

AN EMPIRICAL INVESTIGATION OF DIGITAL CHEATING AND PLAGIARISM AMONG MIDDLE SCHOOL STUDENTS

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ABSTRACT

What are middle school students' attitudes toward digital cheating and plagiarism? To answer the question, an empirical study was conducted in three middle schools using multiple focus groups and interviews. Students participated in the focus groups, and teachers, and parents participated in interviews. The study found that peer culture contributed to the deterioration of ethics among the students. The findings also indicated that activities that are engaging and relevant to students' own interests can help reduce plagiarism. Building a social community online and offline to help students understand the concept of plagiarism is particularly important at the middle school level.

INTRODUCTION

Cheating is not a new phenomenon, yet the ways that students cheat and their attitudes toward cheating have changed. The Internet Age has

brought tremendous opportunities for students and teachers to improve teaching and learning, but it also has brought challenges to academic integrity. A review of the literature revealed a relationship between the digital age and the deterioration of ethical values among young people in terms of plagiarism and cheating. For example, when *Who's Who* (1998) conducted their 29th annual survey among high school students nationwide, they found that 80% of the students admitted that they had cheated on school work in general with or without the help of the Internet, a four-point jump from the figure reported in the 1997 survey.

Josephson Institute of Ethics (1998, 2002, 2004) has conducted several surveys of young people's ethics. The 1998 survey of over 20,000 American middle school and high school students showed that 70% of the high school students reported that they had cheated on an exam in the past year. For middle school students, the percentage of cheating was 54%. The 2002 survey confirmed that the situation had been getting worse each year. From 1992 to 2002, the number of high school students who admitted that they cheated on an exam in the past 12 months had increased significantly from 61% to 74%. The percentage of those who admitted having cheated two or more times also increased, although at a very slow rate: from 46% in 1992 to 48% in 2002.

Curiously, the 2002 Josephson survey showed that gender, student leadership, and personal religious convictions had no substantial impact on cheating. Roughly equal percentages of boys and girls cheated. The survey found that although girls cheated and lied as much as boys, they were significantly less likely to engage in theft or other dishonest practices (Josephson Institute of Ethics, 2002). In the 2004 survey of 24,763 high school students, the Institute found that two-thirds (about 62%) of the students cheated on exams. Inconsistency between words and actions was found among the students. Though about 98% of students reported that they regarded honesty and trust to be very important, more than half of the students believed that the "real world" creates justification for dishonest conduct (Josephson Institute of Ethics, 2004).

Not only are young people cheating more, but they are also developing a more lax attitude toward cheating. *Who's Who* (1998) found that 53% of the students said that it was no big deal that more students were cheating. The 1998 Josephson Institute survey showed inconsistency between what students believed and how they acted. 91% of the students reported that they were satisfied with their character and ethics even though the majority of them admitted that they had cheated at least once in the past year.

The deterioration of ethics among young people seems to be closely related to the Internet. The Pew Internet and American Life Project (2005) conducted interviews among 1,100 parent-child pairs and reported that 57% of the teens were content creators online. The teens are creating Web pages, blogging, and sharing digital content with other teens. The Pew study on teens' Internet use (Walter, 2001) found that most students (71%) preferred the Internet to the library as the source for their most recent school project. Among the 754 students surveyed, 94% reported using the Internet for homework, 41% reported using the Internet for e-mail and instant messaging, and 18% knew "someone who has used the Internet to cheat on a paper or test" (p. 4).

Digital cheating and plagiarism is a problem among college students as well. The Center for Academic Integrity (2005) conducted a nationwide survey among 50,000 undergraduates in 60 universities. The results showed that, 77% of the students thought that cutting and pasting one or two sentences from online sources without appropriate citations was not a serious issue. At the same time, surveys were done among high school students in 61 schools.

Lathrop and Foss (2000) reported three reasons why young students chose to cheat: (1) Cheating is easy with technology such as the Internet. (2) The odds of being caught are low (10%). (3) Those who are caught do not receive severe punishment (p. 1). Lathrop and Foss (2000) gave examples of how technology makes cheating easy. For example, students from one class can create a Web site to share ideas and copy from each other the answers for the homework (p.12). In addition, there are free Web sites that allow students to plagiarize essays, reports, and term papers. Electronic encyclopedias online or on CD-ROMs were also a source for plagiarism. Besides, the young students would use all kinds of digital devices to connect with each other, including Personal Digital Assistants, calculators, and pagers. Emails and chat rooms on the Internet were also used for copying.

OVERVIEW OF THE STUDY

The Internet has become commonplace in homes and schools in the United States. By understanding students' perspectives, educators, curriculum designers, and teacher educators will be better prepared to develop meaningful learning activities that exploit the potential of the Internet as an educational resource and take full advantage of young people's online experiences.

This empirical study explores the impact the Internet has on ethics by examining why young people are cheating and how the Internet might

contribute to a culture of cheating. It also addresses the issue of how educators can cultivate honesty in this digital era. Most research about digital cheating and plagiarism has used high school and college students as the subjects. This study focuses on middle school students in order to bring more light to the issue of youth and academic integrity. Through focus groups, interviews, and participant observations at three middle schools in the state of Ohio, this study attempted to answer the following specific questions:

1. How do the young people decide to cheat?
2. What are students' attitudes toward plagiarism?
3. How do students define plagiarism?
4. What are teachers' attitudes toward plagiarism?

THEORETICAL FRAMEWORK

Human beings are social creatures. Social interaction between students and with their surrounding environment is crucial for students' development of ethical concepts. Now that the Internet has become an everyday part of young people's lives, it has also become an environment for social interaction. Social constructivists believe that social interaction is a critical factor in learning. Vygotsky (1962) believed that meaning is constructed through social communication and dialogue. As Fosnot (1996) expressed the constructivists' view, an individual will interact with others through a certain medium to present his or her world views (meanings) to others. The medium, in this case, is the Internet. During the social interaction process, "taken-as-shared" meanings can be reached to form a certain cultural symbol.

According to Fosnot (1996), knowledge is internally and temporarily constructed and each individual forms his or her own model of the world. Through social interactions individuals modify their models by adjusting discrepancies and conflicts that arise during the interaction with previous models of the world. The Internet can be viewed as a constructivist learning environment where students engage in meaningful learning that is relevant to their own personal interests, which can in turn form a social community that encourages plagiarism. While interacting with each other through the Internet, students develop a shared understanding of what is acceptable.

METHODOLOGY

This study is a qualitative investigation with an interpretative phenomenological approach. Focus groups and semi-structured interviews were the sources

of data. The triangulation of these data helped ensure the trustworthiness of the findings (Denzin & Lincoln, 1998). Phenomenology is a school of philosophy derived from German philosopher Edmund Husserl. The utmost purpose of phenomenology is to study the phenomenon of human experiences in various acts of consciousness, particularly cognitive or perceptual acts. The phenomenological approach does not seek to gain mere facts or causes of certain incidents; rather, phenomenological research is aimed at revealing how people are making sense of different incidents in their everyday lives. In the words of Bogdan and Biklen (1998):

If you were interested in the dynamics of the encounter, in the behavior at accidents, in the ways people make sense of such incidents, and in the arguments they construct in explaining them, the "just the facts" approach would not be very illuminating (p. 23).

The goal of this study was to form a picture of the subjective world of the middle school students in terms of their consciousness of their Internet experiences related to plagiarism. This goal therefore justified the phenomenological approach because a phenomenological researcher pursues the meaning of the phenomenon constructed by the participants during their experiences.

THE SCHOOL SETTINGS

Three middle schools were the major settings of the study: School N, School G, and School L.

SCHOOL N. School N is located in a suburb and it is a public school that enrolls 6th grade students. The school has about 500 students, among which about 50% of the students receive free or reduced-price lunches. The ethnicity of the school is not very diverse. Students are primarily white, but the school does have 3% African-Americans, 1% Hispanics, 3% Asians, and a very small number of Native Americans (less than 1%).

Like all other middle schools in the school district, including 6th, 7th, and 8th grade levels, school N has all its classrooms equipped with computers. Each classroom has about four networked personal computers. There is a lab at the media center, where the library is, which has about 30 workstations with Macintosh computers. This is the only lab for the whole building. Teachers can schedule to bring a class to the lab. If students are working on a project, they are also allowed to use the computers on their own with special permission.

SCHOOL G. School G is a public school located in a rural area at the foot of the Appalachian hills. The school has grades 6 through 12. About

13% of the students receive free or reduced-price lunches. The students of the school are primarily white students, which comprise 94% of the student population, but there are a number of African-Americans in the school, too. The percentage of these students is 5%, which is comparatively speaking, higher than most of the surrounding schools of the area. Students of Native American, Asian, or Hispanic origins are small in number, each consisting less than 1% of the student population.

There are two major computer labs in the school, which are located at the media center area. Each of the labs has about 30 computers for faculty and students to use for class. The library/media center also provides laptops, including a cart that contains 15 laptops. Teachers can borrow the laptops for their personal use or for class. Students, when permitted through a certain procedure, can also use the laptops. For each classroom, the teacher has at least one to four computers in the classroom. Students needed to work in pairs or groups to finish their research work if they use the computers in the classroom.

SCHOOL L. School L is a public school located in a small town, whose students are from both the town and from the rural area around the town. The school has about 1000 students, all from 6th to 8th grade. About 34% of the students receive free or reduced-price lunches, and the school is almost all white, with few Native American, African-American, or Hispanic students. Students who are white comprise 99% of the student population.

There are five labs in this school, including one that is particularly set for the Computer Literacy class. Each student of the school is required to take a semester of Computer Literacy class before they leave the school. A certificated teacher teaches the class. At-your-own-pace keyboarding is the main content, and the teacher also teaches Internet search methods, occasionally cooperating with the math teacher or other teachers on joint projects.

The other four labs are available for teachers to use. As explained by the media specialist, two labs are primarily for the sixth graders to practice their various levels of reading and math. There is only one lab that is completely for the 7th and 8th graders to use. Teachers of these grades can also schedule the two labs for proficiency testing at a later hour of the day. Besides the lab, there are three sets of laptops on carts, with 15 laptops on each cart. These laptops are also equipped with wireless Internet. Besides the labs and laptops, every teacher has a computer on his/her desk.

DATA COLLECTION

Altogether there were 51 participants in this study. Multiple qualitative methods were adopted to gather data from middle school students, their teachers and media specialists/librarians, and also their parents. The primary subjects of the study were 36 middle school, with 12 students from the suburban school, 12 from the rural school, and 12 from the small town school. Of all the 36 student participants, 18 were girls and 18 were boys. Only students who had Internet access both at home and at school and who reported that they used the Internet quite often were eligible to participate.

The study used focus groups to collect data directly from the students. A focus group is a type of group interview where participants share ideas in a comfortable environment. The goal of the focus groups was to understand the patterns of middle school students' inappropriate use of the Internet and their understanding of issues of ethics. The focus groups provided first-hand information about how boys and girls experienced Internet plagiarism and digital cheating and how they constructed meaning from it.

For each school visited, were two 60-minute focus groups, one for girls and one for boys. Six students participated in each focus group. According to Krueger and Casey (2000), six to eight persons is the ideal size for a focus group in order to give everyone an opportunity to share their views. Separate focus groups were conducted for boys and girls because participants are more likely to be open about their views and report their views without distortion in single sex groups (Krueger & Casey, 2000). A university student familiar with middle school education but not associated with any of the participating schools was trained to moderate the focus groups.

Semi-structured interviews were conducted with six parents of participating students, six teachers of the students, two media specialists, and one principal to gain their perspectives of the students' online experiences. In addition to ethics, the interviews addressed home and school use of the Internet, gender differences, school-home gap, and safety on the Internet.

DATA ANALYSIS

According to Bogdan and Biklen (1998), qualitative data analysis involves systematically reading, chunking, coding, and organizing the data, synthesizing, and searching for patterns. First, the focus groups and interviews

were audio-recorded and transcribed. Initial coding began while data were being collected so that the emerging results could help the researchers refine the focus group and interview questions. After all data were collected, further coding was done based on the entire set of focus group and interview transcripts. After the coding, units of data with the same codes were put together to form a holistic picture of the theme. After identifying the first-order themes that emerged from the study, the researchers looked for interconnections among these themes to identify more general second-order themes that addressed the research questions.

RESEARCH FINDINGS

Analysis of the data yielded the following findings for each research question:

QUESTION 1: WHAT IMPACT DOES THE INTERNET HAVE ON THE ISSUE OF ETHICS AMONG MIDDLE SCHOOL STUDENTS?

The investigation revealed that Internet's characteristics brought more convenience to digital plagiarism particularly among these middle school students. Digital cheating seems to them a common practice rather than a forbidden fruit. Among the 36 student participants of the focus groups, about two thirds admitted that they saw someone they knew cheat through the Internet. Nearly one third of them reported that they have gone online to get solutions for their homework without digesting the information. Nine students also reported that they sometimes went online to copy and paste articles and submit them as their own.

Students, teachers, and media specialists all reported that the Internet as an innovation had contributed to the increased rate of academic cheating and plagiarism among the young people. One teacher commented on the how technology influenced young people's conception of copying and pasting:

We are growing up in a society where you watch TV and you tape it. You download a CD, you just record it. You see something you like, you just go to Xerox it on a machine. It is really hard to get to understand that it belongs to somebody else.

Students reported that the Internet was "magic," that it can provide so much information for you, almost anything you want. Nearly all students said that they loved to use the Internet to search for information. They

reported that sometimes they would take advantage of such vast and easy information by using it improperly, since copying and pasting was just a matter of several clicks.

QUESTION 2: WHY DO YOUNG PEOPLE ENGAGE IN DIGITAL CHEATING? WHAT IN THE INTERNET CONTRIBUTES TO THE BUILDING OF A CULTURE OF CHEATING AMONG THE YOUNG PEOPLE?

The study found that the following aspects contributed to the increase in academic cheating: peer culture, Websites that facilitate plagiarism, pressure of achievement, few consequences or punishment, and lack of understanding of the concept of plagiarism.

PEER CULTURE. The most common reason mentioned by the students in focus groups for engaging in academic cheating was the fact that others were doing so. About two-thirds of the student participants admitted that they once saw someone they knew go online to copy and paste sentences for language arts assignments, or copied and pasted answer keys for math or science problems. About one-fourth of them admitted they did so themselves. During the focus groups, students reported their copying and pasting as excitedly as when they were talking about shopping online or chatting online. In their eyes, those things were not that different.

WEBSITES. Websites were reported to provide convenience to such behavior as digital plagiarism. Students reported that Websites contain a vast amount of information and it was easy for them to find Web pages about any topic. As one student commented, people can just type in any keyword, and they can get all sorts of information about it. It was very convenient to copy and paste a few sentences or paragraphs from the Web pages that they went into. During the focus group discussion, several students cheered when asked if they sometimes copied and pasted articles from online. They talked about how exciting it was to find such rich information online and how easy it was to get information and simply own it. Teachers reported that they found students were submitting the same papers or providing exactly the same solutions to math problems. It turned out that the students went to some Websites that were designed for teachers where answer keys for problems were accessible.

PUNISHMENT NOT REINFORCED. The lack of punishment for digital cheating has contributed to the increase in digital plagiarism. Students reported that they would copy and paste from the Internet even though they knew it was not right. They found that there was no immediate consequence for them if they cheat occasionally. The following is the

justification of one girl for her cheating:

Once I forgot to do my homework, to submit to the teacher, and I went on there (online), and just copied the paper in my handwriting, and she never knows. I only did that once.

Students reported such “just once” mentality and did not really feel it was a big deal. They said that they knew it was wrong, and they would not do it anymore.

Teachers reported that it was not easy to catch the students all the time. As an instructor, he or she could not know all the Web pages at once. Students would therefore take risks to cheat because they the odds of getting caught were low.

PRESSURE FOR ACHIEVEMENT. Students reported that they sometimes decided to cheat because they felt they could not achieve well within a short time. They talked about wanting to get high scores, and yet were not able to when time was too pressing or a deadline imminent.

Teachers also described how students would cheat when they felt pressure for achievement. About half of the teachers talked about how students would forget about an assignment and become desperate when they realized that they almost missed a certain deadline. Some of them chose to copy and paste from the Internet when they were under such pressure.

THE CONCEPT OF PLAGIARISM. The study revealed students’ understanding of plagiarism was limited. Teachers reported that students did not grasp the concept of plagiarism very well, and it was too convenient for the students to copy other people’s works in this age of digital media. Teachers of the rural school said that the students did not really understand the concept of plagiarism. One of them commented:

Kids don’t seem to understand plagiarism as we do. We tried to get them to understand better. That’s why I am covering the topic that they can’t just copy and paste. But I don’t think they really grasp the concept. We are trying to get them to understand, to get them to use their own words.

Most students in the interviews did not understand the concept clearly. They talked about copying and pasting as if it were something ordinary. Some of them commented that it was not really a big deal to copy and paste other’s works because they knew many people did it.

QUESTION 3: HOW DO EDUCATORS CULTIVATE HONESTY IN THE DIGITAL ERA?

Teachers and media specialists reported that they tried the following ways of combating cheating and plagiarism:

1. Improve students' understanding of the concept of digital cheating and plagiarism
2. Establish rules for citing sources
3. Establish punishment for those who plagiarize

Students reported that their teachers, particularly English, history, and art teachers were very strict about citing sources for their projects. One boy talked about having to write a long bibliography for his art project in which he used tens of images from the Internet.

DISCUSSION

As the findings revealed, the students in this study knew vaguely about plagiarism, and some could give simple definitions. They knew copying words word-for-word from somebody else's work without giving credit was plagiarism. They knew that if they used an image online, they needed to include where it came from in the bibliography.

This study shows the importance of teaching a clear definition of plagiarism to middle school students and helping students build a habit of thinking for themselves. From the teachers' point of view, an effective way to combat plagiarism is to let students know what plagiarism is, and to make it clear that plagiarism is not acceptable. Having students write a bibliography is a useful way to combat plagiarism and cheating through the Internet.

It is also important to engage students in activities that are related to their own interests or needs. Most often students reported that cheating happened when they had to turn in their homework to gain a score, particularly when they felt that the homework was not interesting at all. Take the "only once" mentality as an example, the students felt that they were justified to cheat if the work they were doing is boring and meaningless, yet they wanted a good score, which was often the only means for demonstrating their achievement. In other words, if they felt the work was interesting to them, they might want to take time to read what they found online and finish their homework using their own minds to think. One student reported that he has a family member who developed leukemia,

and when the teacher asked the students to find sites for diseases, this student told the researcher how he took pains to read and reflect on the online journals of a little girl who developed leukemia. He surely did not write his report simply through copying and pasting.

IMPLICATIONS FOR PRACTICE

Lathrop and Foss (2000) made extensive recommendations to combat student cheating and plagiarism in the Internet era. The strategies included using high-tech defense against high-tech cheating. Blocking, filtering, and rating systems can be used. The authors suggested that parents needed to be alert and help build their children's ethical model. Schools needed to make strict policies to deter cheating and plagiarism.

This study of three middle schools found that the strategies against digital plagiarism adopted by the educators were limited in scope. The common strategies used in these middle schools investigated included clarifying the concept of plagiarism and the use of punishment.

To combat digital plagiarism, educators can use anti-plagiarism software packages such as turnitin.com in combination with punishment. Tools such as turnitin.com can help instructors to detect digital cheating. The Website provides clear and thorough definitions for academic cheating and plagiarism. Instructors can register the whole class to the system, and the students' papers will be reviewed by other students, and also by the instructor. A student's submission might be reviewed by a student from another school. The site can detect which sentences were plagiarized from which Website. Instructors can use the tool as a reference and question students who write suspicious papers.

Other anti-plagiarism tools that can be used include search engines such as Google. McCullogh and Holmberg (2005) investigated 210 master's theses in a university by using Google Search to detect digital plagiarism, and found that 27% of the theses included occurrences of plagiarism. This study of the middle schools also found that students loved to use Google to search for information for writing their papers. Google Search may also be used effectively in middle schools against plagiarism.

Another important strategy would be to use peer culture as a tool to combat digital plagiarism. As the study revealed, peer culture played an important role in students' decision to engage in cheating. Educators can take advantage of peer culture to cultivate an atmosphere that encourages ethical behavior on the Internet. To help cultivate a healthy peer culture, educators can consider the following strategies: clarifying the concept of plagiarism, establishing specific rules and consequences for breaking

them, and complimenting model behaviors such as showcasing students' original writings or evidence of creative thinking.

RESEARCH LIMITATIONS AND FUTURE STUDIES

The study was limited in scope to three middle schools in Ohio: one rural, one small town, and one suburban. Although the results may be relevant to other middle schools, the qualitative methodology does not support making generalizations about other sites or students. Another limitation is that the study relied primarily on student self-report. Students were sometimes reluctant to reveal their true experiences or they might have inflated their experiences to impress their peers. However, the study makes the society in general, and teachers, administrators, and parents in particular become aware of the issue and importance of addressing media literacy education as early as in middle schools.

The results of this study can be useful in developing tentative plans to address the issues of digital cheating and plagiarism in middle schools and they offer some direction for future research. Future studies can shed more light on teachers and their practices in encouraging students' ethical behaviors on the Internet. For example, what instructional strategies are most effective in cultivating student honesty? Closer studies of online tools such as turnitin.com and Google Search are also needed to investigate knowledge management systems that detect digital plagiarism.

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