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Perception of Students about Geography in FNU: A case study

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Abstract

Identification of perception of some subject is critical part of educational research. Perception can be defined as the process of perceiving something with the existing knowledge. The students in very first year at Fiji National University (FNU) also have certain perceptions about the subject Geography. Few studies have been carried out focussing on the process and context over time in which students make decisions about subjects. The choice of this subject is secondary and they feel that Geography is easy to learn. The enrolment of students in Geography appears to be due to a complex interaction between individual students' perceptions of Geography, the quality of teaching and learning in Geography departments, and whole-school option choice systems like English-Geography or History-Geography combination.

The target group for this study was Year 1 students of Geography in B.Ed. Secondary programme. The research tool was questionnaire with 20 Likert type items. The results of this study reflect the students‟ own perceptions of the influences on their choice of Geography subjects. The data were analysed by the method of descriptive (mean score, standard deviation) and inductive (analysis of variance) statistics. The dispersion of mean of the students is not scattered. The mean is 79.194 with SD of 5.754. The t-test assesses whether the means of two groups are *statistically* different from each other. The calculation of t test is 0.27. Results are further discussed in the conclusion part and there is information about the possibility of future research.

Keywords: Educational research, Perception, Geography, Enrolment, Questionnaire.

1. Introduction

The positive perception of any subject is important with regards to the achievement of pupils and also interest about that in the future life. Pupils without positive perception about the subject have got problems to achieve success in the subject. The same is true about Geography. Respectively, the good marks are the result of extrinsic motivation (parents). In this case, the Geography is for them useless and they do not see its importance. This fact was valid in the past (Germann, 1988) and also nowadays (Anwer, Iqbal & Harrison, 2012). Geography, as a course of study, is also crucial to the success in other disciplines through “its role as springboard to every other subject in the sciences and humanities” (McDougall, 2003, p. 218). However, the subject has lost favour as a core requirement in secondary schools and has been relegated somewhat to a supplemental and less important course of study (Thomas-Brown, 2011, p. 181). Consequently, numerous studies in recent years have unveiled a deficiency in the geographic abilities of Americans at epidemic proportions, especially when compared to other countries (Salter, 1990; Sack & Peterson, 1998; Final Report, 2006; Carano & Berson, 2007; Hopkin, 2011).

The investigations were realized mostly in USA or in the Middle East (Turkey). The older studies (McTeer, 1979; Sack & Petersen, 1998) are focused on the ranking of Geography among other subjects. Geography was ranked by the respondents as relatively less favourite subject as no other option. The newer studies are focused on the perception of Geography by respondents with the using of questionnaires in the majority of cases. Ozdemir (2012) investigated high school Turkish students' perception of Geography by the using of scaled questionnaire.

Generally, the students expressed positive perception of Geography. Kubiatko, Janko and Mrazkova (2012) also found out relatively positive perception of Geography among lower secondary school pupils by the using of scaled questionnaire.

2. Rationale

The perception of Geography in the context of Fiji by pupils was never investigated. In Fiji National University, Geography is being offered in combination of other subject as English or with History under Bachelor of Education (Secondary). The choice of these combinations is generally not the first choice for them. It depends on their preference and perception. Students consider Geography subject as a very easy to carry on. It indicates that the perception of Geography as a subject is positive. The present study used the same approach as in the study of Kubiatko, Janko and Mrazkova (2012, pp. 67-75).

The aim of the study was to find out differences in the dimensions of perception about Geography between gender and age level of tertiary students. The variables like gender and level are among the most investigated factors, which can influence the perception of Geography. The analysis of these two factors is missing in the context of Fiji, so before investigating of the new factors, it was important to find out the influence of gender and age level on the perception of Geography of the lower secondary school pupils, who have enrolled for B. Ed –secondary program of Fiji National University.

One other reason for undertaking this study was decline in number of admitted students. Although the enrolled students in an informal meeting suggested that Geography is gaining attraction for the simple reason of employability with position. In Fiji, many of the School head's position were attached to the subject-Geography. "While it should always adhere to this principle of future-orientation, student-learning is especially important to make Geography relatable to students due to student-held opinions of the subject" (Sack & Peterson, 1998, pp. 123-131), hence this study.

This work was mainly focused on the following objectives-

Objectives

- To identify the level/type of perception among the target group
- To detect gender influence on the perception of Geography
- To ascertain age level influence on the perception of Geography
- To identify variant statement in a given tool
- To test the divergence of observed results from the expected results on equal probability

Hypothesis

It was decided by researchers to formulate null hypothesis and check whether they could be accepted or rejected. The null hypothesis for the independent t-test is that the population means from the two unrelated groups are equal: H_o: $u_1 = u_2$

H_{o1}: Perception about Geography is not normally distributed.
H_{o2}: Gender-wise mean score are not the same.
H_{o3}: Age-wise mean score are not the same.
H_{o4}: There is no variant statement in the tool used.
H_{o5}: Perception about Geography is not equally distributed among student teachers.

For testing hypothesis 1, the graphical presentation was thought to be useful. For hypothesis 2 and 3, t-test was decided to be used. The independent t-test, also called the two sample t-test or student's t-test, is an inferential statistical test that determines whether there is a statistically significant difference between the means in two unrelated groups. Hypothesis 4 was tested with the help of ANOVA calculations. For testing of Hypothesis 5, $\chi 2$ calculations were computed.

3. Methodology

This work was carried out using the following features-

A-Population

At Fiji National University (FNU), there are three campuses that offer Geography as a major subject for B.Ed. secondary programme- Natabua, Nasinu and Labasa. Of these at Natabua campus, where the researchers work, around 120 students enrol in different years of graduation program**.** The low level of interest was observed in student teachers of Natabua campus only**.** From this population of students, only those from first year Geography-major were selected as sample for the present study.

B-Sample: The sample for this research thus comprised of 72 year one student teachers. Since all year one student teachers were included in the sample, it could be considered as purposive or selective sample.

C-Tools used: Many great studies about teaching geography also include students' attitudes towards geography lessons. The aim of these studies was to discover how the students' attitude towards geography lesson change based on the method used. Likert type attitude scales were used in these studies (Tomal, 2010). A research by Güven (2006) named "A study to develop a scale for measuring attitudes toward high school geography course" is the first and most comprehensive study about preparing an attitude scale for geography lesson in Turkey.

For this research the tool used was self-made Likert type questionnaire on five-point scale. The opinionnaire was developed after experiencing over a period of time. Student teachers are having lack of interest, boring facial expressions, lack of understanding, mis-conceptions about Geography concepts, components of subject matter, problem-solving, decision-making, employability etc. Some statements were created in a negative form, as required by Likert scale. The statements were decided to be limited in number as it was a small scale study. After receiving feedback from some of the colleagues, the statements were edited and then finalized.

The questionnaire consisted of twenty items (presented in random order) that were rated by the participants from 1 (strongly disagree) to 5 (strongly agree). Items had few positive (e.g., "I like Geography more than other subjects") and few negative (e.g., "Geography is not important in comparison with other courses") formulations. **Negative items were reversed in the scoring. The total score of individual participants provides a composite index of attitude towards Geography, which is detrimental on perception. A low score reflects a

relatively negative attitude and lower level of perception and a high score reflects a relatively positive attitude toward Geography and a higher level of perception.

3. 1 Justification for tool used

Since perception is related to attitude and has a possibility of existence of multidimensional continuum, at times, it is difficult to quantify answers given by respondents on questionnaire, and does not provide an opportunity to respondents to be neutral and most importantly does not have any influence of answer given to previous question (as it may occur in questionnaire), yet**,** researchers decided to use Likert type scale, looking at its advantages such as- it is most common method of data collection in survey type research, responses are easily understood, quantifiable and computable, does not require respondent to provide simple yes/no answer, does not force respondent to take a stand on one particular point and allows respondents to respond in a degree of agreement or express neutral or undecided feeling. Also the survey is quick, tool is inexpensive and easy to administer.
The questionnaire was rather an opinionnaire as it sought opinions of the subjects regarding Geography. It was administered by one of the researchers personally, in his presence. Since the questions/statements in the tool were simple, easy to understand and having no possibility of any other question cropping from it and all were given the same time frame (15-20 minutes), it could furnish for guarantee of the same understanding of the respondents.

3. 2 Validity and reliability of tool used

The validity by its definition is a trustworthiness with which it measures what it is supposed to measure. Validity of the tool was determined on the basis of content. The content validity of the tool was judged by the content-questions/statements it had and the area with which they related-perception. The index of reliability is also sometimes taken as a measure of validity. The reliability (and validity) of the tool used was decided on the basis of Correlation between each statement and overall tool. Reliability coefficient came to be 1.00 thus indicating perfect correlation for internal consistency and validity.
Although the paper highlights an issue of gender, it is just to take care of extraordinarily large number of girls being enrolled in B. Ed program offered by FNU. The tool has only two questions related to gender. More so, it was a general observation that females prefer Humanities subjects more than the males who incline more to technical/engineering subjects.

D-Statistical Techniques

The statistical techniques used for inferences included descriptive measures such as mean and standard deviation and inferential measures such as ANOVA, critical ratio and **χ^2**.

Procedure

The questionnaires were distributed among students of year 1 in their first week of study. Pupils were reassured that the questionnaire was anonymous, that it was not a test but rather a research attempt to explore their perception of Geography. No time limit was given for the finalization of the questionnaire; however students finished their work within 10 minutes. All questionnaires (n = 72) were filled out correctly and were included in the analysis.

Results and Discussion

The data collected with the help of questionnaire was analysed and has been presented as follows-

Table 1: Nature of sample

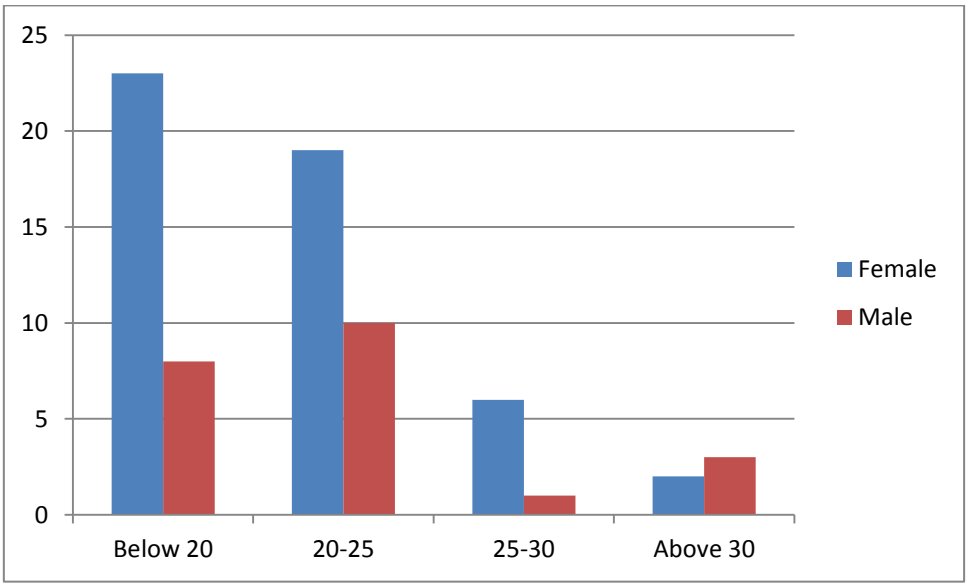
Students	Gender		Total
	Male	Female	
Year 1	22	50	72

Thus from the above table 1, it could be seen that there were more female students enrolled in the program than the males. Since sample was inclusive, no selection or random selection was possible.

Table 2: Age-wise nature of sample (n=72)

Age Group	Female	Male
Below 20 years	23	8
20-25 years	19	10
25-30 years	6	1
Above 30 years	2	3
Total	**50**	**22**

From the above table 2, it could be evident that youngsters were more in number than the mature ones. Of these freshers were more than the late entrants. This was supported by the following graph-



Graph 1: Age-wise and gender wise distribution of sample

For the finding of answers on research question the methods of descriptive and inferential statistics were applied. From the methods of descriptive statistics it was mean score and standard deviation and from methods of inductive statistics it was one-way analysis of variance (ANOVA), where the mean score for dimensions was as dependent variable and gender and grade level was as independent variables. In the analysing of the items, the percentage amount of agree or disagree answers were taken into account, as presented in the table below-

Table 3: Percentages of students' preferences to statements

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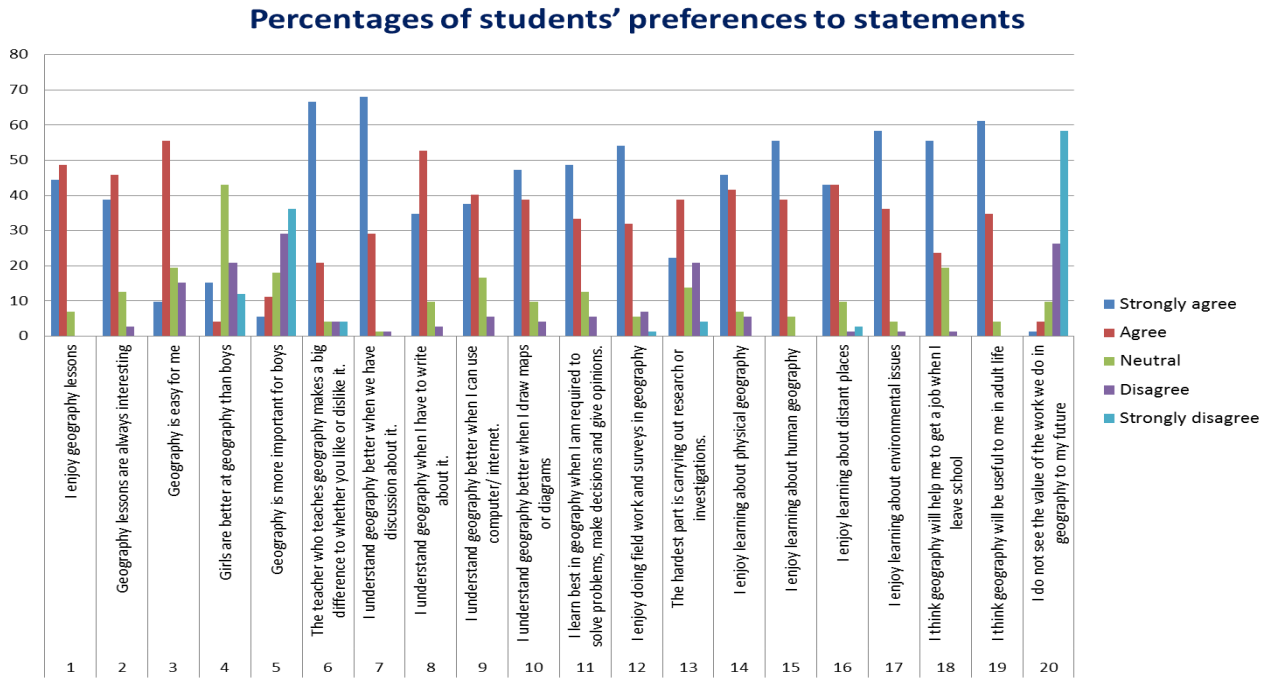
S.no	Questions/statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Geography lessons are always interesting.	38.88	45.83	12.5	2.77	0
*2	I do not enjoy Geography lessons	44.44	48.61	6.94	0	0
3	Geography is more important for boys	5.55	11.11	18.05	29.16	36.11
*4	Geography is not easy for me	9.72	55.55	19.44	15.27	0
5	I understand Geography better when we have discussion about it.	68.05	29.16	1.38	1.38	0
*6	Girls are not better at Geography than boys.	15.27	4.16	43.05	20.83	12
7	The teacher who teaches Geography makes a big difference to whether you like or dislike it.	66.66	20.83	4.16	4.16	4.16
*8	I don't enjoy doing field work and surveys in Geography.	54.16	31.94	5.55	6.94	1.38
9	I understand Geography when I have to write about it.	34.72	52.77	9.72	2.77	0
*10	I do not enjoy learning about physical Geography.	45.83	41.66	6.94	5.55	0
11	I understand Geography better when I can use computer/ internet.	37.5	40.27	16.66	5.55	0
*12	I do not enjoy learning about human Geography.	55.55	38.88	5.55	0	0
13	I understand Geography better when I draw maps or diagrams.	47.22	38.88	9.72	4.16	0
*14	The hardest part is carrying out research or investigations.	22.22	38.88	13.88	20.83	4.16
15	I learn best in Geography when I am required to solve problems, make decisions and give opinions.	48.61	33.33	12.5	5.55	0
*16	I do not enjoy learning about distant places.	43.05	43.05	9.72	1.38	2.77
17	I enjoy learning about environmental issues	58.33	36.11	4.16	1.38	0
*18	I don't think that Geography will help me to get a job when I leave school.	55.55	23.61	19.44	1.38	0
19	I think Geography will be useful to me in adult life.	61.11	34.72	4.16	0	0
*20	I do not see the value of the work we do in Geography to my future.	1.38	4.16	9.72	26.38	58.33

The observations of the above table 3 have been supported by the following graph-



Graph 2: Statement-wise percentage of student teachers' responses

Based on the students' scores on the used tool, it was decided to categorise them into three categories such as low perception, mediocre perception and high perception. For this the following table was used-

Table 4: Categories of perception

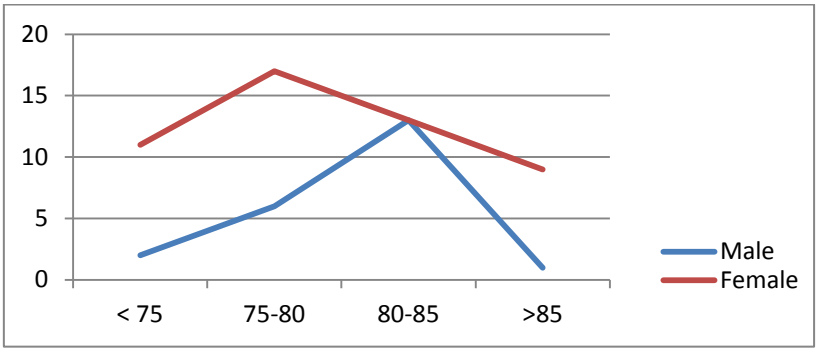
Range of scores	Level of perception	Overall sample	Gender Males	Females
65-72	Low perception	10	2	8
73-82	Mediocre perception	43	14	29
83-91	High perception	19	6	13

From the above table 4, it was evident that the level of perception in the overall sample as well as gender-wise-was normally distributed.
It was further decided to compute mean and standard deviation of the total scores quantified on all statements. These computations have been presented in the following table-

Table 5: Gender wise mean and standard deviation

	Male	Female
Mean	80.63636	78.56
SD	4.35	6.21
mode	82	82

From the above table 5, it could be seen that the mean score of males are higher than that of the females, although the females were more in number. Looking at this difference in the mean scores of the genders, it was decided to calculate the critical ratio by using t- test. The C.R. was observed to be 0.27, which was not significant at even 0.10 level. The same has been supported by the following graph-



Graph 3: Distribution of males' and females' scores

Thus it could be inferred that there is no gender-wise difference in the mean scores of perception. The difference in the mean score seen is not a real one. It may have occurred because of inclusiveness of the sample.

From the value of C.R., it could be concluded that the difference in the mean of the two genders is not significant at any level. This also means that the result of C.R. being non-significant could be due to sampling error.

This also indicates that the differences in the mean score of male and female may be due to chance error. To ascertain the age level influence on the perception about Geography, the data collected from the sample was categorised age-wise and has been presented in the following table-

Table 6: Age-wise distribution of scores

Age	n	Overall sample		n	Males		n	Females	
		Mean	S.D.		Mean	S.D.		Mean	S.D.
Above 30	5	83.4	5.5497	3	80	3.4641	2	88.5	3.5355
25-30	7	79	4.5460	1	77	0	6	79.3333	4.8853
20-25	29	78.3448	6.5752	10	81.5	3.8078	19	76.6842	7.1806
Below 20	31	78.7096	5.1845	8	79	6.23355	23	78.6087	4.9243

Table 7: Age-wise variance values

Age group	Female	Male
Below 20	24.24	38.85
20-25	51.56	14.5
25-30	23.86	--
Above 30	12.5	12

It could also be inferred from the above data and the value of variance that the female student teachers of the age group 20-25, have a variety of perceptions about Geography, whereas males of Below 20 years of age group are having a variety of perceptions and this is a group **of mature prospective teachers**. If further focussed, this group may show the change in their perception about Geography, which could be part of another and further research.

According to Garrett and Woodworth (1981), "The chi-square test represents a useful method of comparing experimentally obtained results with those to be expected theoretically on some hypothesis. The larger the chi-square the greater the probability of a real divergence of experimentally observed from expected results".

For testing of null hypothesis 4, $\chi 2$ calculations were done. The $\chi 2$ values for all 20 statements were found to be much greater than the table values, as indicated in the following table no. 8-

Statement no.	**Calculated $\chi 2$ value**	**Statement no.**	**Calculated $\chi 2$ value**
1	85.91667	**11**	59.80556
2	63.97222	**12**	73.30833
3	64.52778	**13**	23.41666
4	29.38889	**14**	68.97222
5	22.86111	**15**	94.66667
6	105.5	**16**	65.21
7	125.0833	**17**	98.13889
8	75.36111	**18**	72.65278
9	48.13889	**19**	106.4722
10	66.75	**20**	26.00833

Entering the Table E of Garrett and Woodworth (1981, p. 462), it was observed that the $\chi 2$ (chi-square) values for all statements in the tool used, were much higher than the table E values, thus rejecting the null hypothesis.

4. Summary

From this piece of work it could be summarized that the student teachers opting for Geography as a major subject have various concepts about Geography, which influences their perceptions.

The limited sample size may have affected the results. If more participants were included, the gender difference may have been insignificant. Additionally, the instrument design and selection of statements in the study of perception of Geography may have been biased; however, the subjects from the sample reflected that they were in three categories according to their perceptions. The mean score on perception was higher in case of males as compared to that of females. Those with higher perceptions were the males of age group 20-25. The variant statement in the tool used was statement no. 1- "**Geography lessons are always interesting".**

From these results when considered hypothesis-wise, it could be seen that hypothesis
H_{o1}: **Perception about Geography is not normally distributed** cannot be accepted, since the graph on the scores and frequency shows normal distribution, although the curve is not perfectly bell-shaped.

H_{o2}: **Gender-wise adjusted mean score are not the same**. For this hypothesis, considering the mean scores of males and females, it was seen that there is a difference, although t-value was not significantly different. Thus this hypothesis is to be accepted.

H_{o3}: Age-wise adjusted mean score are not the same, it could be said referring to table no.6, that mean scores of the student teachers-age-wise are not the same. Thus this hypothesis is to be accepted.

H_{o4}: There is no variant statement in the tool used. From ANOVA calculations, it was initiated that statement no.1 "**Geography lessons are always interesting".**

H_{o5}: Perception about Geography is not equally distributed among student teachers. The $\chi 2$ computations revealed that the calculated values of $\chi 2$ were all much greater than Table E values, which indicate the probability that the obtained $\chi 2$ is significant thus indicating that the hypothesis of equal distribution of perception of Geography among student teachers cannot be accepted. Also, there will be no probability of its occurrence as equal distribution of perception, in future.

5. Conclusion

From this research it could be concluded that the perception that these student teachers have about Geography is generally not very high. Being the youngsters of middle but mature ages, there seems to be a wider scope for bringing a change in their perception, which would be a challenging job for their teachers. Also, if their perceptions are to the mark, they would be able to induce appropriate perception about Geography in their students.

6. Suggestions

From the findings of this research, the authors would like to suggest that the student teachers need to pay more attention to Geography in order to teach it well to the younger generations. As suggested by Weeden (2002, 2005), "A number of key variables have been identified but not researched in detail; they are-type and location of school, gender, age, ethnicity, social and economic factors, ability and quality of teaching". The teachers involved in research should focus on some of these variables, if not all.

A search for a relationship between the deficiency in awareness of Geography among students and the possible factors that contribute to it would seem judicious. The results of such an investigation may encourage educators and policy makers to reexamine instruction methods and measures for promoting an interest in Geography as a school subject.

The present study's finding is meaningful for educators in that Geography instruction might consider gender differences in spatial cognition in order to be more equitable. Further research into spatial cognitive differences between genders would be justified. Also, qualitative studies focusing on Geography curriculum and how males and females respond to different methods of instruction would provide valuable information.

Finally, the need for geographic skills appears to be of utmost importance today, even if it isn't in practice. In the words of Paul Weeden (2007, pp. 62-73), "Pupils' perception of the subject and the way it is taught is limited, especially for Geography. The research suggests that the learning process and the quality of the teaching are far more influential than subject content in making Geography interesting. It also suggests that pupils' conceptions of Geography are unclear.

Further research will be beneficial in the development of pupils' knowledge and understanding of Geography and its key concepts, development of our understanding of what makes students feel Geography 'useful' in so that it can be marketed better. This might include research into what is retained by students and adults after they finish studying Geography.

A research at larger scale including student teachers from other campuses and also other units could be possible, so that it generates an informed decision in the interest of FNU.
The teachers teaching Geography at tertiary level should keep checking the attitude and interest of the students to encourage and motivate them to do the best in future. The teachers could also check whether the students opting for Geography as a major subject have appropriate understanding about various technical terms used in the subject content. As a preliminary observation, it was observed by the researchers that majority of the students of Geography have some wrong conceptions about most commonly used terms. This needs to be further investigated.

Since perception leads to development of interest and positive attitude and thus leads to success in achievement, it would be beneficial if the teachers teaching Geography keep asking several questions creating interest in the content part. Also more exploratory work should be included in the assignments.

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