# Research Ethics of Plagiarism of Adult Learners*[1]

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## Abstract

***Purpose*** – Adult learners are easily exposed to the risk of plagiarizing others' writings when writing papers or reports. Therefore, this study investigates the research ethics of adult learners and suggests alternatives for research ethics standards in online lifelong education system. The purpose of this study is to investigate the causes of violation of research ethics and preventive measures (education program) for adult learners.
***Research design, data, methodology*** – Before establishing a research ethics education plan, it is confirmed through the empirical investigation of adult learners in undergraduate. In this study, 30 questionnaires of 5-point Likert scale were used to examine the level of consciousness of adult learners related to research ethics.
***Results*** – First, the experience of participating in ethics education and the presence of prior knowledge did not affect the prevention of research ethics violation. Second, adult learners did not learn about research ethics in the pre-college education environment and they frequently engaged in research ethics violation without guilt or consciousness. Third, the students who experienced the research ethics violation (plagiarism) were more willing to know and use the plagiarism search program. Fourth, Opinions differed according to age as to the need to enforce research ethics compliance.
***Conclusions*** – Universities should clearly and easily announce and monitor plagiarism criteria or guidelines. When adult learners are relieved of the anxiety about the possibility of violation of research ethics, a developmental and original research atmosphere will be created.

Keywords: Research Ethics, Plagiarism, Adult Learners.

JEL Classifications: E00, G00, H00, M00

## 1. Introduction

Problems related to research ethics have been consistently raised. Nonetheless, few Korean universities have been disadvantaged or canceled theses due to violations of research ethics. It is also a problem that universities do not provide research ethics education opportunities related to dissertation writing. Currently, anti-plagiarism testing in

colleges is not based on a large database, but on the basis of limited commerciality data. In addition, even if fraudulent papers or reports are filed, they are often not punished clearly.

Plagiarism is a type of research misconduct that "uses the ideas, research content, and results of others without proper citation"(Hwang et al., 2014). In this situation, adult learners who work in parallel with the workplace are easily exposed to the risk of plagiarizing others' writings when writing papers or reports. In particular, it is difficult to detect violations of research ethics in the online lifelong learning environment for adult learners, and it is difficult to take any measures. This is because there are no precise standards for research ethics and public opinion that could be a severe punishment for students who are about to graduate.

Therefore, this study investigates the research ethics of adult learners based on the case of Korea National Open University and suggests alternatives for research ethics standards in online lifelong education system. It is urgent to raise the ethical learning environment of adult learners and to enhance the academic competitiveness of universities by blocking the possibility of various types of research ethics violations.

However, standards and practices that have already been institutionalized for research ethics for a long time should not be applied to adult learners. Most adult learners want to comply with research ethics when writing a paper or report. However, unlike their own intentions, they often fail to recognize plagiarism and present their papers or submit them to an institution. Therefore, universities should clearly and easily announce and monitor plagiarism criteria or guidelines. Therefore, adult learners will be relieved of the anxiety about the possibility of violation of research ethics, and a developmental and original research atmosphere will be created. In addition, I hope that this study will be an opportunity to extract the problems of the research ethics system of universities and to find ways to improve them.

## 2. Subject of the Research

Before establishing a research ethics education plan, it is confirmed through the empirical investigation of adult learners in undergraduate.

In the meantime, there was little objective analysis of the ethical standards and values that adult learners usually perceive. In addition, it was difficult to find out how to improve the research ethics verification system by analyzing its actual conditions and problems. Therefore, this study will suggest a general perception of research ethics recognized by adult learners, and an improvement method of effective research ethics verification system at university level.

As stated in previous research, Research ethics violations are often confused with plagiarism, but research ethics violations are broad concepts, as well as plagiarism. However, since the type of research ethics in which adult learners violate the most is plagiarism, we will conduct empirical research and draw up remedial measures with plagiarism as the central issue in order to improve the efficiency of the research method(Hwang & Youn, 2016; Hwang *et al.*, 2017; Hwang *et al.*, 2015; Hwang *et al.*, 2014).

## 3. Research Methodology

This study investigates how adult learners cite literary quotations in the process of writing reports or papers. The purpose of this study is to investigate the causes of violation of research ethics and preventive measures (education program) for adult learners. In addition, research ethics education programs for adult learners will comprehensively reflect their willingness to participate in programs and opinions.

This study aims to establish a research ethics guideline system by investigating adult learner' experiences of ethics violation (plagiarism), opinion and willingness to participate in education program.

Questionnaires 1 to 6 consist of the general consciousness of learners 'violation of research ethics, Questionnaires 7 to 11 are about the experience in violation of research ethics or consciousness survey of adult learner, Questionnaires 12 to 20 are about the experiences and awareness of plagiarism, Questionnaires 21 to 25 are about the investigations on the prevention of research ethics violations such as plagiarism and preventive measures, and Questionnaires 26 to 28 are about the experiences and intentions to participate in research ethics education. Questionnaires 29 and 30 are surveys on experience and consciousness related to citation.

The questionnaires of the previous studies are directed toward offline graduate students, whereas the questionnaire items of this study are differentiated in that they are aimed at adult learners of undergraduate courses. Therefore, questionnaire (scale) was independently developed in this study. In this study, factor analysis and reliability analysis will be conducted to confirm whether questionnaire items are understood by respondents according to original intention and generalization of research results is possible.

Finally, it will be possible to prepare a program to educate adult learners about research misconduct (forgery and alteration, plagiarism, unauthorized author display, duplication of materials, overlapping publication).

The questionnaire items are shown in <Table 1>.

**Table 1:** Survey Question

| | | |
|---|---|---|
| 1. I tend to think that someone writes better than me. | No  ①---②---③---④---⑤ | Yes |
| 2. I've written a lot like I've experienced something I did not experience. | No  ①---②---③---④---⑤ | Yes |
| 3. I tend to write down the source when I cite other writings (thoughts) in books and the internet. | No  ①---②---③---④---⑤ | Yes |
| 4. I think it's okay to revise my previous post and submit it as a new post. | No  ①---②---③---④---⑤ | Yes |
| 5. I think it is necessary to write articles that differ from actual thoughts in some cases. | No  ①---②---③---④---⑤ | Yes |
| 6. I think that it is necessary to put together the writing of several people according to the occasion. | No  ①---②---③---④---⑤ | Yes |
| 7. I have learned about the problem of copying other people's writings without permission in school lectures. | No  ①---②---③---④---⑤ | Yes |
| 8. I have learned about good citation methods in school lectures. | No  ①---②---③---④---⑤ | Yes |
| 9. I learned in school lectures that I should write things in a truthful way. | No  ①---②---③---④---⑤ | Yes |
| 10. I learned about cautions in citing internet information in school lectures. | No  ①---②---③---④---⑤ | Yes |
| 11. Some of the school assignments do not require you to reveal the source of the material. | No  ①---②---③---④---⑤ | Yes |
| 12. Currently, research fraud such as plagiarism in the university is serious. | No  ①---②---③---④---⑤ | Yes |
| 13. I have seen plagiarism guidelines and plagiarism education booklets. | No  ①---②---③---④---⑤ | Yes |
| 14. I have written my report without quoting others' data. | No  ①---②---③---④---⑤ | Yes |
| 15. I downloaded the entire contents from the Internet and wrote a report or an assignment. | No  ①---②---③---④---⑤ | Yes |

| | | |
|---|---|---|
| 16. I know exactly what the standard of plagiarism is. | No ①---②---③---④---⑤ | Yes |
| 17. It is okay to change charts or figures among reports or assignments. | No ①---②---③---④---⑤ | Yes |
| 18. I know well about the plagiarism search program. | No ①---②---③---④---⑤ | Yes |
| 19. Plagiarism search programs are often used. | No ①---②---③---④---⑤ | Yes |
| 20. The university must inform the student of the use of the plagiarism search program and obtain the consent of the student. | No ①---②---③---④---⑤ | Yes |
| 21. The plagiarism search program should be used for grade evaluation and credit assignment. | No ①---②---③---④---⑤ | Yes |
| 22. It is a weak sanction to deduct only the problematic part in plagiarism. | No ①---②---③---④---⑤ | Yes |
| 23. If plagiarism is found, F must be given to the subject in the semester. | No ①---②---③---④---⑤ | Yes |
| 24. The university must punish (suspend, expel) more students who repeat the plagiarism than the F credit. | No ①---②---③---④---⑤ | Yes |
| 25. The school must provide universal rules for penalties for plagiarism. | No ①---②---③---④---⑤ | Yes |
| 26. Graduate students obey research ethics more than university students. | No ①---②---③---④---⑤ | Yes |
| 27. I want to learn about academic writing education and citation. | No ①---②---③---④---⑤ | Yes |
| 28. heard about writing ethics such as plagiarism through professors and lecturers. | No ①---②---③---④---⑤ | Yes |
| 29. I have paid for a report written by someone else and have included it in my report. | No ①---②---③---④---⑤ | Yes |
| 30. When you use other people's ideas, you do not have to reveal the source if you change words and sentences. | No ①---②---③---④---⑤ | Yes |

## 4. Research Methodology

### 4.1. Validity Analysis (Factor Analysis)

   In this study, 30 questionnaires of 5-point Likert scale were used to examine the level of consciousness of adult learners related to research ethics. Factor analysis was conducted to reveal the internal structure of question items and to derive upper conceptual variables.
   As a result of extracting common factors for 30 question items, ten factors were extracted based on Eigen value 1. Among the factors, the characteristic factors exceeding the Eigen value of 2 are as follows. Seven items of questionnaires 7, 8, 9, 10, 13, 16, and 28 were extracted as the first factor and four items of questionnaires 2, 14, 15 and 29 were extracted as the second factor. 22, 23, and 24 were extracted as the third factor. These three factors

exceeding the Eigen value of 2 account for 34.2% of the total variance (the amount of information in the general inquiry). As a result of analyzing the common characteristics of the questionnaire items included in the first factor, it can be summarized as 'the experiences in research ethics education or prior knowledge of research ethics'. As a result of analyzing the common characteristics of the questionnaires included in the second factor, it can be summarized as 'experience of violation of research ethics (plagiarism)'. Because of analyzing the common characteristics of the questionnaires included in the third factor, it can be summarized as 'the intensity of penalties for violation of research ethics'.

In addition, it was confirmed that the fourth factor has a common factor related to 'using the plagiarism search program'. From the fifth factor, it is not appropriate to say that there are characteristic common factors between question items.

**Table 2:** Exploratory Factor Analysis

| | Rotated component matrix (Varimax rotation) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Question 10 | .814 | -.050 | .083 | .086 | .031 | .022 | -.012 | .019 | -.001 | .040 |
| Question 8 | .780 | -.006 | .061 | .090 | -.073 | .039 | .093 | -.013 | -.006 | .243 |
| Question 9 | .748 | -.034 | -.135 | -.050 | .004 | -.274 | .002 | .002 | .154 | -.034 |
| Question 28 | .745 | -.151 | .003 | .203 | .096 | .135 | -.085 | -.077 | .070 | .016 |
| Question 16 | .599 | .085 | -.132 | .085 | .312 | -.317 | .250 | .122 | -.169 | -.098 |
| Question 7 | .579 | .219 | .084 | -.158 | .263 | .213 | .092 | .100 | -.075 | .074 |
| Question 13 | .483 | .233 | .257 | .330 | .031 | .067 | -.214 | .188 | -.166 | .032 |
| Question 14 | .012 | .739 | -.072 | -.212 | -.036 | -.016 | .161 | -.089 | .017 | -.010 |
| Question 15 | .035 | .738 | .045 | -.094 | -.226 | -.043 | -.063 | .010 | .072 | .229 |
| Question 29 | .042 | .649 | .106 | .249 | -.073 | .154 | .007 | -.268 | .227 | -.238 |
| Question 2 | -.202 | .510 | .104 | .260 | .329 | .165 | .325 | -.125 | -.007 | -.044 |
| Question 23 | -.043 | -.040 | .770 | .042 | .111 | .066 | -.081 | .060 | -.047 | .104 |
| Question 24 | -.021 | .094 | .701 | -.126 | .071 | .001 | -.063 | -.001 | .360 | .112 |
| Question 22 | .234 | .125 | .649 | -.060 | .053 | -.316 | .099 | .272 | -.060 | -.275 |
| Question 19 | .049 | -.025 | -.022 | .840 | .005 | .026 | .053 | -.150 | -.057 | .036 |
| Question 18 | .245 | -.078 | -.071 | .811 | -.018 | -.059 | .078 | .066 | .084 | -.118 |
| Question 3 | -.004 | -.035 | -.015 | .221 | .716 | .050 | -.212 | .266 | .056 | -.005 |
| Question 25 | .287 | -.168 | .229 | -.137 | .602 | -.239 | -.007 | .077 | -.083 | .230 |
| Question 27 | .204 | -.161 | .280 | -.226 | .602 | -.150 | .106 | -.124 | .169 | -.009 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Question 30 | .061 | -.035 | .082 | .081 | -.206 | .671 | .031 | -.193 | .193 | .004 |
| Question 6 | .085 | .280 | -.182 | -.136 | .251 | .652 | .056 | .042 | .183 | -.161 |
| Question 20 | .146 | .127 | .166 | .004 | .256 | -.549 | -.271 | -.024 | .387 | .114 |
| Question 17 | .035 | .159 | -.291 | .089 | -.095 | .020 | .675 | -.144 | .136 | -.096 |
| Question 5 | -.092 | .309 | .028 | .164 | .075 | .090 | .662 | .013 | .103 | .272 |
| Question 26 | .234 | -.368 | .102 | -.126 | -.109 | .074 | .558 | .015 | .038 | .015 |
| Question 11 | .017 | .153 | .005 | .080 | -.085 | .005 | .149 | -.780 | -.009 | -.144 |
| Question 21 | .136 | -.116 | .346 | .000 | .099 | -.235 | .103 | .660 | -.042 | -.221 |
| Question 1 | .029 | .122 | .147 | .043 | .070 | .174 | .185 | -.061 | .750 | -.173 |
| Question 4 | -.057 | .112 | -.420 | -.065 | -.037 | .133 | .184 | .131 | .481 | .309 |
| Question 12 | .289 | .046 | .069 | -.064 | .094 | -.141 | .076 | .022 | -.076 | .752 |

## 4.2. Reliability Analysis

Since we used the multi-item scale to measure the same concept, reliability analysis was performed using Cronbach's Alpha coefficient. Generally, in the social sciences, it is said that reliability is high when the Cronbach's Alpha coefficient is higher than 0.6, and the whole item can be analyzed as a single measure.

As a result of the reliability analysis of the study, the Cronbach's Alpha coefficient of each factor is more than 0.6 as shown in <table 3>. Therefore, the reliability of each of the four factors is good.

**Table 3:** Result of Reliability Analysis

| Concept factor | Factor name | Number of questions | Conbach's α |
|---|---|---|---|
| Ethical awareness of adult learners | Experience in research ethics education | 7 | .811 |
| | Experience in research ethics violation (plagiarism) | 4 | .676 |
| | Strength of penalties for violation of research ethics | 3 | .670 |
| | Utilizing Plagiarism Search Program | 2 | .803 |

## 4.3. Hypotheses and the Results of Analysis

Hypothesis 1 : Experience in research ethics education or prior knowledge of research ethics will have a positive impact on prevention of research ethics violations.

As hypothesis 1, the hypothesis was not adopted as β = -. 072, p-value> .05. In other words, the experience of participating in ethics education or the presence of prior knowledge did not seem to have any effect on preventing

violations of research ethics. This implies that there is absolutely fewer experienced students in the research ethics education and that the practical effect of research ethics education is insignificant.

Hypothesis 2 : Adult learners with a lot of experience in research ethics education or knowledge of research ethics will require stronger punishment in violation of research ethics.

As hypothesis 2, the hypothesis was not adopted as $\beta$ = -. 006, p-value> .05. In other words, the experience of study ethics education and the presence of prior knowledge did not affect the attitude strongly demanding punishment in violation of research ethics. This means that there are absolutely fewer experienced students in research ethics education.  In addition, most adult learners seem to be not strict about sanctions or punishments because they lack the concept of research ethics and experience the violation of research ethics.

Hypothesis 3 : Adult learners who have experienced research ethics violations will be familiar with plagiarism search programs.

Hypothesis 3 was adopted because there was some relationship between independent variables and dependent variables($\beta$ = .197, p-value = .052 <.1). In other words, students who have experienced research ethics violation (plagiarism) have a strong willingness to know and use plagiarism search program. This means that students who feel strongly about the temptation to violate research ethics tend to be more afraid of being exposed to cheating.

Hypothesis 4 : There will be differences in research ethics perception according to age.

Age was used as an independent variable and the first to fourth factors were used as independent variables. As a result, there was a significant difference in the level of demanding punishment for violation of research ethics according to the year of birth (F=1.488, p-value=.092<1).

## 5. Conclusion and Implications

First, the experience of participating in ethics education and the presence of prior knowledge did not affect the prevention of research ethics violation. This means that adult learners have had absolutely less experience in traditional research ethics education. It is also explained that the research ethics education at the university was not enough. Second, adult learners did not learn about research ethics in the pre-college education environment and they frequently engaged in research ethics violation without guilt or consciousness. Therefore, it is necessary for universities to present the sanctions or punishment standards for research ethics violators. Third, the students who experienced the research ethics violation (plagiarism) were more willing to know and use the plagiarism search program. This means the possibility of reducing violations of research ethics by strengthening devices that can prevent violations of research ethics, such as university-level plagiarism search programs. Fourth, Opinions differed according to age as to the need to enforce research ethics compliance. It was also found that the age of the adult learners was more related to the study ethics awareness than the college grade. This implies that macroeconomic variables such as cultural differences between generations and the educational system experienced in the process of individual growth have had a greater impact on individual research ethics.

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