

## Evaluating Suitability of Subheadings Postgraduate Course Environmental Geology and Educational Needs of Students

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**Abstract** The purpose of study is Evaluation Suitability of Subheadings Postgraduate Course Environmental geology and educational needs of students. The statistical population consist of postgraduate students of geology trends of environmental geology in the public and Islamic Azad University in Iran which 180 persons. Sample size is 123 subjects. The sample method in this study is multi-stage cluster sampling. Result showed that Based on the data summarized in Tables, the average scores obtained subheading for appropriateness the learning needs of students, for six lessons and for items needed presented as follows: (1). for study environmental geochemistry is 3.80 to 2.25, (2). For environmental management and sustainable development 3.22 versus 2.17, (3): to study Medical Geology 3.31 against 2.33, (4): for specific topics in geology 3.50 against 2.67, (5): to geological hazards: 3.94 versus 2.33 and (6): for environmental geological of engineering projects 3.77 against 2.35. So the result obtained for the required items higher than average and this reality that the learning needs of students from beyond the subheadings presented.

**Keywords:** curriculum, environmental geology, educational needs

### Introduction

One of the main goals of higher education, training highly qualified specialists and society. Although universities and higher education institutions have been try in this field. But unfortunately the lack of consistent academic lessons has caused to the needs of society the graduates do not have the necessary expertise and performance. Nowadays, universities, organizations and countries succeed in these fields that are able to use more than knowledge and information. (Karami, 2012).

The curriculum includes learning opportunities and experiences in order to create favorable changes in knowledge, skills and attitudes learners will be designed and implemented. According to Eisner curriculum learning outcomes are dealing with is not pre-determined

objectives. According to Eisner (1997), in the design, manufacturing and implementation of the curriculum intended and implemented curriculum mentioned.

Proper planning in training environmental education, carefully consider the ability with the principles and rules of environmental science, educational materials sequences, up to date subjects, identifying issues of the day and taking the time. In a related field such as civil engineering, geology is not clear whether the lesson of environmental issues has been adequate or whether, to what extent are the principles of proportionality?

Find a criterion for evaluation and goal setting based on available indicators of problems has always been centers of higher education academic curriculum specialists. (Mohammadi, 2013).

Mohammadi (2013) entitled this research of assess Suitability environmental curriculum in the fields of civil engineering, architecture and agriculture with environmental standards, sustainable development states that one of the most important problems of environmental protection and sustainable educational programs about the environment is taken into consideration. In this context, the role of higher education and environmental curriculum that includes subjects related to the environment, as a key factor in achieving human development. So this way people can play an active role and influence the development of their environmental sustainability.

Amini (2014) in the study as the place of environmental education in school textbooks, believes: As long as the dilemmas and problems of the environment do not rigorous attention in the form of educational programs and school curricula at different educational levels, and if students who are the future of human society, do not necessary recognition and insights, continuation of human life and the future lives will be disrupted and ambiguous.

Pouly and O'Connor (2015) in his study of environmental education and attitudes:

To the conclusion that environmental educators interested in changing attitudes, emotions and ideas and the variation of environmental education programs should not be considered as sources of information.

In this study, the proportion of environmental geology graduate curriculum according to the guidelines provided by the Supreme Planning Council will be discussed with students' needs. For this purpose and to answer the question whether geology environmental topics with their students' educational needs? Topics fit the six basic lessons this field include: environmental geochemistry,

environmental management and sustainable development, medical geology, special topics in environmental geology, geological hazards, geological environmental engineering projects, the training needs of university students.

**Methodology**

This research is quantitative and descriptive survey. The statistical population consisted of postgraduate students of geology trends of environmental geology in the national University and Islamic Azad University in Iran which 180 persons. Sample size is 123 subjects by Cochran formula. The sample method in this study is multi-stage cluster sampling. That selected eight Islamic Azad University and national University between 17 universities. And 123 subjects were randomly selected and completed the questionnaire. The questionnaire, set based on the objectives of the Syllabus of the discipline and bearing in mind the four themes and standards. These include geology, non-geology, laboratory, outdoor inspection and practical. This questionnaire designed to 72 questions in scoring from very high to low. Reliability of the questionnaire 0.90 and status Questionnaire presented is 0.95.

**Results**

First hypothesis: The headings of environmental geochemistry lessons Is proportional with the students' educational needs.

**Table 1 .** Compare the average subheadings of environmental geochemistry lessons with educational requirements

Group	Mean	SD	Mean Deviation	t	DF	P
Required	3.80	0.80	0.073	10.897	119	0.001
presented	2.25	0.62	0.56	-13.206	119	0.001

**Table 2.** Paired samples in environmental geochemistry lessons

Paired difference		t	DF	P
Mean	SD			
1.55	0.93	18.122	119	0.001

The second hypothesis: The headings course environmental management and sustainable development Is proportional of the students' educational needs.

**Table 3.** Compares the average subheadings course environmental management and sustainable development with the educational needs of students

group	Mean	SD	Mean deviation	t	DF	P
Required	3.22	0.82	0.075	2.981	119	0.001
presented	2.17	0.45	0.041	-20.009	119	0.003

**Table 4.** Paired samples in the course of Environmental Management and Sustainable Development

Paired difference		t	DF	P
Mean	SD			
1.051	0.88	13.052	119	0.001

hypothesis3. Subheadings medical geology lesson with the students' educational needs.

**Table 5.** Compares the average medical geology lesson subheadings with students' education needs

group	Mean	SD	Mean deviation	t	DF	P
Required	3.31	0.78	0.071	4.425	119	0.001
presented	2.33	0.67	0.061	-10.696	119	0.001

**Table 6.** Paired samples in medical geology lesson

Paired difference		t	DF	P
Mean	SD			
0.97	0.68	15.578	119	0.001

The fourth hypothesis: subheadings specific topics in geology lesson with the students' educational needs?

**Table 7.** Compares the average subheadings specific topics in geology lesson with students' education needs

group	Mean	SD	Mean deviation	t	DF	P
Required	3.50	0.79	0.072	6.981	119	0.001
presented	2.65	0.79	0.072	-4.084	119	0.001

**Table 8.** Paired samples in special topics course in geology

Paired difference		T	DF	P
Mean	SD			
0.85	0.76	12.192	119	0.001

Fifth hypothesis: The headings of geological risks lessons with the students' educational needs?

**Table 9.** Compares the average headings of geological risks lessons with the students' educational needs

group	Mean	SD	Mean deviation	t	DF	P
Required	3.94	0.58	0.053	17.704	119	0.001
presented	2.33	0.72	0.66	-9.972	119	0.001

**Table 10.** Paired samples in the course of geological risks

Paired difference		t	DF	P
Mean	SD			
1.60	0.96	18.209	119	0.001

### Conclusion

The first question: to what extent environmental geochemistry subheadings lessons with the students' educational needs?

Results of our research consist with results Bashiri 2013, Tayyebi et al (2013), Mohammadi, 2013, 1393 Amini, saadati and colleagues (2014), Joel (2003), Bartos (2003), Harasna (2012), Pouly and O'Connor (2015). In explaining this question can be said that the issue in the headlines is not enough and needs of students and should be the most important. Non-geological subjects is required such as To familiarize the students with the basic principles of environmental geochemistry and the application of the principles of analytical chemistry organic and environmental issues and problems, and monitoring and interpretation of environmental pollution and general principles of measuring elements and measurement methods, sampling the contaminated environment. It should be noted that in the context of the principles and basic knowledge of chemistry lessons

in this course, students should have been strong enough dominance. The need to hold laboratories for this lesson should be considered. And other issues related to environmental chemistry issues, the need for practical and laboratory units is evident. Mineralogical studies show that the most important topic is geology lesson should be taught in the lab.

The second question: To what extent private subheadings environmental management and sustainable development of the students' educational needs?

The results of this question consist with the results of Bashiri 2013, Tayyebi et al (2013), Mohammadi, 2013, 1393 Amini, saadati and colleagues (2014), Joel (2003), Bartos (2003), Harasna (2012), Pouly and O'Connor (2015), the need for educational programs in relation to environmental issues. In explaining this question can be said that geological issues considered in chapters This course is not enough and must be addressed. This course also reference not paid sufficient attention. And because the Sustainable Development of new knowledge and extensive most new sources are foreign and student must have a high level of specialized language or the use of limited resources and Old Persian. This can be resolved by adding the unit's specialized language.

The third question: To what extent subheadings medical geology lesson proportional students' educational needs?

The results of this question consist with the results of Bashiri 2013, Tayyebi et al (2013), Mohammadi, 2013, 1393 Amini, saadati and colleagues (2014), Joel (2003), Bartos (2003), Harasna (2012), Pouly and O'Connor (2015) On the need for educational programs on environmental issues and the results of the study, Nelson and colleagues (2010) in relation to the positive role of the laboratory in science learning is aligned.

In explaining this question can be said that

Introduce students to the relationship between natural factors and human health and other living creatures is the purpose of the lesson as well as the need to have full information Geochemical by students, is one of the most important medical geology lesson after lesson offered environmental geochemistry. So the lesson of environmental geochemistry is also prerequisites. Medical information is also presented for students on subheadings not enough and should be considered in the context of important issues. Educational software is required. In this context, the findings in the field of data analysis software for GIS and RS should be taught to students to be used in mapping the risk of medical geology.

Fourth question: to what extent specific topics in geology lesson subheadings with the students' educational needs?

The results of this question consist with the results of Bashiri 2013, Tayyebi et al (2013), Mohammadi, 2013, 1393 Amini, saadati and colleagues (2014), Joel (2003), Bartos (2003), Harasna (2012), Pouly and O'Connor (2015) On the need for educational programs on environmental issues and the results of the study, Nelson and colleagues (2010) in relation to the positive role of the laboratory in science learning is aligned.

In explaining this question can be said that according to presented subheadings for this lesson Students can take any subject related to environmental geology in connection with the thesis that But this period is not included in the defined courses Or not adequate education to practical Thesis and Choose and confirmation of supervisor. Considering that certain topics are not provided in this lesson. Educational council Group can be one of the new topics in the field of environmental chemistry for this lesson in mind .The course syllabus has been prepared based on the Group be provided.

For example, the issue of tourism saddle is one of the topics in this field can be in this format.

The fifth question: To what extent subheadings geological risks lessons with the students' educational needs?

The results of this research with the results of Nusrat and colleagues (2010), Sharifian (2013), Mahmoudi (2013), in relation to the use of laboratory environments and the role of experimental activities is aligned.

The results of this question consist with the results of Abbasi et al. (2010) and Kiani et al (2014), in the field of remote sensing images is now able to provide the most recent data are used to study land cover and use. And transforming growth is needed and today in remote sensing images obtained from satellite imagery to detect these changes can be achieved. Also the results of this question consist with the results of Bashiri 2013, Tayyebi et al. (2013), Mohammadi, (2013), Amini (2014), saadati and colleagues (2014), Joel (2003), Bartos (2003), Harasna (2012), Pouly and O'Connor (2015), within the context requires training program is aligned in relation to environmental issues.

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