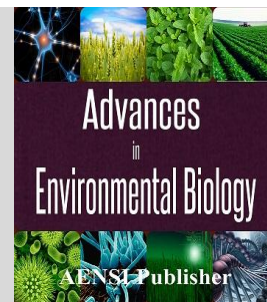




AENSI Journals

Advances in Environmental Biology

ISSN-1995-0756 EISSN-1998-1066

Journal home page: <http://www.aensiweb.com/AEB/>

The investigation of the mathematic skills and educational success in the humanistic sciences fields

¹Mir Abolfazl Nourani and ²Somayeh ShojaGarebagh

¹Tabriz branch Islamic Azad University, Tabriz, Iran.

²Tuberculosis and lung disease research center, Tabriz University of medical sciences, Tabriz, Iran.

ARTICLE INFO

Article history:

Received 26 September 2014

Received in revised form 20 November 2014

Accepted 25 December 2014

Available online 2 January 2015

Keywords:

ABSTRACT

In this study the degree of the mathematic skills and educational success of the humanistic sciences has been carried out to analyze the relationship between these groups. For the statistical population of the related study, the graduates of the humanistic sciences faculty of Tabriz Azad University were taken up in this study. By the use of Morgan Table the sample volume has been determined and the sampling method was subjected to a relative categorization accidental method in this regard. The diagrams, correlation and categorization difference methods were taken to analysis of the study.

© 2014 AENSI Publisher All rights reserved.

To Cite This Article: Mir Abolfazl Nourani and 2Somayeh ShojaGarebagh., The investigation of the mathematic skills and educational success in the humanistic sciences fields *Adv. Environ. Biol.*, 8(25), 762-765, 2014

INTRODUCTION

A general perception about the people's educational abilities is subjected to the decision-making times all about the educational continuation affecting on these students potentially. This general perception is established based on the mathematic skills. In other words if someone is weak in the skills of mathematics and computational affairs, he or she will tend to continue his studies in the humanistic sciences and these people never like studying in this educational field at all. Although it may be boosted a part of the brain due to the repeated activities, the other part of the brain may be weakened and vice versa. And this may lead to the formation of the same general perception but does the same subject related to this division accurately? Anyway, if the educational field is the main subject of someone's future, this will be merely accepted by the same issue leading to supplement very limited targets in this pavement. This may prevent the blossoming of the talents and aptitudes. The factors of the general intelligence, interest, struggle and conservation should not be ignored in this case. Due to the importance of the subject and the acceptability of the general perception in the community level, it is decided to carry out a non-experimental study in this field [4]. By the use of the related study the degree of the graduates' educational success in the humanistic fields and the skills of the mathematics and computational affairs have been investigated potentially; in this research, the score of the graduates represent that there is considered a criterion for the educational success of the mathematic lessons and their computational skills. Now we want to respond to the question whether there is a correlation between the total score and the mathematic scores of the humanistic sciences students or no? There is a difference between the total score and the scores of the mathematic; is it a logical difference (one class) or a one mutating difference between two or more categories? By responding to these questions scientifically, the general perception can be accepted or denied. ShirinSoltani [5] and A. Baki [1] et al carried out a study regarding to the degree of students' understanding in the relationship between the mathematics and the real life of three fields of mathematics, natural sciences and humanistic sciences.

METHODS AND MATERIALS

In this study the statistical population of the research includes the whole humanistic sciences students of Tabriz Azad University during the 2009-2014 educational years. According to the statistics of the same

university, the research population is about 2882 people. By studying the background of these 2882 students and measurement of their scores, the following categorization has been carried out as following:

Table 1: categorization of the total score

Rating	VL	L	M	H	VH
interval	[10, 12)	[12, 14)	[14, 16)	[16, 18)	[18, 20)

The distribution table of these total scores of the related study is accordance with table 2. Morgan Table is applied to determine the volume of the sample. Due to the volume of the study, the sample volume is reached to 341 ones and the categorization accidental sampling method is also used in this regard. But due to the number of the categorizations of VL and VH, the whole recent populations were taken up into these two levels and the volume of other categorizations has been specified as following:

Table 2: distribution table of total score and calculation of the sample volume

Rating	N	PERCENT	n
VL	12		12
L	1100	38.91	111
M	1261	44.61	128
H	466	16.48	47
VH	43		43
	2882		341

By determining the volume of the sample for the categorizations, the number is specified by the help of the relative categorization accidental sampling method [3]. By extracting the mathematic scores and the statistic of the sample, the mathematic score of these people was calculated. The definition and extraction of the research variables have been completed by this way. The total score is variable X and the mathematic score is called Y variable.

Diagram analysis, correlation and determination coefficient:

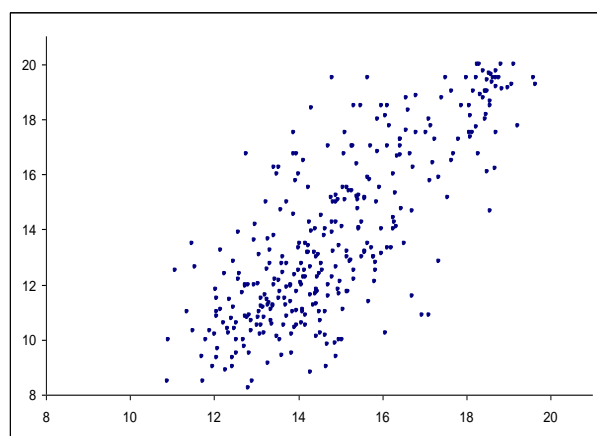


Diagram 1: distribution of X and Y variables

By the diagram analysis, it is observed that there is a non-linear correlation between these two variables. But this diagram does not show any information regarding to the correlation. Hence, by the use of SPSS Software, we measure the correlation between 341 data of these variables. The obtained results have been given in following table:

Table 3: Correlations

		total score	mathematic score
total score	Pearson Correlation	1	.783**
	Sig. (2-tailed)		.000
	N	341	341
mathematic score	Pearson Correlation	.783**	1
	Sig. (2-tailed)	.000	
	N	341	341

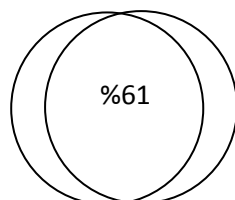
** Correlation is significant at the 0.01 level (2-tailed).

Thus, the degree of the correlation between the total score and mathematic score is established in this level: $\alpha=0.01$, $r=0.783$

Hence, there is a significant correlation between these two variables. By calculating the determination coefficient (2), we also have:

$$V = (r_{xy})^2 \times 100 = (0.783)^2 \times 100 = 61$$

Hence about 61% of the distribution is common between these two variables.



Comparison of the categorization difference:

We enter into the related details due to investigate the study establishing the total score, score changes of the mathematics and vice versa. It should be mentioned that due to the range of scores, 6 categories have been considered for the mathematic score. That is, one category is higher than the total scores (VVL: (8, 10)). The two dimensional table of 4 has been designed as following for these variables:

Table 4: two-dimensional table

f_x	VH	H	M	L	VL	VVL	
43	33	9	1	0	0	0	VH
47	10	19	10	4	4	0	H
128	7	10	32	47	27	5	M
111	0	7	6	26	59	13	L
0	0	0	0	3	5	4	VL
341	50	45	49	80	95	22	f_y

In this phase, we are seeking to the mutating difference of these categorizations between variables because if these differences are considerable, the general perception will be accepted in relation to the separation of the abilities of the humanistic sciences and mathematic sciences together. First, the top category of these variables is investigated. The obtained results are given in table 5:

Table 5: comparison of the categorization difference in the top categorization (VH)

X→Y	f	P
[VH, VH]	33	0.77
[VH, H]	9	0.21
[VH, M]	1	0.02
	43	1
Y→X	f	P
[VH, VH]	33	0.66
[VH, H]	10	0.20
[VH, M]	7	0.14
	50	1

2% of people having the highest score have got moderate score of the mathematic and 14% of people having the highest mathematic scores have moderate total scores. The mutating difference is stopped in the second category and also they have got lower percent than the natural level. Hence, these differences of the top category of the two-dimensional table are really negligible. In table 6, it is observed that the total mutating difference in $X \rightarrow Y$ and $Y \rightarrow X$ is 18 and 16, respectively that they are negligible in this case.

Table 6: comparison of the categorization difference in top category (H)

Y→X	f	P
[H, VH]	9	0.20
[H, H]	19	0.42
[H, M]	10	0.22
[H, L]	7	0.16
[H, VL]	0	0.00
	45	1
X→Y	F	P
[H, VH]	10	0.21
[H, H]	19	0.40
[H, M]	10	0.21

[H, L]	4	0.09
[H, VL]	4	0.09
	47	1

The mutating difference in $Y \rightarrow X$ is very considerable in the low category because about 32% of people having low scores in the mathematics have got moderate and higher scores but in contrast, the whole people having lower total scores have not any mutating difference in their mathematic scores. Due to the lack of mutuality of the related mutation, this percent is higher than 32% cannot cause to the confirmation of the same general perception. In other categories, there is a similar situation. Table 6 shows the comparison of the categorization difference in the low categorizations (VL).

$Y \rightarrow X$	f	P
[VL,H]	4	0.04
[VL,M]	27	0.28
[VL, L]	59	0.62
[VL, VL]	5	0.05
	95	1
$X \rightarrow Y$	f	P
[VL,L]	3	0.25
[VL, VL]	5	0.42
[VL,VVL]	4	0.33
	12	1

Conclusion:

By considering the total correlation coefficient and minor analyses and the categorization issues, it can be concluded that the degree of the humanistic sciences success have higher correlation together in compare to the mathematic skills. The general perceptions will look at these experimental affairs suspiciously. But there are other factors such as struggle, virtue and confidence, belief and interest in target that guarantee the educational success overcoming on every pre-judgment and opening the paths of the knowledge towards the whole students potentially.

REFERENCES

- [1] Baki, A., H. Çatlıoğlu, S. Costu, O. Birgin, 2009. Conceptions of high school students about mathematical connections to the real-life, *Procedia Social and Behavioral Sciences*, 1: 1402-1407.
- [2] Delavar, Ali, 2007. probabilities and applied statistics in the educational and psychological issues, Rosh Publication, pp: 164-165.
- [3] Delavar Ali, 2001. research methodology in psychology and educational sciences; 3rd edit, Virayesh Publication, pp: 93-94.
- [4] Pasha Sharifi, 2001. Hassan: research methodologies in behavioral sciences, Sokhan Publication, pp: 90-95.
- [5] SoltaniSalout, S., M. Behzadi, H. Ahmad Shahvarani, A. Manuchehri, M. Students' 2013. Conception about the Relation of Mathematics to Real-Life. *Mathematics Education Trends and Research*, pp: 1-7.