample, whose selection method was cluster random sampling.

The data collection in this research was done in three stages, the first two stages were related to the qualitative part, and in the third stage, the data of the quantitative part was collected. Based on this, first, using the documentary method or the desk study method, all available documents, articles and sources were examined, and then, according to the information obtained from this part, a semi-structured interview was conducted with the experts, and the harms were identified in the second step based on answers of experts and the review of the theoretical principles and research contextual were used using the fuzzy Delphi method. Finally, in the third step, after identifying harms through a semi-structured interview and prioritizing them through the fuzzy Delphi method, the harm status survey was obtained and distributed among the samples to determine the status quo of each harm according to the teachers. This questionnaire had 54 items based on the trifurcation model.

In the qualitative part, all the interviews were conducted in depth and recorded, and all the efforts of the researchers were to ensure that during the implementation, the participant was the main guide of the interview process and by taking notes and remembering the points mentioned by the interviewee, they were explored in order so that there will be no ambiguity in the process of transcription. After the interview, all the interviews were recorded and prepared for analysis. To study the face and content validity of the interview questions, several experts in the field of qualitative research were consulted. Also, to measure the reliability of the interview questions, the simultaneous reliability method, which monitors the comparison and synergism of simultaneous observations, as well as the documentation method, was used. Also, in order to determine the validity and reliability of the researcher-made questionnaire, face validity and Cronbach's alpha coefficient were used. In this research, face validity was obtained by using the opinions of experts and professors of education. Cronbach's alpha method was used for the reliability of the questionnaire. Cronbach's alpha coefficient for the questionnaire was 0.86.

As mentioned, fuzzy Delphi method was used in this research to screen and prioritize the identified harms. In this method, a triangular fuzzy number is used to consider expert opinions. This is so that at one end point of the fuzzy numbers, they put the minimum opinions of the experts and at the other end point the maximum opinions, and in order to avoid the influence of the end values, the geometric mean is used, which determines the degree of membership of the fuzzy numbers. Another difference between the fuzzy method and the traditional method is the amount of processing. In the traditional method, several steps are necessary to reach a consensus and convergence among experts and specialists, but in the fuzzy method, all views and opinions are examined in one step (Thabet et al., 2017, quoted by Asefi, 2019). Finally, it should be mentioned that in the present study, a five-point Likert scale was used.

Based on what was said, the steps of implementing the fuzzy Delphi method in this research were as follows: in the first step, the appropriate spectrum was identified for verbal phasing, which is given in the table below, in the second step, the fuzzed values were aggregated in a fuzzy form, in the next step, these values were defuzzified and finally the criteria were screened based on the intensity of the selected threshold. These steps are explained in detail below:

As it was said, the first step of the appropriate spectrum was chosen so as to fuzzify the verbal expressions obtained from the experts' responses. For this purpose, triangular fuzzy numbers equal to the 5-point Likert scale were used to express the importance of each index. The results of this section are presented in the table below:

Table 1. Triangular fuzzy numbers equivalent to the Likert scale (source: Habibi et al., 2014)

Very significant	Significant	Average	Insignificant	Very insignificant
(1, 1, 75.0)	(1, 75.0, 5.0)	(75.0, 5.0, 25.0)	(5.0, 25.0, 0)	(25.0, 0, 0)

After the first step, in the second step, the opinions of the experts are obtained and recorded in fuzzy form, and finally these scores are aggregated. The following formula was used to collect opinions.

In this formula, the opinion of each expert is determined based on fuzzy numbers (l, m, u):

$$F_{AVE} = \frac{\sum l}{n}, \frac{\sum m}{n}, \frac{\sum u}{n}$$

The third step is the defuzzification of the obtained values which means the researcher can convert the fuzzy number into a number that is understandable. This is a finite understandable number that can be obtained by a definite value. In this method, the aggregated triangular and trapezoidal fuzzy numbers are summarized in a crisp which is the best average. The following formula was used for defuzzification:

$$F_{ave} = (L, M, U)$$

$$x_m^1 = \frac{L+M+U}{3}; x_m^2 = \frac{L+2M+U}{4}; x_m^3 = \frac{L+4M+U}{6}$$

$$\text{Crisp number} = Z^* = \max(x_{\max}^1, x_{\max}^2, x_{\max}^3)$$

In the formula above,  $x_{\max}^i$  are almost similar and always close to the value of M. M is the average of the sum of possible values m of different triangular fuzzy numbers. However, the calculated  $x_{\max}^i$  which is the largest is always considered (Karan, 2014).

In the last step, after performing the previous steps and defuzzification, the desired threshold should be selected to screen the options. This value is determined according to the researcher's inference. Whatever this value is, it affects the screened factors and their number. However, the value of the threshold has been specified in various sources, for example, Chen and Wang (2010) have considered 0.7 as the threshold limit of S. But it should be noted that this is not a general rule (quoted by Asefi, 2019). However, following these researchers, the present research has chosen the same number (0.7) as the threshold. Based on this, any factor that is lower than the threshold has been removed.

The next discussion is the method of prioritizing and weighting the indicators, which was used by examining the SWARA (Step-wise Weight Assessment Ratio Analysis) designed by Kersulienė et al. Below is a brief description of this method:

SWARA measures the weighting of indicators in 5 steps, and compared to other methods, it has a very high accuracy in weighting and can well evaluate the accuracy of experts regarding the weighted indicators.

1. In this method, the indices are initially sorted, the sorting method is based on the importance of each index.

2. In the second step, the relative importance of the indicators is determined. To determine the importance of each index, it is done in such a way that the importance of each index is determined in comparison with the previous index that has more importance. In this method, the value obtained from determining the importance of each index is specified by ( $S_j$ ).

3. The third step is to calculate the value of  $K_j$ , whose formula is as follows:

$$K_j = S_j + 1$$

As shown in the formula above, the value of  $K_j$  is equal to the sum of the number 1 with the value of the relative importance of each index.

4. In this step, the initial weight of the indices is calculated. The point that should be noted in this section is that the value of the initial weight of the most important index is equal to 1. The formula for calculating the initial weight is given below:

$$q_j = \frac{q_{j-1}}{K_j}$$

5. In the last stage, according to the initial weights, the normal weight of each index is calculated, which is actually the final score of that index. The final weight calculation formula is as follows:

$$w_j = \frac{q_j}{\sum q_j}$$

### 3. Findings

In the current research, in-depth interviews were conducted with 15 knowledgeable experts in the field of Shahab National Plan, 8 of them were women and 7 men. 3 people were less than 40 years old, 7 aged between 41 and 45, 2 between 46 and 50, and 3 over 51 years old. Based on work experience, 2 people had work experience between 10 and 15 years, 4 between 16 and 20 years, and 7 people over 21 years of work experience.

Using the opinion of experts, the most important harms of Shahab National Plan were identified and analyzed. Based on this, the existing harms in the implementation of Shahab National Plan in the elementary schools of Shahryar, Iran were identified by studying the literature and interviewing experts and were categorized into three areas: behavioral, contextual and structural. Then, the identified harms were screened and prioritized in the form of a Delphi questionnaire based on the experts' opinion, and finally, the status quo of harms was determined from the teachers' point of view. The results of each of these findings are presented below.

Table 2. Identified behavioral harms, frequency of experts' opinions, fuzzy average and definite average of each harm

Identified harms	Rate of significance					Fuzzy average	Definite average
	Very low	Low	Average	High	Very high		
Weakness of presenters in terms of transferring practical content	0	0	1	8	6	(0.5,0.83,0.98)	0.80
Lack of positive attitude	0	0	2	7	6	(0.57,0.82,0.9)	0.78
Weakness of experts in terms of skills,	0	0	0	8	7	(0.62,0.87,1)	0.83

knowledge and experience							
Weakness of teachers in terms of skills, knowledge and experience	0	0	1	6	8	(0.62,0.87,0.98)	0.82
Non-cooperation of executive agents	0	0	1	7	7	(0.60,0.85,0.98)	0.81
Non-cooperation of teachers	0	0	1	8	6	(0.58,0.83,0.98)	0.80
Lack of belief of teachers and executive agents in the effectiveness of the plan	0	0	1	5	9	(0.63,0.88,0.97)	0.83
Lack of commitment of teachers and executive agents	0	0	3	9	3	(0.50,0.75,0.95)	0.73
Lack of creativity in teachers and executives	0	0	5	7	3	(0.47,0.72,0.92)	0.70
Lack of concentration of teachers and executive agents	0	0	3	8	4	(0.52,0.77,0.99)	0.74
Non-cooperation of parents	0	1	4	8	2	(0.47,0.72,0.93)	0.71
Low motivation of executives and teachers	0	1	2	7	5	(0.52,0.77,0.93)	0.74
Lack of feedback to teachers' activities	0	0	3	7	5	(0.53,0.78,0.95)	0.76
Teachers' and executives' reluctance	0	0	1	10	4	(0.55,0.80,0.98)	0.78

Table 3. Identified underlying harms, frequency of expert opinions, fuzzy average and definite average in each harm

Identified harms	Rate of significance					Fuzzy average	Definite average
	Very low	Low	Average	High	Very high		
Not using the capacity of parents and local groups	0	0	2	9	4	(0.97,0.78,0.53)	0.76
Lack of perseverance and effort in employees	0	0	1	10	4	(0.98,0.80,0.55)	0.78
Lack of enthusiasm among employees	0	0	3	8	4	(0.95,0.77,0.52)	0.74
Lack of team spirit	0	0	4	7	4	(0.93,0.75,0.50)	0.73
Non-participation of people	0	0	3	9	3	(0.95,0.75,0.50)	0.73
Lack of scientific and rational budgeting	0	0	1	8	6	(0.98,0.83,0.58)	0.80

Adverse use of human, material, financial and technological resources	0	0	4	5	6	(0.93,0.78,0.53)	0.75
Failure to use talented and creative forces in the office	0	0	3	7	5	(0.95,0.78,0.53)	0.86
Failure to justify employees regarding Shahab plan	0	0	1	9	5	(0.88,0.82,0.57)	0.79
Failure to justify the students regarding the Shahab plan	0	1	5	6	3	(0.87,0.67,0.43)	0.66
Failure to justify the parents regarding the Shahab plan	0	0	6	5	4	(0.88,0.70,0.45)	0.68
Inappropriate educational spaces	0	0	1	8	6	(0.98,0.83,0.58)	0.80
Improper sanitary facilities	0	0	4	8	3	(0.93,0.73,0.48)	0.72
Inappropriate sports facilities	0	0	2	6	7	(0.97,0.83,0.58)	0.79
Non-standard heating and cooling system	0	1	5	5	4	(0.88,0.72,0.47)	0.69
Lack of reading culture	0	0	2	6	7	(0.97,0.83,0.58)	0.79
Lack of proper statistics	0	0	4	4	7	(0.93,0.80,0.55)	0.76
Absence of specific policies at the macro level	0	0	2	6	7	(0.97,0.83,0.58)	0.79
Lack of a local quality system that fits the conditions of the industry	0	0	3	6	6	(0.95,0.80,0.55)	0.77
Lack of coordination with other organizations to discover talents	0	0	3	7	5	(0.95,0.78,0.53)	0.76
Instability of management in general and regional offices	0	0	3	7	5	(0.95,0.78,0.53)	0.76
Inadequate training courses	0	0	2	7	6	(0.97,0.82,0.57)	0.78
Not being possible to implement the plan in deprived areas	0	0	2	10	3	(0.97,0.77,0.52)	0.75
Lack of time for accurate implementation	0	0	2	6	7	(0.97,0.83,0.58)	0.79
Multiplicity of plans and programs in schools	0	0	2	5	8	(0.97,0.84,0.60)	0.81



Table 4. Identified structural harms, frequency of experts' opinions, fuzzy average and definite average in each harm

Identified harms based on interviews	Rate of significance					Fuzzy average	Definite average
	Very low	Low	Average	High	Very high		
No specific annual plan	0	0	2	6	7	(0.97,0.83,0.58)	0.79
Weakness of the needs assessment system	0	0	2	9	4	(0.97,0.78,0.53)	0.76
Lack of electronic infrastructure	0	0	2	9	4	(0.97,0.78,0.53)	0.76
Lack of sufficient equipment and tools	0	0	1	7	7	(0.98,0.85,0.60)	0.81
Lack of connection with other schools	0	0	3	9	3	(0.95,0.75,0.50)	0.73
Lack of interaction with mass media	0	0	4	7	4	(0.93,0.75,0.50)	0.73
Not using new methods in plan implementation	0	0	0	9	6	(1,0.85,0.60)	0.82
Lack of dialogue-oriented meetings to implement the plan	0	0	3	8	4	(0.97,0.77,0.52)	0.74
Surface evaluation of the plan	0	0	2	7	6	(0.97,0.82,0.57)	0.78
Non-documentation of processes	0	0	3	9	3	(0.95,0.75,0.50)	0.73
Failure to provide feedback to the plan	0	0	2	7	6	(0.97,0.82,0.57)	0.78
Lack of clear strategy	0	0	0	9	6	(0.93,0.75,0.50)	0.73
Lack of coordination between different departments	0	0	3	7	5	(0.95,0.78,0.53)	0.76
Lack of transparency of the plan for implementation	0	0	1	8	6	(0.98,0.83,0.58)	0.80
Inconsistency between the book content and plan subjects	0	0	1	8	6	(0.98,0.83,0.58)	0.80
Unrealistic criteria	0	0	2	8	5	(0.97,0.80,0.55)	0.77
Insufficient criteria and items	0	0	4	7	4	(0.93,0.75,0.50)	0.73
Unclear role of teachers and executive agents	0	0	1	9	5	(0.98,0.82,0.57)	0.79
High class density	0	0	6	0	9	(0.85,0.68,0.43)	0.66

As the results of Tables 2, 3 and 4 show, the harms identified based on the interviews conducted are categorized into three behavioral, contextual and structural areas, and based on the results of the Delphi questionnaire, the experts' opinions about the harms are counted, as these results show, based on Experts' opinions and literature review, 25 behavioral harms, 19 contextual harms, and 14 structural harms were identified. In the above tables, the frequency of experts' opinions about each harm is specified. Then, in order to make the obtained numbers fuzzy according to the Likert scale (which is explained in Table 1), the obtained numbers are converted and based on the formulas A-B and C, the fuzzy average of the obtained scores is calculated, and then using the formula (D) the obtained average becomes a definite number (Rahadari and Nasr, 2017).

$$\begin{array}{llll} \text{D-} & \text{C -} & \text{B -} & \text{A -} \\ \text{Crisp} = \frac{a + bc}{3} & c_j = \sum \frac{c_{ij}}{n} & b_j = \sum \frac{b_{ij}}{n} & a_j = \sum \frac{a_{ij}}{n} \end{array}$$

The results of all fuzzification calculations in the first stage of Delphi are also given in the above tables, and the fuzzy and definitive average of each harm is specified. As mentioned in the methodology, the calculated harms are screened based on the threshold value; that this value is considered 0.7 in this research. Therefore, the harms whose definite average was less than 0.7 were below the threshold and were excluded from the continuation of the process, which according to the above results include 4 harms: 1. Failure to justify the students regarding the Shahab plan, 2. Failure to justify the parents regarding the Shahab plan, 3. Non-standard heating and cooling system and 4. High class density.

Due to the fact that the number of harms obtained was high, the verified indicators were weighted and prioritized using the SWARA method to prioritize the harms. The required data for this method are the outputs obtained in the previous step (calculated deterministic weights). Based on this, in order to prioritize the harms in each of the behavioral, structural and contextual dimensions, the harms of each dimension were sorted from the highest average to the lowest average according to the importance that the experts have considered for each harm and the definite average that was calculated accordingly. In the next step, the importance of each harm was calculated compared to the previous harm that had a higher average, so as the method of calculating the relative importance of each harm was explained in the methodology section, the values of  $S_j$  were calculated according to the relevant relationship and the relative importance of each harm was determined. Then the weight of each index was determined according to the equation ( $K_j = S_j + 1$ ). Based on this, the priority of each harm was determined. The results of prioritizing harms in each of the dimensions are given in Tables 5, 6 and 7.<sup>1</sup>

Table 5. The final weight of behavioral harms in the implementation of Shahab National Plan in elementary schools

Priority	Harm	Average (Fuzzy Delphi)	$S_j$	$K_j$	$Q_j$	$w_j$
1	Lack of belief in the effectiveness of the plan among executive agents	0.83	1	1	1	0.081
2	Weakness of experts in terms of skills, knowledge and experience	0.83	0	1	1	0.081
3	Weakness of teachers in terms of skills, knowledge and experience	0.82	1.21%	1.012	0.99	0.08

<sup>1</sup> For example, to calculate  $K_j$  in each neighborhood, it is enough to add the values of  $S_j$  with the number 1. The  $q_j$  values of each step are equal to the  $q_j$  of the previous step divided by the  $K_j$  of the same step. To calculate the final weight ( $W_j$ ), it is enough to divide each  $q_j$  by the sum of  $q_j$ 's

4	Non-cooperation of executive agents	0.81	1.22%	1	0.99	0.08
5	Non-cooperation of teachers	0.8	1.24%	1.012	0.98	0.079
6	Weakness of presenters in terms of transferring practical content	0.8	0	1	0.98	0.079
7	Teachers and executives' reluctance	0.78	2.50%	1.025	0.95	0.077
8	Lack of positive attitude	0.78	0	1	0.95	0.077
9	Lack of feedback to teachers' activities	0.76	2.56%	1.026	0.93	0.075
10	Lack of concentration of teachers and executive agents	0.74	2.63%	1.026	0.9	0.073
11	Low motivation of executives and teachers	0.74	0	1	0.9	0.073
12	Lack of commitment of teachers and executive agents	0.73	1.35%	1.014	0.89	0.072
13	Non-cooperation of parents	0.71	2.74%	1.027	0.87	0.07
14	Lack of creativity in teachers and executives	0.7	1.41%	1.014	0.86	0.069

According to table 5, the lack of belief in the effectiveness of the plan among the implementation factors is the most important behavioral harm in the implementation of Shahab plan in elementary schools. The disadvantages of experts' weakness in terms of skills, knowledge and experience, teachers' weakness in terms of skills, knowledge and experience and non-cooperation of executive agents were ranked next.

Table 6. The final weight of contextual harm in the implementation of the Shahab National Plan in elementary schools

Priority	Harm	Average (Fuzzy Delphi)	Sj	Kj	Qj	wj
1	Failure to use talented and creative forces in the office	0.86	1	1.000	1.00	0.053
2	Multiplicity of plans and programs in schools	0.81	5.81%	1.058	0.95	0.050
3	Lack of scientific and rational budgeting	0.80	1.23%	1.012	0.93	0.049
4	Inappropriate educational spaces	0.80	0.00%	1.000	0.93	0.049
5	Lack of time for accurate implementation	0.79	1.25%	1.013	0.92	0.049
6	Lack of justification of employees regarding Shahab plan	0.79	0.00%	1.000	0.92	0.049
7	Absence of specific policies at the macro level	0.79	0.00%	1.000	0.92	0.049
8	Inappropriate sports facilities	0.79	0.00%	1.000	0.92	0.049
9	Inadequate training courses	0.78	1.27%	1.013	0.91	0.048
10	Lack of perseverance and effort in employees	0.78	0.00%	1.000	0.91	0.048

11	Lack of a local quality system that fits the conditions of the industry	0.77	1.28%	1.013	0.90	0.047
12	Not using the capacities of parents and local groups	0.76	1.30%	1.013	0.89	0.047
13	Lack of coordination with other organizations to discover talents	0.76	0.00%	1.000	0.89	0.047
14	Instability of management in general and regional offices	0.76	0.00%	1.000	0.89	0.047
15	Lack of proper statistics	0.76	0.00%	1.000	0.89	0.047
16	Adverse use of human, material, financial and technological resources	0.75	1.32%	1.013	0.88	0.046
17	Not being possible to implement the plan in deprived areas	0.75	0.00%	1.000	0.88	0.046
18	Lack of enthusiasm among employees	0.74	1.33%	1.013	0.86	0.046
19	Lack of team spirit	0.73	1.35%	1.014	0.85	0.045
20	Non-participation of people	0.73	0.00%	1.000	0.85	0.045
21	Improper sanitary facilities	0.72	1.37%	1.014	0.84	0.044

According to Table 6, the lack of using talented and creative forces in the administrative part is the most important contextual harm in the implementation of Shahab plan in primary schools. The harms of multiple plans and programs in schools, lack of scientific and logical budgeting, and inappropriate educational spaces were ranked next.

Table 7. The final weight of structural harms in the implementation of the Shahab National Plan in elementary schools

Priority	Harm	Average (Fuzzy Delphi)	Sj	Kj	Qj	wj
1	Not using new methods and techniques to implement the plan	0.82	1	1	1	0.059
2	Lack of sufficient equipment and tools	0.81	1.220%	1.012	0.99	0.059
3	Lack of transparency of the plan for implementation	0.80	1.235%	1.012	0.98	0.058
4	Inconsistency between the book content and the plan subjects	0.80	0	1	0.98	0.058
5	Unclear role of teachers and executive agents	0.79	1.250%	1.013	0.96	0.057
6	No specific annual plan	0.79	0	1	0.96	0.057
7	Failure to provide feedback to the plan	0.78	1.266%	1.013	0.95	0.056
8	Surface evaluation of the plan	0.78	0	1	0.95	0.056
9	Unrealistic criteria	0.77	1.282%	1.013	0.94	0.056
10	Lack of coordination between different departments in education	0.76	1.299%	1.013	0.93	0.055

11	Weakness of the needs assessment system	0.76	0	1	0.93	0.055
12	Lack of electronic infrastructure	0.76	0	1	0.93	0.055
13	Lack of dialogue-oriented meetings to implement the plan	0.74	2.632%	1.026	0.90	0.054
14	Lack of clear strategy	0.73	1.351%	1.014	0.89	0.053
15	Lack of connection with other schools	0.73	0	1	0.89	0.053
16	Non-documentation of processes	0.73	0	1	0.89	0.053
17	Insufficient criteria and items	0.73	0	1	0.89	0.053
18	Lack of interaction with mass media	0.73	0	1	0.89	0.053

According to Table 7, the lack of using new methods and techniques to implement the plan is the most important structural harm in the implementation of the Shahab plan in elementary schools. The harms of insufficient equipment and working tools, the lack of transparency of the plan for implementation and the inconsistency between the book content and the plan items were ranked next.

In order to investigate the existing situation of behavioral, contextual and structural harms from the point of view of primary school teachers, after ensuring the assumption of normality of data distribution, single sample t-test was used. It is worth mentioning that in order to avoid repeating the names of harms, the priority number of each harm specified in the tables of the previous section is listed instead of its name in the following tables:

Table 8. One-sample t-test to check the current situation of underlying harms

Priority number of each harm	Mean	t-value	Significance level	Priority number of each harm	Mean	t-value	Significance level
1	3.09	1.14	0.25	8	3.29	3.74	0
2	3.13	1.99	0.04	9	3.46	5.36	0
3	3.04	0.72	0.46	10	3.01	0.12	0.9
4	2.72	3.72-	0	11	3.3	3.95	0
5	2.46	7.60-	0	12	2.58	5.94-	0
6	3.14	2.06	0.04	13	3.19	2.34	0.02
7	3.08	1.1	1.27	14	2.87	2.00-	0.04

As the results of Table 8 show, the status quo of 5 cases of behavioral harms (including the weakness of experts in terms of skills, knowledge and experience, the weakness of presenters in terms of transferring practical content, lack of positive attitude, lack of feedback to teachers' activities and lack of cooperation of parents) according to the values of obtained mean and t values (higher than 1.96) and also according to the significance level obtained for these 5 harms (less than 0.05) are higher than the assumed community average (3 in a 5-point Likert scale). The rest of the harms are at the average level or lower than the average level of the hypothetical situation, and the only harm is the lack of perseverance and effort in the employees, which is ranked as the 10<sup>th</sup> priority, as well as the harm with priority number 14, i.e. the lack of management stability in the general offices and regions is at a lower than average level.

Table 9. One-sample t-test to check the current situation of underlying harms

Priority number of each harm	Mean	t-value	Significance level	Priority number of each harm	Mean	t-value	Significance level
1	3.23	3	0.003	12	3.53	7.8	0
2	3.7	8.76	0	13	3.83	10.68	0
3	3.73	9.59	0	14	3.55	7.58	0
4	3.73	9.29	0	15	3.57	7.69	0
5	3.56	6.78	0	16	3.7	9.3	0
6	2.27	3.69-	0	17	3.63	8.14	0
7	3.67	8.41	0	18	3.63	7.92	0
8	3.86	9.92	0	19	3.57	7.45	0
9	3.41	5.35	0	20	3.26	3.47	0
10	3.03	0.61	0.536	21	3.44	5.61	0
11	3.59	7.76	0	-	-	-	-

As the results of Table 9 show, the status quo of most of the contextual harms according to the average values obtained and t-values (higher than 1.96) and also according to the significance level obtained (less than 0.05) is higher than the assumed average of the community (3 in a 5-point Likert scale). The rest of the harms are at the average level or below the average level of the hypothetical community.

Table 10. One-sample t-test to check the status quo of structural harm

Priority number of each harm	Mean	t-value	Significance level	Priority number of each harm	Mean	t-value	Significance level
1	3.55	7.47	0	10	3.72	10.07	0
2	3.84	11.77	0	11	3.8	11.03	0
3	3.59	7.6	0	12	3.92	12.4	0
4	3.72	9.79	0	13	3.61	8.46	0
5	3.52	7.12	0	14	3.78	10.45	0
6	3.48	6.37	0	15	3.81	11.09	0
7	3.65	8.41	0	16	3.57	7.82	0
8	3.34	4.52	0	17	3.14	1.8	0.072
9	3.57	7.55	0	18	3.77	10.11	0

As the results of Table 10 show, the status quo of all structural harms according to the average values obtained and t-values (higher than 1.96) and also according to the significance level obtained (less than 0.05) is higher than the assumed average of the community (3 in a 5-point Likert scale) that among them, the lack of harm to electronic infrastructure, which is placed in the twelfth priority, has the highest average according to teachers.

As can be seen in the above tables, the level of significance in most harms is less than 5%, therefore the null hypothesis is rejected with 95% confidence and the research hypothesis is confirmed. Therefore, it can be said that there is a difference between the majority of harms in all three areas with the average of the community. On the other hand, according to the average values obtained in the above table, it is determined

that the harms with a positive average difference and a t-value greater than 1.96 are higher than the assumed average of the community, and the harms with a negative average difference and a t-value greater than 1.96 are lower than the community average. The rest of the harms whose t-value is less than t-value at the 0.95 level of confidence, i.e. 1.96, have no significant difference with the theoretical average and are at the average level.

#### 4. Conclusion

Based on the analysis of the results of semi-structured interviews as well as the screening of identified indicators based on the fuzzy Delphi method, it was determined that 14 harms in the behavioral dimension, 21 harms in the contextual dimension and 18 harms in the structural dimension were identified that have challenged the implementation of Shahab National Plan in the elementary schools of Shahryar, Iran. 4 harm according to the experts and results of Fuzzy Delphi method (non-justification of students regarding the Shahab plan, lack of justification of the parents regarding the Shahab plan, non-standard heating and cooling system and high density of classes) do not cause problems in the implementation of the Shahab plan. Therefore, in a general interpretation, it can be said that it seems that schools are facing many challenges to implement this plan. Also, according to the survey conducted among the teachers of Shahryar schools, it was found that most of the harms identified are above the average level, and most of the harms are at a high level in Shahryar schools according to the teachers. In this research, 53 harms were identified that education officials and managers should pay attention to in order to implement the plan well. In the explanation of the obtained result, it can be said that the plan should be implemented according to the talent, desire, ability, personality, values of the students and to expand the vocabulary and skills needed in the present and future of the country by taking advantage of the opinions of teachers, all school staff and educational-career advisors. Paying attention to the multiple talents of students and choosing the right path will make students choose their field of study based on their interest, talent, and academic performance in the future and finally get into their desired career path. Therefore, it is possible to carry out the Shahab plan correctly if this plan is based on pathology and removing obstacles. The correct guidance of students in the academic course will lead to their job satisfaction in the future, and their incorrect guidance will lead to job dissatisfaction. Job satisfaction refers to people's cognitive, emotional and assessment reactions to their jobs. The root of these reactions can be their past and educational guidance. A person who is not satisfied with his field of study will certainly not be successful in the job of that field of study. Therefore, it is suggested to pay more attention to the Shahab plan, which is dependent on components such as talent and academic guidance, in order to reduce academic dissatisfaction that leads to a decrease in individual performance in schools. The results of this research are consistent with the previous ones and are in line with the results of Navidi (2019), Bagheri Rochi (2019), Kalbasi (2012), Mansourkhani (2018) and Gibson (2011).

According to the prioritization of harms in three areas of behavioral, structural and contextual harm, "weakness of executors in terms of transferring practical content", "lack of positive attitude", "weakness of experts in terms of skills, knowledge and experience", "weakness of teachers in terms of skills, knowledge and experience" and "non-cooperation of executive agents" ranked first to fifth, respectively. In other words, the mentioned harms were the most important in the behavioral field. As it is known, 3 cases out of the first five harms are related to weak knowledge and skills, and two are related to lack of positive attitude and as a result, lack of cooperation of executive agents and teachers. Also, the examination of the rest of harms also shows that most of the harms in the behavioral field are related to the lack of commitment and creativity of the teachers and executive agents and the lack of cooperation with the plan. Based on this, in order to remove the harms of Shahab National Plan in the field of behavior, it is necessary to carry out a detailed needs assessment, identify the qualifications required for the implementation of the plan, and in-service training and orientation training for teachers and executive agents, so that a positive attitude is formed in them regarding the plan, and also take advantage of the necessary skills regarding the plan. In addition, education managers and officials should take into account rewards and incentive plans to attract the cooperation of their teachers

and provide the basis for increasing their motivation and commitment with proper planning and the participation of teachers and executive agents in different parts of the plan. In terms of harms in the structural field, “lack of a specific annual plan”, “weakness of the needs assessment system”, “lack of electronic infrastructure”, “lack of sufficient equipment and tools” and “lack of communication with other schools” were the five most important harms. As it can be seen, the harms of this area are related to the harms of the behavioral area and it shows that removing the harms of each of these areas helps to remove the harms of the other areas as well.

For example, accurate needs assessment will help to identify the needs of students and teachers, and communication with other schools will provide the basis for increasing cooperation and creating a positive attitude in teachers and executive agents. Therefore, the authorities should take measures to reduce the harms of this area by providing sufficient facilities and equipment and with careful organization and planning, and finally, in the field of context, the five priority harms are, respectively: “not using the capacities of parents and local groups”, “lack of perseverance and effort in employees”, “lack of enthusiasm in employees”, “lack of team spirit”, “lack of participation of people”. As we can see, these harms are also related to the harms of the other two areas and are mostly related to the lack of cooperation and motivation of teachers and executive agents. Based on this, it is clear that any effort to remove the harm in each of the three mentioned areas is effective in removing the harm in the other two areas as well. Therefore, by removing these harms, the knowledge, skills, motivation and commitment of teachers and executive agents are expected to be improved and they will provide the basis for the better implementation of the plan by acquiring the required competencies of the plan and with better participation.

Regarding the investigation of the status quo of harms, the results showed that with 95% confidence, it can be said that most of the behavioral, contextual and structural harms are not in a good condition from the point of view of primary school teachers. These results showed that the average of most harms was higher than the average of the community, so that 10 harms out of 14 behavioral harms, 19 harms out of 21 contextual harms and all 18 structural harms had an average higher than the average of the community (3), which shows that the teachers believe that the implementation of this plan is facing many problems in terms of behavioral, contextual and structural harms.

According to the averages obtained in the status quo of behavioral harm and the prioritization done, it can be concluded that if teachers are involved in the process of guiding students’ studies and to ensure that their activities are effective in guiding the students’ future productivity, with more motivation, desire and confidence to implement plan and provide valuable assistance to the implementation of the plan in line with the anticipated goals. Therefore, it can be said that these results are in the completion and confirmation of the results of the previous section and show that the most harm in the behavioral field is related to the lack of motivation and positive attitude and as a result the lack of participation in the plan, so as it was said, it is appropriate to take basic measures in this regard. The authorities of the plan, including the Elite Foundation and the Ministry of Education, should take action to reduce these harms to a minimum and to provide a better implementation of the plan in schools.

Regarding the contextual harm, it can be concluded that high population of students, multitude of plans and programs in schools, lack of necessary facilities, limitation of required spaces such as laboratories, gymnasiums, etc., and the economic, social and cultural status of the family are among the most important harms that were mentioned. Regarding the influence of family, it was further pointed out that a student in a privileged family may benefit from extracurricular education and show a special talent in the same conditions as a student in a deprived family, while another student with a much higher talent in an equal opportunity might be unequally compared. This shows the importance of the Shahab plan in identifying different academic talents, sports talents and other talents of students in disadvantaged areas, because proper education and identifying these talents will be a step towards poverty and delimitation and will help to reduce the class gap. In fact, many children from low-income families have high talent and intelligence, but due to deprivation, they suffer a lot of harm, and these talents are not seen and paid attention to because of the family’s economic



and social issues. Many of these students need their talents to be seen and discovered, and fixing the harm of this plan and its correct implementation can play a key role in this matter.

Also, the results of the interviews, Delphi prioritization, and the status quo of structural harms show that the harms of this sector are very basic and important because the foundation of a plan determines the goals and how to achieve those goals. Among the most important structural harms according to experts and scholars are: the lack of legal support for the Shahab plan at the education organization levels and departments. In order to establish any new plan in any organization, especially an organization such as education, which has a very large scope, it is necessary to first design and produce a flexible structure, and after the establishment of the plan in schools, this structure is removed and becomes an existing structure in schools. For example, if there is a manager, principal, teacher, trainer or consultant in an office or general office or school, these people should follow up the plan because we believe that the Shahab plan is a fundamental and essential plan for education, therefore, another structure should not be defined next to the existing structure. One of the structural problems and harms is that these parallel structures that are placed next to the existing structures create conflicts, problems and overlapping tasks and make it difficult to implement the plan. Therefore, it would have been better after two years since the plan initiation, the tasks related to the plan in the existing structure of education organization from the ranks to the headquarters were integrated and the people who are responsible for the implementation of education took on the task of implementing the Shahab plan as a main task and advance it.

Based on what was said, the following research recommendations can be made:

1. Forming a committee and taking practical measures to remove the obstacles and challenges of implementation according to the results of this research and the trifurcation model before the implementation of the Shahab plan in Education Organization.
2. Providing the necessary platform for the implementation of Shahab plan by removing the harms identified in this research.
3. Holding workshops and in-service courses will greatly help the implementation of Shahab plan.
4. Using talented and creative forces in the administrative department.
5. Using new methods and techniques in school management and teaching textbooks related to this plan.

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