The comparison of factors affecting plagiarism and its committing rate in virtual and on campus students of Isfahan University

Bibi Eshrat Zamani[1], Kamal Nosrati heshi*[2], Zahra Naderi Ghahfarokhi[3], Hossein Najafi[4]

1. Associate Professor, Department of Educational Sciences, Faculty of Educational Sciences and Psychology, University of Isfahan,

2. M.A. Student, Department of Educational Sciences, Faculty of Educational Sciences and Psychology, University of Isfahan,

3. M.A. Student, Department of Educational Sciences, Faculty of Educational Sciences and Psychology, University of Isfahan,

4. Assistant Professor, Department of Educational Sciences, Payame Noor University, Po BOX 19395-3697, IRAN.

* E-mail of the corresponding author: kamalnosrati1367@yahoo.com

Abstract

The present study compares the factors affecting plagiarism and its committing rate in virtual and on campus students of Isfahan University which has been conducted through survey method. The population of the study includes all students studying at Isfahan University which were more than 13281 during academic year of 2012-2013, from which 315 were selected as research samples according to Cochran's sample size formula using a stratified sampling design. Required data were collected through researcher made questionnaire that its reliability was estimated 0.86 and validity was proved by experts. Data analysis were carried out using inferential and descriptive statistical tests, which took advantage of frequency and percentile at descriptive level and one-way between-groups, MANOVA test, independent t sample, and t-test at inferential level. Results indicated that among 11 components, three components: lack of mechanisms for detecting and punishing plagiarists, socio-cultural conditions and religious factors had different impacts on plagiarism in virtual and on campus students and the component of lack of self-efficacy in doing research and writing reports in campus students had the most impact on plagiarism than virtual courses. The findings also indicated that the level of commitment of plagiarism is higher in virtual courses than on campus student courses.

Key words: plagiarism, affecting components, virtual students, on campus students

1. Introduction

In recent years virtual training has been proposed as one of important applications of ICT and extensive activities have been initiated in this regard. Due to quick changes that are taking place in the surrounding environment, implementing virtual systems in order to provide new services and technologies in the field of teaching and learning has been proposed as a fundamental need (Ong, 2004:8) which is offered in the form of different systems such as computer-based learning, on-line learning, branch-based learning, network-based learning. Virtual training was used by Cross for the first time and simply it is utilizing information technology for learning (Ladouceur, et al.; 2001). Virtual university is a type of virtual training which is an environment in which by utilizing appropriate multimedia tools and by having good communication infrastructure (such as computers, networks, the Internet, fax, camera, and software facilitating online communication and etc.) provides E-training and E-learning services (Fatah Nezhad, et al., 2008). Hence, virtual training has created the free flow of electronic communications, and the lack of monitoring society has lead to the lack of control in the relationship and interaction of communication and information which creates new issues in this area that have not been present in traditional education (Loraine, et al. 2007). These new issues, like globalization, were followed by new challenges in the field of education and also those associated with the ethical issues. For example, deception which is occurring in the area of virtual space, in addition to its damaging effects, is a global threat (Amirpoor, et al. 2008). The Internet and the development of its application in learning, has increased the ethical issues of information technology (Melissa, 2007). Hence there should be more emphasis on the role of technologies and the importance of ethics in research and teaching. While the goal of morality in the information technology and as a result in e-learning and its variants is the creation of tools that can be used by considering important ethical aspects in the use and development of these systems. One of the ethical issues about computer systems are caused by a kind of policy vacuum about how computer technology should be used (Moor, 1985). Virtual training morality is from the domain of professional morality and means preventing different unethical instances in the virtual training environment. Because of free flow in the vast domain of electronic communications,

defining ethical responsibility towards self and others is essential (Alipoor, et al., 2009). Thus virtual training morality includes behavioral-communicational patterns based on rights of self and others that makes ethical obligations and responsibilities clear towards it (Mehrmohammadi, 2005).

Some common unethical instances of electronic and virtual training include: 1. Plagiarism and violations of intellectual property rights 2. Preaching anti-values 3. Eavesdropping 4. Increased Deception 5. Non-adherence to bailment 6. destroying competitors through slander and gossip 7. Spreading lies and frauds (Alipoor, et al., 2009). Hence, plagiarism is proposed as one of the instances of immorality in the field of Campus Student or virtual education and this phenomenon is a problem which is known in the section of quotations in the field of publication. As, Lester (1995) defines plagiarism as intentionally using others' writing instead of ours. Hasrati (2006) and Zahedi (2008) also quoting from "the Commission of impeccability and honesty of research" knows plagiarism as an act of impetuosity and intentionally the author notes comments, statements, data, graphs, or unpublished scientific protocols of others rather than his opinions without mentioning their sources. Plagiarism or literary theft is defined by Oxford dictionary as follow: "the action or practice of taking work, idea, etc., and passing it off as one's own" (Oxford English Dictionary, 1991). Or in another definition, literary theft is defined as "taking someone else's ideas, writings or inventions and pretend that they are under your own ownership (Jean, 2008).

Plagiarism is becoming a major problem for many of today universities. Honesty and truthfulness are among the first characteristics that everybody expects all of the researchers to have and people's trust to this class is based on this honesty (Mansourian, 2011). However, it seems that now we need to review the issue and rethink about the tubule wound. In the past, usually every literary theft in this sense used to occur among the educated class and they were the one who had been suffering from its consequences. But now with the emergence of an organization called "University" responsible for the scientific and ethical education of specialist and educated generation, its scope does not limit to certain people, and in fact ignoring any such action, particularly in the academic area, might have in terrible consequences.

Next are researches that deal with academic theft in order to determine what factors are influential in committing this act; Smith et al. (2007) in a study showed that factors that are resulting in plagiarism are: Lack of information, lack of understanding, lack of competence and personal attitude and claimed that there is no evidence showing that pushing access to the Internet would lead to literary theft. Amiri & Khamesan (2012) have introduced personal and contextual factors associated with academic dishonesty as follows: Personal factors (including age, sex, field of study and personality traits) and contextual factors (such as teachers, academic dignity rules, the severity of punishment and the impact of peers). The results also suggest that academic dishonesty should be considered as an action beyond cheating in tests.

Amiri & Khamesan (2012) have studied the prevalence of academic cheating among male and female students the University of Birjand. Research findings indicate that mean cheating in examinations is below average, but general belief inclines that cheating spread is above average. Cheating rate in boys is higher than girls, and the belief in generality of cheating in girls is significantly higher than boys. The most common method of cheating in exam sessions is peeping at and writing down on a piece of paper, and the most common method of cheating on homework is taking the homework from classmates and the Internet. In relation to cheating, internal factors such as the lack of accountability and the lack of sufficient time are more magnified as the reason for cheating by student than external factors such as difficult assignment and high expectations from students.

Paul Stapleton (2012), in order to evaluate the effect of anti- academic theft software, compared the level of plagiarism by students in two classes; so that one of the classes was aware that the authenticity of their papers will be examined while the other class was not. Results showed that the class that was unaware of anti- scientific theft software dramatically used intentional copying and plagiarism, compared to the class which was aware of anti- scientific theft software (Turntin). These findings indicate that the anti- theft software has a preventive effect in academic theft and plagiarism. As a result, anti- scientific theft service offers a useful deterrent effect, but care must be taken in evaluating the results.

Greg Wheeler (2009) in a study finds that the lack of recognition of law and cultural values is the substantial reason for students for committing plagiarism. Due to the increasing interest which is recently directed toward plagiarism detection systems such as anti- theft software which is a web-based software, Stephan Dahl (2007) in a research investigates MA students' attitude after using the anti- scientific theft software as their standard method and provides feedback. Generally students had positive attitudes toward the system. However, evidence from the study of indicated a less positive attitudes form a group of students which seems that it is true as a result of uncertainty about how to quote correctly.

Aghajani and Keyvan Ara, Cheshme Sohrabi and Papi (2012), in a research aimed at understanding the causes and damages affecting the formation of cheating and academic, have investigated experiences of Isfahan Medical University experts in the field. The results of this study were divided into two groups: internal and external factors. Internal factors were related to talents, person's perception and reception from the channels of family and society. External factors also from the surrounding environment have pressure on the performance of the person who carried out the research. In this case, the person will be affected by the environmental in committing the offense voluntarily and non-voluntarily.

Kamobidian & Zolfi Gol & Haji Azizi (2010) pointed that sticking to ethical principles will result in improvement of internal and external performance of individuals and different communities. Observing ethical principles by educators, researchers and scientists is of additional necessity due to the value and status of knowledge; because scientists, thinkers and scholars are considered as models and their behavior, words and deeds have a key role in building the culture of the community. In this study, some of the indecent and unethical behaviors in scientific atmosphere and Dos and Don'ts are declared so that Iranian scientists and researchers compile and publish their scientific evidence with the knowledge of these issues and observer ethical principles of science for better effects of their scientific and research results. Meanwhile legal rulings (which are available for some items) are also presented.

Darouian and Faghihi (2012) have investigated motives and causes of academic theft in Iran. This study, first, deals with accepted ethical principles of this field and then brings some example of plagiarism and reasons and causes behind it. Lack of development, lack of proper knowledge and education, unevaluated promotion, paying attention to quantity rather than quality of research, degree - oriented approach, lack of clear and preventive regulations and inadequate research funding in Iran are identified as the motives and causes of academic theft and compiling preventive rules, education and culture building activities, and creating comprehensive database for research are mentioned as strategies to reduce the academic theft in Iran.

Thus, according to the research done to clarify the factors affecting the academic theft it has been revealed that conducted studies have reported the factors that influence the academic theft and each study has noted some of the factors. This paper attempts to comprehensively investigate many factors that may influence this phenomenon to take basic decisions to solve this problem in the areas of virtual and Campus Student education. This study also examines the level of plagiarism in among virtual and Campus Student students of Isfahan University which is considered a new scientific work in this respect since no research has studied the academic theft phenomenon among virtual and Campus students. Therefore, given the importance of the issue, the aim of this study is to answer the following questions:

2. Research questions:

1. Whether factors affecting plagiarism in virtual and on campus Student groups are different?
2. Which of these eleven factors affecting plagiarism in virtual and on campus student groups is effective in separate courses?

3. Is the level of committing plagiarism different in virtual and campus student groups?

3. Methodology

This research method is descriptive – survey. The population of the study includes all students studying at Isfahan University which are more than 13281 during academic year of 2012-2013. To estimate sample size, 340 samples were evaluated through Cochran's sample size formula from which 315 were returned which include 265 Campus Student students and 50 virtual students and sampling method was stratified sampling proportional to the volume.

4. Instruments

 This study made use of two questionnaires. This questionnaire was made by the use of research literature and questionnaire (Zamani, Azimi, and Soleimani, 2013). Zamani et al. questionnaire used 10 components but the role of religion was neglected. In this research the role of religion and religious attitude is regarded as a factor affecting ethical issues, particularly in the prevention of committing theft. Thus this questionnaire comprises of 11 factors as follows: lack of self- efficacy in research and report writing, the lack of mechanisms for identifying and punishing academic thieves, attitudinal factors, and socio-cultural conditions, lack of previous training on how to reference documents, lack of familiarity with the methods of scientific theft prevention in high school or

informal education, lack of scientific theft detection by the teachers and not reacting to it, lack of fear of being punished or reprimanded, electronic and virtual pressures, push factor and degree orientation approach, inadequate training at university to identify and prevent scientific theft, and faith - religious factors in the form of input religion and output religion. These evaluate factors affecting plagiarism in virtual and Campus Student groups and 4 questions were proposed to assess the level of committing academic theft. The questionnaire was designed in the form of 50 questions and responders were asked to grade their answers based on a five degree scale and for every option weight was set from 1 to 5, based on 5-point Likert scale and finally the reliability of the questionnaires was calculated as 0.86 through Cronbach's Alpha and the validity of the questionnaires was also confirmed by instructors of educational sciences and library.

5. Data analysis method

Data obtained through the implementation of scales were analyzed by SPSS16 software. Descriptive parameters were measured at the beginning and then to answer the first two questions one-way between-groups MANOVA was used and independent sample t-test was used to answer the third question. To examine the differences between Campus Student and virtual groups in factors affecting academic theft one-way between-groups multivariate analysis of variance (MANOVA) was used. Eleven variables were used as dependent variables and the independent variables were campus student and virtual courses. Some outliers were witnessed in dependent variable and omitted from analysis and as a result 291individuals remained and testing initial assumptions showed that no violation of assumptions has occurred.

6. Results

[Insert Table 1 about here]

First question: 1. whether factors affecting plagiarism in virtual and Campus Student groups are different?

[Insert Table 2 about here]

As can be seen from Table 2, results suggest that the course effect on the linear combination of the dependent variable is significant. Examining each unvaried ANOVA statistics shows that the course was significantly effective on second component (the lack of mechanisms for identifying and punishing academic thieves) (eta = 0.035, $F_{(1,289)}=10.37$, , P<0.004,), fourth component (socio-cultural conditions) ($F_{(1,289)}=8.48$, P<0.0045, eta=0.028), and eleventh component (religious factors) ($F_{(1,289)}=21$, P<0.004, eta=0.065).It means that in these three components there is a difference between virtual and Campus Student groups in terms of academic theft.

Second question: 2. which of these eleven factors affecting plagiarism in virtual and Campus Student groups is effective in separate courses?

[Insert Table 3 about here]

Table 3 was used to determine the contribution of each factor according to educational courses.

Table (3) shows that the first component (lack of self-efficacy in research and report writing) in Campus Student course has the most effect from among eleven components. It means that lack of self-efficacy in research and report writing in Campus Student course had the most effect on academic theft (virtual mean = 23.37, SD= 0.250; on campus students mean = 23.49, SD = 0.106). This effect is shown in the following graph. Therefore the generality of examining other factors it is shown that virtual course plays a bigger role in academic theft than the on campus students course.

[Insert Graph 1 about here]

theft Graph 1 shows that on campus students course has more effect on the first factor than virtual course.

Third question: 3. is the level of committing plagiarism different in virtual and on campus students groups?

To answer this question independent sample t-test was used and results are shown in table 4.

[Insert Table 4 about here]

As can be seen in Table 4, the mean and standard deviation for virtual courses is (8.37, 2.73) and for on campus students courses is (6.88, 2.33). According to t-test results we can say that the difference between virtual and on campus students group in the level committing academic theft is meaningful. Thus, this difference is also advantageous to the virtual course that is the level committing academic theft in virtual course is more than on campus students course.

7. Discussion and Conclusion

Plagiarism is one of the biggest obstacles to scientific progress universities which may occur for different reasons. Among the reasons that have an impact on academic theft which have been studied by researchers in the present study, there were 11 factors that are as follows: Thus this questionnaire comprises of 11factors as follows: lack of self- efficacy in research and report writing, the lack of mechanisms for identifying and punishing academic thieves, attitudinal factors, and socio-cultural conditions, lack of previous training on how to reference documents, lack of familiarity with the methods of scientific theft prevention in high school or informal education, lack of scientific theft detection by the teachers and not reacting to it, lack of fear of being punished or reprimanded, electronic and virtual pressures, push factor and degree orientation approach, inadequate training at university to identify and prevent scientific theft, and faith - religious factors in the form of input religion and output religion.

This study attempts to compare the factors influencing academic theft and its committing rate among the university students of virtual and on campus students courses and these objectives were met through answering three questions. To answer the first question which was "whether factors affecting plagiarism in virtual and on campus students groups are different?", using multivariate and univariate ANOVA, results suggest that for the second, fourth and eleventh components which are the lack of mechanisms for identifying and punishing academic thieves, and socio-cultural conditions, and faith - religious factors in the form of input religion and output religion respectively, from among 11 factors have different effect on academic theft in two groups of virtual and on campus students. Such results may be due to lack of interaction among individuals in virtual training environment and they feel themselves in a virtual world and no control is posed on them in such a free environment. Therefore these results are useful in that by identifying such factors appropriate mechanisms can be provided to identify and punish scientific thieves in virtual and on campus students groups and eradicate factors affecting plagiarism in scientific circles by taking strategic decisions and some investigations should be performed from cultural, social and religious aspects to explain what factors cause the scientific theft to have different effects on virtual and on campus students groups which by identifying reasons of such factors overcomes such scientific problem by adopting a thoughtful program. Therefore obtained results for the first question are somehow in line with research findings of Darouian & Faghihi (2012), Amiri & Khamesan (2012), Greg Wheeler (2009), Kaboudin, Zolfi Gol and Haji Azizi (2010).

To answer the second question which was "which of these eleven factors affecting plagiarism in virtual and on campus students groups is effective in separate courses?", using the mean and Standard Deviation, results showed that the first component (lack of self- efficacy in research and report writing) in the on campus students course had the most impact on scientific theft from among 11 factors and it was also revealed that factors affecting scientific theft in virtual courses are more effective than on campus students courses. Hence, according to such results it is essential to adopt strategies to resolve factors affecting plagiarism. Therefore results of are in line with those of Smith, et al. (2007) and Darouian & Faghihi (2012). Meanwhile, it is essential for educational managers and executors to teach self-efficacy in research and the correct way of reporting to young researchers to save scientific credibility of academic institutions from the adverse consequences of scientific theft.

Finally in answering the third question, "is the level of committing plagiarism different in virtual and on campus students groups?", using independent sample t-test, results suggest that the level of committing plagiarism is significantly different in virtual and on campus students groups that is the level of committing plagiarism in virtual group is higher than on campus students group. Perhaps one reason for this is excessive use of advanced computer techniques. Thus today dealing with ethical aspects in virtual training seems necessary and we can offer comprehensive investigations in areas of virtual training to researchers. Therefore results for the third question of the research are of grave importance since the high rates of plagiarism in virtual courses compared to on campus students courses is a warning to authorities of virtual universities to be aware of dangers of scientific theft and take more actions in coping with and preventing it.

Thus, in order to cope with plagiarism, policy makers and course planners can put more priority on those elements that have more impact on scientific theft. Researchers are also suggested to provide practical solutions for coping in their future research and schools and universities perform scientific researches for better security and more efficiency.

It is also recommended for college-level to improve students' self-efficacy and ability in research and writing and correct methods of referencing to resources and citations must be placed in the curricula of schools and universities as a necessary prerequisite course or universities should use anti-scientific theft software to differentiate scientific researches from unscientific ones and consider appropriate mechanisms to punish scientific thieves. Doing this may prevent some people to avoid this indecent act due to fear of punishment or the loss of his scientific reputation. Or we can develop a culture about the importance and the value of scientific work both at schools and universities (formal education) and in media (informal education) and introduce appropriate behavioral patterns, hoping that people's moral conscience prevent them from cheating and doing inauthentic researches.

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Table 1. Sample descriptive indicators

	female	male	on campus students	virtual	single	married
Frequency	160	131	247	44	230	61
Percent	0/55	0/45	84/9	15/1	0/79	0/21

IISTE

Table (2): univariate and multivariate analysis of variance on both virtual and on campus students factors affecting academic theft

Source	Df	fᵃ agent1	2ᵇ	3	4ᵇ	5	6	7	8	9	10	11ᵇ
										Multivariate		univariate
F factors for course 1	3.90*	0.202	10.36**	0.27	8.47**	3.36	4.32	3.62	0.059	7.09	0.034	20.03**
MSE		0.558	32.02	0.783	33.95	7.82	6.06	10.62	0.113	35.54	0.38	52.43

*P<0.05 , **P<0.01   a. multivariate degree of freedom = 11.279   b. univariate degree of freedom = 1.289

Table 3. Mean and standard deviation scores of factors affecting scientific theft in virtual and on campus students courses.

	Components	Course	M	SD
1	lack of self- efficacy in research and report writing	on campus students	23.486	.106
		Virtual	23.364	.250
2	the lack of mechanisms for identifying and punishing academic thieves	on campus students	13.619	.112
		Virtual	14.545	.265
3	attitudinal factors	on campus students	19.810	.108
		Virtual	19.955	.256
4	socio-cultural conditions	on campus students	19.547	.127
		Virtual	20.500	.302
5	lack of previous training on how to reference documents and lack of familiarity with the methods of scientific theft prevention in high school or informal education	on campus students	5.360	.097
		Virtual	5.818	.230
6	lack of scientific theft detection by the teachers and not reacting to it	on campus students	8.097	.075
		Virtual	8.500	.178
7	lack of fear of being punished or reprimanded	on campus students	11.012	.109
		Virtual	11.545	.258
8	electronic and virtual spaces	on campus students	11.559	.088

		Virtual	11.614	.208
9	push factor	**on campus students**	16.615	.142
		Virtual	17.591	.337
10	inadequate training at university to identify and prevent scientific theft	**on campus students**	5.150	.068
		Virtual	5.182	.160
11	Faith - religious factors in the form of input religion and output religion.	**on campus students**	7.951	.103
		Virtual	9.136	.244

Table 4. Independent sample t-test to get the level of committing academic theft in on campus students and virtual group

Course	Mean	SD	F	sig	T	df	Sig
Virtual on campus students	8/73 6/88	2/73 2/33					
Committing academic theft			3/30	0/07	4/22	54/79	0/001

T=4.22 , P<0.001

Appendix table

Table (5) distribution of components and questions

Components	Questions
1. lack of self- efficacy in research and report writing	1. When using academic resources in my work I use name of the author.
	2.i know the correct way of citation
	3. doing research is hard and time consuming task for me
	4. I don't know the correct way of electronic and non-electronic citation
	5. I don't have required skills for writing a scientific article

	6. I can't afford my responsibilities
	7. I can easily detect plagiarism in academic works.
2. lack of mechanisms for identifying and punishing academic thieves	8. There is nothing about plagiarism and the rules related to it In the bylaws and articles given to students entering college.
	9. university policy is not clear about plagiarism
	10. there is no punishment for student who commit plagiarism by the society or university
	11. there is no system or software that can detect plagiarism
3. attitudinal factors	12. I do not have the motives for doing a scientific article
	13. plagiarism is as bad as stealing examination papers before the exam
	14. I don't think the author mind if I use his material and even if his name is not mentioned
	15. I'm a student and I'm learning and experiencing, if I committed plagiarism university and instructors should not punish me
	16. In doing The scientific tasks (such as writing a paper) academic principles (such as the standard of writing and referencing) should strictly be observed
	17. Committing plagiarism is against my moral values.
4. socio-cultural conditions	18. When I see subjects are unimportant and teacher is indifferent toward the class I feel no moral obligation not to do plagiarism.
	19. cheating is considered as a clever action from my family's point of view
	20. committing plagiarism by teachers is the cause for increasing this act among students
	21. its prevalent among all university students to copy and take other people's work

	22. most of my classmate commit plagiarism in their scientific works.
	23. plagiarizing is an ordinary thing in the culture of my community and it is done easily
5. lack of previous training on how to reference documents, lack of familiarity with the methods of scientific theft prevention in high school or informal education	24. I have passed the required instructions in high school on how to cite a resource
	25. I have acquainted with plagiarism and different types of immoralities before entering university
	26. I have learned something about plagiarism and its consequences from TV programs
6. lack of scientific theft detection by the teachers and not reacting to it	27. Doing assignments is important for teachers not how to do it.
	28. teachers do not severely react on plagiarism
	29. if I commit plagiarism my teacher would not notice.
7. lack of fear of being punished or reprimanded	30. if I commit plagiarism and my teacher finds out he would not inform the university authorities
	31. I'm not afraid of being punished or reprimanded by the teacher if I commit plagiarism
	32. I have not received punishments for taking other people's materials
	33. I am not afraid if the original author finds out about my plagiarism
8. electronic and virtual spaces	34. The Possibility of easy copying and pasting material from the Internet is the main reason for plagiarism by students.
	35. Students more familiarity with information sources (papers, journals, internet, etc) will cause the reduction in plagiarism.
	36. the declination of face to face interaction with teachers in virtual courses has caused easier plagiarism by students
	37. lack of interest in courses and having to pass it results in plagiarism

9. push factors	38. Shortage of time is a major cause of scientific theft.
	39. High amount of tasks is one of the causes of scientific theft.
	40. Obtaining high grades and then getting a good job is important to me, even I get them through plagiarism.
	41. most of the student that commit plagiarism get good grades, if I don't do that I will receive low grades.
10. Inadequate training at university to identify and prevent scientific theft	42. there are some instructions at universities about scientific theft, its types and methods of committing scientific theft.
	43. Correct way of writing a paper is taught to students at University.
11. Faith - religious factors in the form of input religion and output religion.	44. Religious beliefs do not play a role in preventing individuals from committing plagiarism.
	45. Not institutionalizing religion is the cause of committing scientific theft.
	46. I ignore my religious beliefs when taking other peoples' scientific works.
12. The level of committing plagiarism	47. How much have you committed plagiarism
	48. If you have committed plagiarism, how much you are willing to commit it in your next study.
	49. How much do you mention works in your bibliography that you haven't used but are relevant to your research?
	50. How much do you paraphrase a quotation by just changing one or two words and do not cite its resource?

Graph (1) the effect of the first component " lack of self-efficacy in research and report writing " on academic