A NEW DESIGN ON PLAGIARISM: DEVELOPING AN INSTRUCTIONAL DESIGN MODEL TO DETER PLAGIARISM IN ONLINE COURSES

by

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Abstract

The occurrence of plagiarism is an ongoing problem in higher education. This qualitative, multiple case study explored the possibility of instructional design as part of the solution. The goal of the study was to develop an instructional design model that would guide course designers (and instructors) in the creation of online courses and written assessments that will deter plagiarism. Participants included 28 faculty from various, regionally accredited, U.S. institutions of higher education, representing varying course levels and academic disciplines. Qualitative data were collected via an online survey that asked participants to reflect on the course structure, development, and design of the online courses that they have taught as well as to identify which of the remedies for plagiarism uncovered in the literature have been implemented in online courses. Based on the findings of the survey, a tentative instructional design model to deter plagiarism was developed. Participants were then asked to complete another online survey critiquing the newly developed model. Based on the findings from the second survey, a final version of the instructional design model was developed.

Dedication

To my reposed, maternal grandparents, who unconditionally loved, supported, and encouraged me in this life and continue to do so in Heaven.

To my dear husband and best friend, Joseph, and my two beautiful daughters, Rachel Marie and Hannah Elizabeth, who sacrificed so much in order for me to complete this degree. I love you all and will be forever indebted to you.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Written assessments, such as essays and term papers, undoubtedly play a major role in higher education. They are used to measure student learning outcomes as well as to improve course content and course delivery. With the increasing adoption of writing across the curriculum programs on U.S. campuses, the use of writing as a means of assessment is increasing. Unfortunately, along with the increase in written assessments, the occurrences of plagiarism are also on the rise. In 1996, McCabe and Treviño published an article that compared the percentages of self-reported cheating behaviors between the Bowers (1964) study and the McCabe and Treviño (1993) study. The McCabe and Treviño (1996) comparisons relevant to the present study included five cheating behaviors: copying material without footnoting, plagiarism, falsification of a bibliography, turning in work completed by another, and collaborating on assignments requiring individual work (Table 1). The percentages of self-reported plagiarism were 30% and 26% respectively.

In a 1997 study, Roig reported that 36% of undergraduates admitted to plagiarizing written material. Furendi (2004), a professor of sociology at Kent University, commented that one of his colleagues had found that 31% of the submitted undergraduate

essays had been plagiarized. In 2005, the Center for Academic Integrity published the results of a nationwide survey of 50,000 undergraduate students on over 60 campuses in which 40% admitted to having plagiarized Internet sources. The actual percentage of students plagiarizing may be higher, however, since only Internet plagiarism was counted. It is also possible that not all students who engaged in plagiarism admitted it on the survey. Such would be the case for those who committed unintentional plagiarism since they would not be aware of having done it. Beyond the aforementioned multi-campus studies, there is not much research that deals specifically with plagiarism. Most available statistics reported on cheating behavior in general, and according to McCabe and Treviño, "Most studies have focused on a single campus and yield little insight into general patterns of student cheating" (1996, ¶ 4). It seems reasonable to conclude the same about plagiarism.

Most scholars concur that plagiarism is a major academic issue in all modes of course delivery (Ashworth & Bannister, 1997; Furendi, 2004; Gitanjali, 2004; McCabe, Treviño, & Butterfield, 2001; Park, 2003; Seppanen, 2002; Weeks, 2001). It may not be immediately apparent, however, that it is a problem that can be addressed by instructional design. Plagiarism is a critical issue for instructional design because if it does occur, whether it is detected or undetected, the assessment and evaluation processes are undermined. Undetected plagiarism is much more serious, however, because nobody knows that the assessment process has been compromised.

Policing for and reporting plagiarism does not appear to be a very high priority for many instructors. McCabe reported that "a humanities professor at a liberal arts

college in the Northeast pointed out that generating proof of suspected cheating violation on major written work 'is almost impossible'" (1993, p. 655). Another professor explained, "Who wants to sit around looking for websites trying to find out if a paper is plagiarized or not . . . pretty soon you're a private investigator" (Maclachlan, 1999, ¶ 9). Such attitudes seem to be commonplace. Since plagiarism compromises the integrity of the assessment process and instructors may not be policing for it, one possible answer is to deter plagiarism from occurring. This study explored the possibility of instructional design being a part of that solution.

Statement of the Problem

Designing courses and valid assessments are major elements of instructional design. Many institutions of higher education are moving toward using written assessment across the disciplines as a means to assess student learning outcomes. As a case in point, Nova Southeastern University requires that written assessments "make up at least one third of the final course grade" (n.d., p. 1). With such high stakes, it is imperative that a given written assessment be valid—that it "measures what it purports to measure" (Cooper, 1984, p. 1). Not only do invalid written assessments make it impossible to measure student learning outcomes, but they also undermine the designer's ability to determine the overall effectiveness of course design.

The validity of written assessments can be undermined in many ways, some of which involve plagiarism and others that do not. For example, if a student lacks writing and/or research skills, it may make it difficult for an instructor to assess actual learning

outcomes for that student. Similarly, if a student fails to follow the given directions for an essay assignment or strays from the assigned topic, obtaining a valid measurement of student learning outcomes will be problematic at best. Such cases may indicate a flaw in assessment and/or course design. However, plagiarism is a well-documented and more pervasive concern. If it is not deterred or at least detected, then instructors run the risk of drawing incorrect conclusions about student learning outcomes, and instructional designers may never detect flaws in course and/or assessment design.

Background of the Study

Across the disciplines, instructors increasingly rely on written assessments as a viable means of documenting student knowledge. However, Turnitin®, a plagiarism detection service, reports that it analyzes some 20,000 papers (written assessments) daily and of the papers submitted, about 30% will be identified as "less than original" (n.d., p. 1). The company defines "less than original" as "over 25% of the paper . . . [being] verbatim from other sources" (p. 1). Such a high percentage of potentially plagiarized papers, notwithstanding the number of written assessments submitted to other plagiarism detection services, certainly raises concerns about the effect that plagiarism has on an instructor's ability to assess student learning.

Many scholars consider plagiarism a moral or disciplinary issue and deal with it accordingly. Hall wrote

> We cannot, as individual teachers, change the entire educational system, and so we are tempted to adopt a stringent policy against the only people that we do have power over: our students. We think that we are drawing a virtuous line in the

> sand: *my* classroom, we vow, will have strict standards, even if others do not. (2005, Academic Communities section, ¶ 10).

While it is true that some plagiarism may be due to moral erosion or some lack of discipline, plagiarism is "*symptomatic* [emphasis added] of deeper tensions in a student's writing environment" (Hall, 2005, Academic Communities section, ¶ 8). There are other possible causes; the literature review presented in chapter 2 of this study uncovered 59 of them. A one-remedy-fits-all approach is not sufficient for combating plagiarism.

Plagiarism has serious repercussions for instructional design. Not only does the occurrence of plagiarism obstruct the correct assessment and evaluation of what the learner has learned, but it also invalidates feedback into the instructional design process for the purpose of course improvement.

Moreover, it is possible that plagiarism is a direct or indirect result of poorly aligned courses and poorly chosen or designed assignments. For example, one course syllabus drafted for an undergraduate, online research and writing course at an accredited university required for Week 4 (the week preceding midterms) that students read a chapter on argument structure, along with four other chapters, and then submit an argumentative essay at the end of the week. The syllabus made no mention of the assignment prior to Week 4. Such structure leaves little room for students to digest the material before having to apply it for a grade; furthermore, it leaves no room for instructors to check for understanding and provide any necessary corrective feedback. Depending on the stakes of the assignment, at least two negative outcomes are possible: if the stakes are low (the essay has little weight in the final grade), students may choose

not to do it; if the states are too high, they might resort to plagiarism. In either case, poor course design is to blame.

Even if instructional design is not a cause, it is very likely that good instructional design can favorably influence the incidence of plagiarism. To this end, Christe recommended that instructors "put up roadblocks within the course to prevent" academic dishonesty (2003, p. 58). One such roadblock is to build the process of writing a course paper into the course structure. Several scholars (Born, 2003; Carroll & Appleton, 2001; Harris, 2001; Johnson, 2004; Leland, 2002; Malouff & Sims, 1996; McKeachie, 2002; McKenzie, 2003; Scribner, 2003; Wilhoit, 1994; Willen, 2004) have suggested that focusing on the process over the product is an effective deterrent. Second, at present, a truly comprehensive model for deterring plagiarism does not exist. A thorough review of the literature uncovered only two models to deter plagiarism—one based on an employee-motivation model (Malouff & Sims) and the other a three-R model: respect, relevancy, and refresh (Usick, 2004). While both have some merit, each one alone is not sufficient to deter plagiarism. Both models will be discussed in greater detail in chapter 2. Third, plagiarism has serious repercussions for instructional design. Not only does it obstruct the correct assessment and evaluation of what the learner has learned, but it also invalidates feedback into the instructional design process for the purpose of course improvement. Finally, in some cases there are conflicting strategies for deterring plagiarism. An instructional design model to deter plagiarism would help to determine which one should be followed.

Moreover, key instructional design elements for online learning can be directly linked to plagiarism. Interactivity in online courses has been identified as a remedy for student sense of alienation, which is a factor mediating plagiarism. Hall stated that he requires "any student caught plagiarizing to write [him] a letter narrating and analyzing the train of events that led to that action" (2005, Academic Communities section, ¶ 11). In one such letter, Hall noted that the student's act of plagiarism "partly . . . had to do with her relationship with [him], the instructor" (Academic Communities section, ¶ 12). However, Ashworth and Bannister observed the following:

> Alienation was not simply due to the demeanour of staff or their lack of contact with students. Assessment tasks which did not engage the student . . . symbolized the gap between students and staff. A complaint made by a number of the interviewees was that the work did not demand original thought but rather the reiteration of well-established ideas and concepts. (1997, Conclusion: Alienation and Cheating section, ¶ 14)

Many of the reasons why plagiarism occurs are directly related some instructional need that has not been met. For example, many students lack of knowledge, reading skills, writing, and research skills necessary to avoid plagiarism.

Finally, even some of the noninstructional reasons why plagiarism occurs (such as student procrastination) can be addressed through course design and structure. For example, several scholars have noted that a process-based approach to writing is an effective deterrent (Born, 2003; Carroll, 2004; Harris, 2001; Johnson, 2004; Leland, 2002; Malouff & Sims, 1996; McKeachie, 2002; McKenzie, 1998; Renard, 1999; Scribner, 2003; Wilhoit, 1994; Willen, 2004). If students are required to turn in their written assignments in stages, it is not as easy for them to procrastinate.

Purpose of the Study

The purpose of the study was to develop an instructional design model that would guide course designers (and instructors) in the creation of online courses and written assessments that will deter plagiarism. Reducing plagiarism will increase the likelihood of valid measurement of learning outcomes and, consequently, the designer's ability to determine the overall effectiveness of the course design. For the purposes this study, the term effectiveness was defined as "the extent or degree to which the application of the theory (or guideline or method) attained the goal in a given situation" (Reigeluth & Frick, 1999, p. 635). In this instance, the goal that needed to be attained effectively was the deterrence of plagiarism in online courses. In other words, course design was considered effective if it deterred or at least had the potential to deter plagiarism.

Research Questions

The study sought to answer the following, three research questions:

1. How do course structure, development, and design influence the incidence of plagiarism in online courses?
2. How can instructional design help to reduce the documented causes of plagiarism in online courses?
3. What are the essential elements of an instructional design model that will help to deter plagiarism in online courses?

Significance of the Study

A major benefit of the study is that, through the development of a new instructional design model, the number of incidents of plagiarism will be reduced in online courses. Minimizing plagiarism in online courses will increase the likelihood of valid written assessments as well as the ability to assess the overall effectiveness of course design. One major critique of distance education, online education in particular, is that its mode of course delivery may encourage academic dishonesty among students (Hamlin & Ryan, 2003; Roach, 2001). Since academic dishonesty undermines the assessment process, minimizing plagiarism in distance education (online course delivery, in particular) will increase the credibility of distance education programs.

Definition of Terms

For the purposes of this study, the following definitions were utilized:

Academic Dishonesty. An all-encompassing term referring to any act of cheating, plagiarism, collusion, or falsification.

Attribution. Giving credit for a work, direct quotation, or idea to a particular author. Proper attribution requires quotation marks for direct quotations, an in-text citation or footnote, and a bibliographic entry.

Case. For the purposes of this study, one participant.

Collusion. Two or more students working together to produce a written piece, which is then submitted by each of them as his/her own work.

Common Knowledge. A well-known fact that is documented in many sources and, therefore, does not require attribution.

Cryptomnesia. Plagiarism that is committed unconsciously due to "forgotten knowledge" (Beasley, 2004, p. 8).

Cut-and-paste plagiarism. A term found in the literature referring to copying from an Internet source and pasting it, in whole or in part, into a word processing document without giving proper attribution.

Cyber-plagiarism. Plagiarism of Internet sources in part or in their entirety.

External factor. A factor arising from outside a student that either fosters or inhibits an act of academic dishonesty (Love & Simmons, 1998).

Factor. Anything that has been identified in the literature as a mediator (cause or inhibitor) of or remedy for plagiarism.

Factor Search. A narrowly focused literature review conducted to identify any mediators of plagiarism as well as any proposed remedies.

Inappropriate/inadequate acknowledgement. Omitting one or more of the required elements for proper attribution. An example would be placing quotation marks around a direct quotation but omitting the corresponding in-text citation and/or the bibliographic entry.

Intentional Plagiarism. According to the Council of Writing Program Administrators (WPA), "Plagiarism occurs when a writer deliberately uses someone else's language, ideas, or other original (not common knowledge) material without acknowledging its source" (2003, p. 2).

Internal factor. A factor arising from within a student that either fosters or inhibits an act of academic dishonesty (Love & Simmons, 1998).

In-text Citation. Parenthetical following any direct quotation or paraphrase that indicates the source for the given piece of information.

Paper Mill. An online database of papers on myriad of topics that students can download for cost and sometimes for free. Some paper mills will also write custom papers for a fee.

Paraphrasing. Taking an idea or quotation from a source and writing it completely in one's own words. Paraphrases must be cited.

Plagiarism Detection Service. A service that that compares electronically submitted papers with a database of sources.

Policing. A method of combating plagiarism by catching and punishing offenders (Hinman, 2000).

Statement of Authenticity. A written statement in which students attest that the work submitted is their own and that they have cited sources appropriately. The statement accompanies all written work.

Unintentional Plagiarism. Plagiarism that occurs due to a student's lack of research and/or writing skills, a misunderstanding of key concepts, or a lack of attention to details.

Verbatim Copying. Copying a source word-for-word without giving proper attribution to the author.

Written Assessment. For the purposes of the study, any written assignment used to assess student learning outcomes. Examples of written assessments are essays and research papers.

Nature of the Study

The study was a qualitative design and followed a holistic, multiple-case, formative research methodology for creating and improving design theories, as developed by Reigeluth and Frick (1999). According to the same authors, formative research is "drawn from formative evaluation and case study research methodologies" (Reigeluth & Frick, p. 634) and may be designed cases, in vivo naturalistic cases, or post facto naturalistic cases.

The study followed a post facto, naturalistic case study methodology and was divided into three distinct phases: the factor search, model development, and the critique and refinement of the newly developed model. In Phase I, the researcher conducted a factor search—a narrowly focused literature review conducted to identify any purported mediators (causes and inhibitors) of plagiarism as well as any proposed remedies. The purpose of the factor search was to lay the groundwork for the second phase of the study, which formatively analyzed each case to determine which, if any, of the purported mediators and remedies uncovered in the factor search were present in each case. In Phase II, the researcher conducted 28 case studies, which involved asking participants to complete an online questionnaire. The questionnaire was constructed based on the findings of Phase I. Data gleaned from the cases along with the findings of the factor

search were utilized to develop the initial instructional design model. In Phase III, the newly developed model was critiqued by the same participants who completed the questionnaire in Phase II to determine the model's overall effectiveness, efficiency, and appeal (Reigeluth & Frick, 1999).

The outlined methodology was an appropriate choice for the study. It has been successfully used to improve existing instructional design theories as well as to create new ones. English (1992), for example, utilized a formative research methodology to improve the elaboration theory. Nelson (1998) adopted a formative research methodology to develop an instructional theory for learning through small-group interaction, and Liu (2003) adopted a similar methodology to develop an instructional design theory for teaching freshman English in a hybrid, Web-based course.

Assumptions and Limitations

The study made the following assumptions and limitations:

1. The selected participants will respond professionally, openly, and honestly to each question asked of them.

2. It is possible to generalize from the selected cases.

3. The online questionnaire constructed to collect data is valid and reliable. To confirm this, the researcher conducted two pilot studies.

4. One limitation of the study was the instrumentation selected. Since questionnaires must be constructed prior to commencing the study, they necessarily limit the number of questions that may be posed. Moreover, they provide no means for the researcher to probe a given response or to clarify a question that may prove ambiguous to participants. Finally, participants may not be able to respond as fully as they might wish, expand on a close-ended question, or to modify their answers. To

compensate, the researcher allowed for participants to write in comments as appropriate.

5. One bias of the researcher is that she has previously studied the problem of plagiarism in higher education and has already formed an opinion about some course design elements that may or may not be helpful in minimizing the incidence of plagiarism in online courses. Moreover, the researcher has implemented some of those design elements in her own courses with some success.

Organization of the Remainder of the Study

The remainder of the study is delineated in the following four chapters. Chapter 2 presents an overview of the instructional design process, theories, and models. The chapter also provides a comprehensive review of existing literature on the prevalence of plagiarism in higher education, as related to distance education, as well as mediators of plagiarism and various methods of combating it. Chapter 3 describes, in detail, the research methodology for the study. Chapter 4 presents the findings of the completed research as well as the model prototype, and chapter 5 presents the final version of the model and discusses conclusions and recommendations for further research.

CHAPTER 2. LITERATURE REVIEW

Introduction

This chapter is divided into two sections. The first section presents an overview of instructional design as it relates to the possible development of an instructional design model to deter plagiarism in online courses. In particular, the section focuses on instructional design and instructional design theories and models, exploring how instructional design might be a key element in deterring plagiarism. The second section presents a review of the literature on plagiarism. Topics to be covered include the definition of plagiarism, the prevalence of plagiarism, factors mediating plagiarism, suggested remedies for plagiarism, plagiarism in online courses, and existing models for deterring plagiarism.

Overview of Instructional Design

Instructional design may be defined as the systematic planning of instruction (Morrison, Ross, & Kemp, 2001). Instructional designers utilize an instructional design development model to design instruction. One of the most widely used models is the Dick and Carey model, which has nine stages: instructional goals, instructional analysis, entry behaviors and learner characteristics, performance objectives, criterion-referenced

test items, instructional strategy, instructional materials, formative evaluation, and summative evaluation (Gagne, Briggs, & Wager, 1992). Examples of other development models include the ADDIE model; the Kemp, Morrison, and Ross model; rapid prototyping; Robert Gagne's instructional design model; and the Smith and Ragan model. The instructional design process "is based on what we know about learning theories, information technology, systematic analysis, and management methods" (Morrison et al., p. 3).

Whichever model is employed, four key components have emerged as foundational to the instructional design process, as presented in Table 1 (Morrison et al., 2001; Zheng & Smaldino, 2003). On occasion, practitioners will utilize different terms to describe the same item, event, or concept. Table 1 matches up the key components enumerated by Morrison et al. with those specified by Zheng and Smaldino.

Table 1. Key Components of the Instructional Design Process

Morrison, Kemp, & Ross	Zheng & Smaldino
Learners	Learner considerations
Objectives	Content organization
Methods	Instructional Strategies
Evaluation	Evaluation

To the above components, Zheng and Smaldino (2003) identified distance education technology characteristics (DETC) as a key element in instructional design process for online learning.

Instructional Design Theories and Models

An instructional design theory "offers explicit guidance on how to better help people learn and develop. The kinds of learning and development may include cognitive, emotional, social, physical, and spiritual" (Reigeluth, 1999, p. 5). Deterring plagiarism requires that learning and development focus on three of the aforementioned domains—cognitive, social, and spiritual (ethical).

Reigeluth pointed out that instructional design theories have four key characteristics: first, they are design-oriented. In other words, instructional design theories attempt "to provide direct guidance to practitioners about what methods to use to attain different goals" (1999, p. 8). For the purposes of this study, the overriding goal was to deter plagiarism in online courses. Second, instructional design theories outline the most appropriate methods of instruction and most optimal situations in which those methods should be implemented to achieve the intended instructional goal(s). For example, one possible method to deter plagiarism, abundantly supported by the literature is to stress the process of writing over the final product (Born, 2003; Carroll & Appleton, 2001; Harris, 2001; Johnson, 2004; Leland, 2002; Malouff & Sims, 1996; McKeachie, 2002; McKenzie, 2003; Scribner, 2003; Wilhoit, 1994; Willen, 2004). Third, the methods are "componential" (Reigeluth, p. 10). In other words, methods can be carried out in

different ways and in different combinations. For example, one way to focus on the process rather than the product is to assess student work throughout the writing process (Scribner). Some instructors may choose to implement that method by providing only formative feedback while others may choose, additionally, to award points cumulatively for the successful completion of each stage of the writing process. One method employed by the author of this dissertation in the university research and writing course that she teaches is to award points cumulatively for the successful completion of each stage of the writing process. For a 300-point research assignment divided into 5 stages at 60 points each, the final draft is worth only one-fifth of the final grade for that assignment. Mathematically, it is to a student's advantage to complete each stage of the writing process. Finally, instructional design theories are "probabilistic" (Reigeluth, p. 10); they "increase the probability that the desired results will occur" (Reigeluth, p. 11). Following the methods that are outlined in the newly developed instruction design model presented in chapter 5 will increase the likelihood that students will plagiarize less, but it cannot guarantee it.

Instructional Design: A Remedy for Plagiarism?

In a recent article entitled "It Takes a Village: Academic Dishonesty & Educational Opportunity," McCabe compared the role of a village in raising a child to the role of "the whole campus community--students, faculty, and administrators" (2005, ¶ 14) in fostering academic integrity on campus. Research suggests, however, that the whole campus community should also include the instructional design team in deterring plagiarism for many reasons: first, plagiarism may be a result or indirect result of poorly

designed courses. For example, Carroll and Appleton stress the importance of reconsidering "the learning outcomes for the course and decrease those that ask for knowledge and understanding, substituting instead those that require analysis, evaluation and synthesis" (2001, p. 10). Determining learning outcomes is a central instructional-design activity (Gagne et al., 1992), and emphasizing critical thinking skills (higher-order thinking skills) deters plagiarism (Scribner, 2003). It follows, therefore, that poorly constructed learning outcomes may encourage plagiarism.

Even if there were no evidence that instructional design fosters plagiarism in some way, the literature indicates that instructional design may be instrumental in deterring it. In an article entitled "Designing Online Courses to Discourage Dishonesty," Christe (2003) identified five course design focus areas to discourage plagiarism: the syllabus, content presentation, the student/instructor relationship, assessment design, and monitoring. Content presentation and assessment design are also central instructional-design activities. Assessments should be directly aligned with learning outcomes, and course content should be designed to help students achieve those outcomes (Gagne et al., 1992).

Moreover, the incidence of plagiarism has a direct impact on instructional design. First, plagiarism prevents the accurate measurement of student learning outcomes. As Lupton, Chapman, and Weiss pointed out, academic dishonesty "poses a threat to the equity and efficacy of instructional measurement, so that a student's relative abilities are not accurately evaluated" (2000, p. 231). The more egregious the offense, the less accurate the measurement of student learning outcomes will be. The incidence of

plagiarism also invalidates feedback into the instructional design process for the purpose of course improvement. These concerns are even more disconcerting considering that plagiarism oftentimes remains undetected (Malouff & Sims, 1996), diminishing the amount of learning and development that takes place (Lupton et al.) and, therefore, making students "less prepared for advanced study or application of the material presented in a course" (Lupton et al., p. 231). This presents a vicious cycle since the less prepared students are academically, the more difficult it will be for them to get into graduate school or to locate desirable employment. According to Phillips and Horton (2000), such pressures and competition contribute to plagiarism. Such concerns only raise the urgency to insure that appropriate, preventative design elements are in place to help deter plagiarism.

The Instructional Design for Online Learning and the Plagiarism Connection

According to Zheng and Smaldino (2003), the key design elements for distance education (or online learning) are the same as for instructional design in general with one addition: distance education technology characteristics (DETC). Learner considerations are, therefore, a key element in distance education courses (Chute, Thompson, & Hancock, 1999; Zheng & Smaldino, 2003), and "interactivity is one of the crucial elements regarding learner considerations in terms of distance education" (Zheng & Smaldino, p. 158). Interactivity is an important element in distance education because it helps to alleviate any sense of alienation or isolation that a distance education learner may experience (Belanger & Jordan, 2000; Fulford & Zhang, 1993), and according to Ashworth and Bannister (1997), student sense of alienation mediates plagiarism.

Therefore, to deter plagiarism in an online course, the instructor or instructional designer should select methods and strategies appropriate for online courses that promote interactivity and have been identified as remedies to plagiarism.

Plagiarism

The term *plagiarism* is difficult to define (Hinchliffe, 1998). The word serves as a catchphrase to describe an array of "ethical transgressions" in academic writing (Howard, 2001, ¶ 12). In a paper presented at the Conference on College Composition and Communication, Howard identified four kinds of academic plagiarism encountered in student writing: submitting work written by another, patchwriting—combining the words or ideas from another source with his/her own, and neglecting to provide proper attribution of sources, and omitting quotation marks. According to Howard, not all acts of plagiarism are created equal. The varying forms of plagiarism represent "different textual activities . . . and [using] the word *plagiarism* to label [all of them] obscures the differences" (¶ 2).

Excluding submitting work written by another, any given case of plagiarism may be unintentional or intentional. For Howard (2001), Willen (2004), and other scholars, the more likely case of unintentional plagiarism is a pedagogical concern, not a juridical one. For example, students sometimes have difficulty distinguishing between paraphrased and plagiarized texts (Ashworth & Bannister, 1997; Roig, 1997). In other cases, it is a matter of poor reading comprehension or the inability, due to lack of expertise in the subject matter, to enter fully into the dialogue (Howard). Such difficulties are even

acknowledged by students, as evidenced by the following student response to a threaded discussion question about why students plagiarize:

> One main reason I have discovered through students over the years is that many do not know how to read with understanding. They are afraid to admit that they haven't learn [sic] this art and are simply unable to express themselves in writing. (Williams, 2006, ¶ 1)

In cases of incorrect, incomplete, or missing citations, the cause may be unfamiliarity with proper citation techniques. However, it is equally possible that students are unclear about when citations are required (Howard, 2001). Alternatively, a recent study conducted by Emerson, Rees, and MacKay found that the inappropriate or incorrect usage of secondary sources as well as any "unacknowledged quotations" discovered in student writing are oftentimes the result of "poor processes, rather than a misunderstanding of the conventions" (2005, p. 20). Careless note taking is a case in point. Such cases of plagiarism are clearly an "educational opportunity" (McCabe, 2005, p. 26) rather than an occasion for punitive action. Good, thoughtful course design can ensure that students have to opportunity to develop and practice the skills necessary to give proper attribution to sources.

Prevalence and Significance of Plagiarism

Abbott, Siskovic, Nogues, and Williams characterized plagiarism and similar acts of academic dishonesty as an "age-old concern" (2000, p. 1129) that has plagued institutions of higher education for decades. Hart and Friesner (2004) dated scholarly research on plagiarism as early as 1941 when Drake reported that 23% of students self-reported cheating. Since 1941, studies have indicated that academic dishonesty, including plagiarism, is steadily on the rise. In 1964, Bowers conducted a study in which he

surveyed over 9,000 students on 99 campuses. He found that 49% self-reported copying material without footnoting, 30% admitted to plagiarism, 28% falsified a bibliography, and 19% submitted work completed by another (McCabe & Treviño, 1996, Table 1). In 1993, McCabe and Treviño published the results of a study that surveyed 6,000 students on 31 campuses. The 1993 McCabe and Treviño study found that 54% copied without footnoting, 26% admitted to plagiarism, 29% had falsified a bibliography, and 14% had submitted the work of another (Table 1). As McCabe and Treviño cautioned in the same study, although the statistics from both studies cannot be directly compared due to sampling differences, the data does "provide considerable insight into college cheating at two different points in time" (p. 28).

More recent statistics include a study by Roig (1997) in which 36% of undergraduates admitted to plagiarizing written material, and a nationwide survey of 50,000 undergraduate students on over 60 campuses (Center for Academic Integrity, 2005) in which 40% of the students surveyed admitted to having plagiarized Internet sources. The actual percentage of students plagiarizing may be higher, however, since only Internet plagiarism was counted. According to Scanlon and Neumann (2002), plagiarizing of conventional text may be slightly more common than plagiarizing online text.

Factors Mediating Plagiarism

According to Love and Simmons, there are two categories of factors that mediate "cheating and plagiarism behavior" (1998, p. 2)—those that foster it and those that inhibit

it. Figure 1 presents a visual breakdown of the categories, as presented in narrative by Love and Simmons. The numbers indicate the total number of factors uncovered in the literature for that category. A comprehensive list of factors for each category is presented in Appendix B.

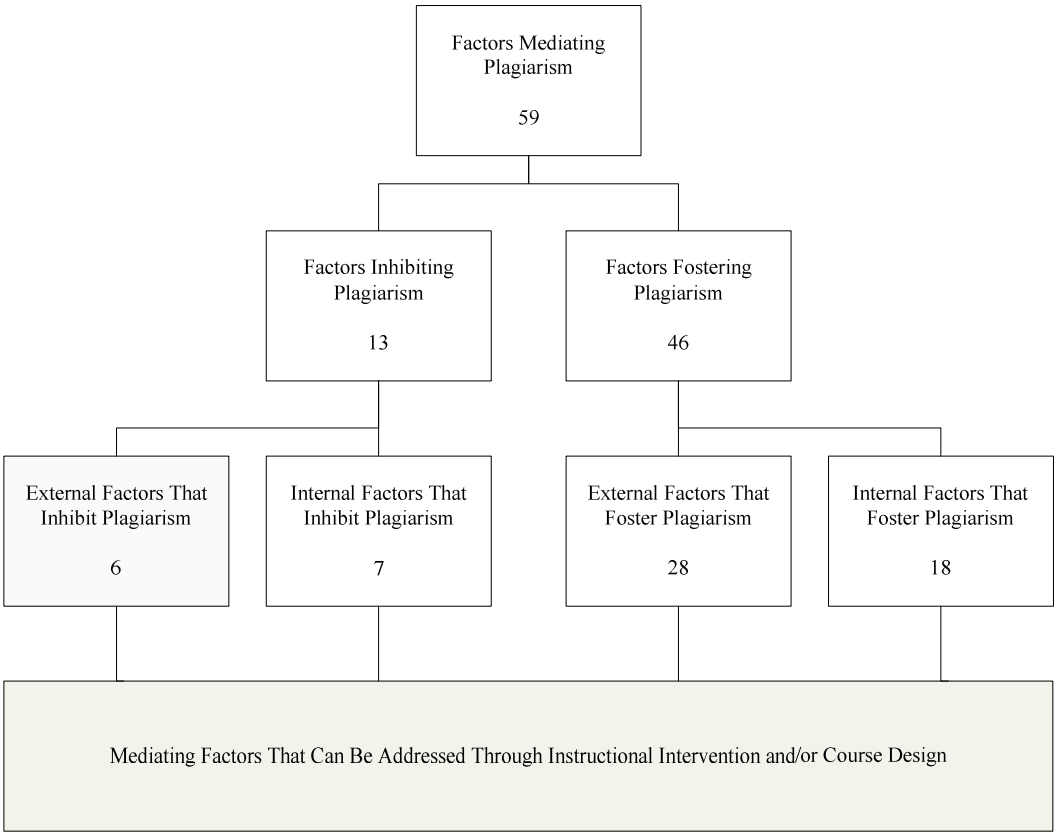

Figure 1. Categorization of factors mediating plagiarism discussed by Love & Simmons (1998).

A review of the literature revealed 46 distinct factors that foster plagiarism and only 13 factors that inhibit it. Each category of factors can be further broken down into internal or external. The next four sections will discuss the findings of the literature

review focusing on factors mediating plagiarism in the following order: internal factors that foster plagiarism, external factors that foster plagiarism, internal factors that inhibit plagiarism, and external factors that inhibit plagiarism.

Internal Factors That Foster Plagiarism

Of the 46 factors uncovered in the literature that foster plagiarism, 18 of them are considered internal or arising from within the student. Those factors can be further broken down into two categories—those than the student can control and those that the student cannot control. As a case in point, a student has no control over gender, age, or cultural background. A student does, however, have control over personal attitudes and the social activities in which she chooses to participate. Uncontrollable factors may predispose a student to commit an act of dishonesty; they do not indicate whether a student will cheat.

According to the literature, age is a factor; younger students, traditional college students, and underclassmen were found to engage more frequently in academic dishonesty than their more mature counterparts (Crown & Spiller, 1998; McCabe & Treviño, 1997; Whitley, 1998). Studies by Crown & Spiller, Whitley, and Underwood and Szabo (n.d.) reported that males have a stronger inclination to engage in unethical behavior than women. Student major is yet another indicator. Several studies reported that business and engineering majors tend to engage in unethical behavior more than other majors (Crown & Spiller; "An Honest Look at Cheating," 2004; Roig & Ballew, 1994; Tucker, 2003). Other factors beyond the student's control include cultural background (Thomas, 2004), marital status (Whitley), the student's perception of the

instructor (Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño; Underwood & Szabo), a student's sense of alienation (Ashworth & Bannister), and fear of failure (Beasley, 2004; Hamilton, 2003).

Internal factors that are controllable by the student may be divided into two categories—those stemming from a lack of knowledge and those resulting from a personal flaw or prejudice. Beasley (2004) and Love and Simmons (1998) noted that some students are ignorant of plagiarism. Others are unable to distinguish between paraphrased and plagiarized text (Ashworth & Bannister, 1997; Roig, 1999). As for personal defects, some students are disorganized (Beasley), have poor time-management skills (Thomas, 2004), procrastinate (Beasley; Hamilton, 2003; Love & Simmons), have a negative personal attitude (Love & Simmons), a negative attitude toward to class or instructor (Ashworth & Bannister; Kerkvliet & Sigmund, 1999; Love & Simmons; McCabe & Treviño, 1997; Underwood & Szabo, n.d.), lack the necessary competencies (Beasley; Hamilton; Love & Simmons), or are thrill seekers (Beasley).

External Factors That Foster Plagiarism

A review of the literature revealed 28 external factors that foster plagiarism. Several of those factors may be categorized as external pressures and demands on the student, such as time, grades, an excessive or mindless workload (Love & Simmons, 1998; Thomas, 2004), and competition for jobs and admittance into graduate school (Phillips & Horton, 2000). Other external pressures include social activities (Crown & Spiller, 1998; Roig & Ballew, 1994) and other personal commitments such as work and family obligations (Park, 2003).

Another grouping of factors that emerged from a review of the literature is faculty-student interaction. Faculty and administration ambivalence and lack of response to occurrences of academic dishonesty may even encourage it (Aaron, 1992; Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; Love & Simmons, 1998; McCabe & Treviño, 1997; Phillips & Horton, 2000). Faculty may also inadvertently communicate incorrect messages to students by "accepting cut-and-paste projects and papers with no or incomplete citations [and] not taking the time to check sources" (Scribner, 2003, p. 32). and devalue a written assignment (Renard, 1999) by making its weight in determining the final course grade disproportionate to the amount of work required to complete it or valuing the product over the process. Several scholars pointed out that a student's impression of the instructor is a factor that mediates plagiarism (Ashworth & Bannister; Kerkvliet & Sigmund; McCabe & Treviño; Underwood & Szabo, n.d.).

Hutton presented a compelling argument that social network theory has implications for plagiarism: "Where there are strong relationships between students and weak relationships between students and faculty and administrators, widespread cheating is more likely to occur" (2006, p. 173). Such relationships are formed in extracurricular organizations such fraternities, sororities, and collegiate sports teams. Not coincidental is the fact that it is in those same organizations that academic dishonesty abounds (Crown & Spiller, 1998; Roig & Ballew, 1994). Hutton suggested that faculty "must strengthen [their] relationships with students so that the culture of the academy trumps that of the relationships between students" (p. 171).

Yet another category that emerged from the literature deals with course and assignment design. An instructor's failure to rotate the curriculum, for example, gives students a warehouse full of previously submitted assignments to copy (Scribner, 2003). Scribner also suggested that instructors oftentimes rely on outdated assignments or impose "unrealistic" (p. 32) requirements or deadlines, such as composing a 20-page term paper within 2 weeks. Such demands set students up for failure and if the perceived benefits appear to outweigh the perceived risks (Hutton, 2006; Phillips & Horton, 2000) a student may resort to plagiarism. In other instances, instructors may establish certain requirements for an assignment yet fail to ensure that students possess "the skills necessary for completing [it] without resorting to cheating" (Scribner, p. 32). Other factors present in the literature that mediate plagiarism but did not fit into a particular category included cryptomnesia (Beasley, 2004), ethical lapses (Beasley), information overload (Beasley, 2004), an institution's subscription to market ideologies (Saltmarsh, 2004), opportunity (Hutton; Phillips & Horton; Thomas, 2004), the presence (or lack thereof) of academic honesty policies (Crown & Spiller, 1998; McCabe & Treviño, 1997), and the testing environment (Crown & Spiller; Roig & Ballew, 1994; Whitley, 1998).

A final category that emerged from the literature is student observation of others. According to Crown and Spiller (1998) and McCabe and Treviño (1997), peer observation may influence whether a student plagiarizes. Equally influential is the bad example set by high-profile personages (Crown & Spiller) and even faculty who set a bad example by not citing sources in their own course materials and lecture notes (Townley &

Parsell, 2004). Such issues betray the trust that should exist between the instructor (and the academic community in general) and the student, which may also encourage academic dishonesty (Townley & Parsell, 2004).

Two factors were found to fit into either category of these categories: academic achievement and information overload. Academic achievement is considered internal if it arises from a personal desire for achievement; it is external if it stems from some external pressure, such as achieving a certain grade in a course in order to be eligible for tuition reimbursement. The Distance Education and Training Council (2004) found that 38% of distance education students enrolled at degree-granting institutions received tuition assistance from their employers. Information overload may be considered external if, as described by Beasley, it is precipitated by "too many sources to evaluate or [the student] may be unable to choose a set of information, which results in spending too much time collecting, rather than analyzing information" (2004, p. 7); it may be also considered internal in the sense that each student has an internal threshold for how much new information can be processed at a given time.

Internal Factors that Inhibit Plagiarism

Love and Simmons (1998) identified seven internal factors that inhibit plagiarism. Those factors were further divided into categories: positive factors and negative factors. Positive factors included personal confidence, positive professional ethics, fairness to authors, desire to work or learn, and fairness to others. Negative factors included fear and guilt. According to Love and Simmons, "fairness to authors" referred to those who would

be plagiarized and “fairness to others” referred to fellow students and researchers (Inhibiting Factors section, ¶ 3).

Love and Simmons (1998) identified only two negative factors: fear and guilt. In the Love and Simmons study, students expressed fear of being caught, fear of losing one’s job, negatively impacting one’s career, and fear of embarrassment. A study by McCabe and Treviño (1993) found that fear of consequences deterred academic dishonesty. Some of the factors mentioned above can be linked to events within a course as a means of preventing plagiarism. For example, personal confidence and a desire to work and learn can be encouraged through positive instructor-student interaction. The more consistent that faculty and administration are at dealing with blatant acts of academic dishonesty, the more likely fear of being caught will inhibit it.

External Factors That Inhibit Plagiarism

Love and Simmons (1998) notes six external factors that inhibit plagiarism: cheating as dangerous, need for knowledge in the future, probability of being caught, professor’s knowledge, time pressure, and type of work required. Once again, many of those factors can be linked to course events to deter plagiarism. For example, instructors present themselves as professional and knowledgeable by actively participating in discussion threads, providing students with supplemental materials, and answering student questions clearly, concisely, and in a timely manner. Many of the remedies discussed in the next section would be useful in reinforcing many of the aforementioned factors.

Current Suggested Remedies for Deterring Plagiarism

A review of the literature revealed 108 distinct, potential remedies for plagiarism. Those remedies can be categorized according to Hinman's (2000) three approaches to minimizing plagiarism—the virtues approach, the prevention approach, and the policing approach. In Figure 2, the researcher presents a categorization of remedies for plagiarism discussed by Hinman. The numbers indicate how many factors for that category were found in the literature. A comprehensive list of factors for each category is presented in Appendix A.

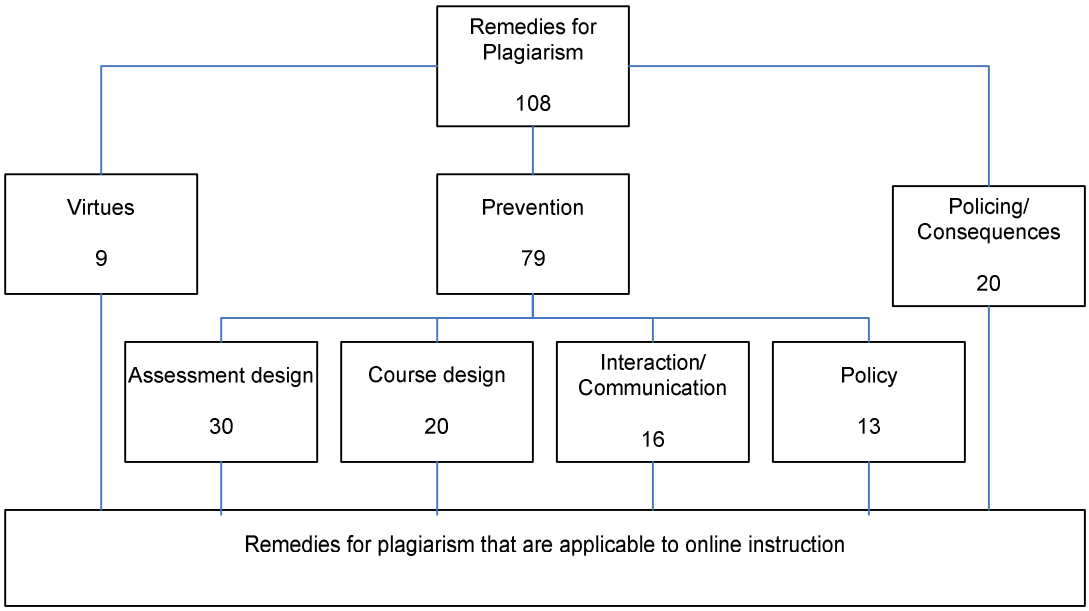

Figure 2. Categorization of remedies for plagiarism based on Hinman (2000).

The Virtues Approach

According to Hinman, the virtues approach aims to "develop students who do not want to cheat" (2000, Slide 20). To accomplish this, one requirement is to create what Willen coins as a "campus ethos of integrity" (2004, p. 57). Remedies that fall under the virtues approach include promoting a climate of academic integrity (Phillips & Horton, 2000) through academic integrity policies (Crown & Spiller, 1998; McCabe & Treviño, 1996, 1997) honor codes, the signing of acceptance policies (Scribner, 2003), and requiring students to include a signed author's statement of authenticity with each major written assignment (Born, 2003; James, McInnes, & Devlin, 2002). This "campus ethos of integrity" (Willen) must be nurtured by the modeling of ethical behavior by all faculty and staff (Carroll, 2004; Scribner) in all course materials and documents produced by the college or university. Instructors must help students "understand the rules of ethical writing" (Malouff & Sims, 1996, Abstract section, ¶ 6) and must emphasize the value of learning (Willen).

In "Academic Integrity and the World Wide Web," Hinman (2000) pointed out that Aristotelian thought distinguishes between two kinds of virtue: continence and temperance. Continence requires some external motivation to keep one's desires in check; on the other hand, temperance requires nothing since the virtue has been internalized and one's desires are, therefore, under good regulation. Continent students require a little encouragement to refrain from acts of academic dishonesty. Such encouragement can be provided by adopting some of the strategies that Malouff and Sims (1996) outlined in their employee-motivation model to prevent plagiarism: (a) expect the

writing assignment to be manageable, (b) expect ethical writing to lead to personally important benefits, (c) expect plagiarizing to be difficult, and (d) expect plagiarizing to lead to personally important costs. The model will be discussed in more detail further in this chapter. Providing students with personal incentives not to plagiarize, as the employee-motivation model does, helps to move students closer toward temperance.

The Prevention Approach

The second approach to minimize plagiarism suggested by Hinman (2000) is the prevention approach. Seventy-nine of the 108 remedies uncovered in the literature review focused on prevention. The largest set of those remedies focused on course and assessment design as key to preventing plagiarism (Ashworth & Bannister, 1997; Carroll, 2004; Johnson, 2004; McMurtry, 2001; Olt, 2002; Whitley & Keith-Spiegel, 2002).

At course-level, Carroll and Appleton recommended that instructor or instructional designer "reconsider the learning outcomes for the course and decrease those that ask for knowledge and understanding, substituting instead those that require analysis, evaluation and synthesis" (2001, p. 10). Of course, instructors need to ensure that students have the necessary skills to avoid plagiarism, which include critical analysis skills (James et al., 2002), summarizing and paraphrasing skills (James et al., 2002), and referencing and citation skills (Carroll & Appleton; James et al.). Instructors can easily provide students with opportunities to learn and practice such skills by requiring references for all assignments, including discussion thread postings.

As already mentioned, several scholars stressed the importance of the process of writing over the final product. To do this requires that adequate time to complete each

stage (McMurtry, 2001) is designed into the course structure. In order to encourage that students do work through the process in an orderly manner, Scribner recommended that instructors "assigning significant weight to each step of the process" (2003, p. 33). Scholars did not agree on how much assessment should be required. Abbott et al. (2000) and Born (2003) recommended frequent assessments throughout a course while Langsam (2001) recommended minimizing the number of assessments. However, given the overwhelming support for process-based writing, it would seem more logical to have fewer than more written assessments. In sum, the overarching goal of course (and assessment) design is for students to come to "expect the writing assignment to be manageable . . . [and] . . . expect plagiarizing to be difficult" (Malouff & Sims, 1996, Abstract section, ¶ 6).

At assignment level, the literature offers a wealth of design recommendations. In general, written assessments should be unique and meaningful to the student (McLafferty & Foust, 2004) and be strategically designed so that they reveal the ways that writing "contributes to learning" (Willen, 2004, Value of Learning section, ¶ 2). Instructors should provide students with specific directions for completing the assignment. Finally, instructors should encourage students to develop and use their own voice (Scribner, 2003) and "insist on evidence for significant claims and let students know that the assignment will not be marked if this evidence is missing" (James et al., 2002, p. 10).

Some varieties of assessment discourage plagiarism more than others. Culwin and Lancaster (2001) recommended that instructors rely on alternatives to the customary term paper and rely instead on case studies. Other scholars suggested oral presentations

(Gibelman, Gelman, & Fast, 1999; McMurtry, 2001), and other creative projects such as PowerPoints (Talab, 2004) that are not easily downloaded from the Internet. Other suggestions included a timed, open-book essay (James et al., 2002), collaborative work with an individual component (James et al.), and including "in assessment, regimes mini-assignments that require students to demonstrate skills in summarizing, paraphrasing, critical analysis, building an argument, reference and/or citation" (James et al., p. 9). Other scholars recommended summative assignments such as reflective papers (Scribner, 2003) and vivas (Culwin & Lancaster) that cannot be completed without having completed the written assignment. When a term paper is assigned, Culwin and Lancaster recommended that the assignment focus on a unique or recent event. Other suggestions included integrating theory (Carroll & Appleton, 2001), personal experiences (Carroll & Appleton), field learning (Gibelman et al.), or some classroom component, such as the textbook or lecture notes (Culwin & Lancaster).

Another strategy to deter plagiarism in written assessment is to require specific components (Harris, 2001). For example, James et al. (2002) recommended that students be required to submit annotated bibliographies. Other possibilities include outlines and rough drafts (Harris) and photocopies of sources cited (Culwin & Lancaster, 2001; Harris; James et al.). One interesting requirement proposed by Maas (2002) is E-prime, which forbids the use of any form of the verb to be in student writing. The purpose of E-prime is to force students to be more creative in paraphrasing original texts.

Finally, a final set of assessment strategies in the literature involved when or how the assessment should be conducted. Culwin and Lancaster (2001) suggested that

assessment should be conducted in class so that the instructor can monitor student activity. Several scholars have stressed the importance of focusing on the process over the final product (Born, 2003; Carroll, 2004; Harris, 2001; Johnson, 2004; Leland, 2002; Malouff & Sims, 1996; McKeachie, 2002; McKenzie, 2003; Scribner, 2003; Wilhoit, 1994; Willen, 2004). Other possibilities included assigning different questions to different students (Born) and requiring that assignments be submitted electronically (James et al., 2002).

Another set of remedies focused on instructor-student interaction. Boice (2000), McKeachie (2002), and Whitley and Keith-Spiegel (2002) stressed the importance of instructors establishing a good tone and atmosphere at the beginning of a course. Two ways to accomplish this is to mingle with early arrivals and to make oneself available for questions (McKeachie; Whitley & Keith-Spiegel). The positive tone created at the beginning of a course must be maintained. Instructors must strive to build a positive rapport (McLafferty & Foust, 2004) and mutual trust (Born, 2003) with students throughout the course. Hutton (2006) suggested that instructors should provide a venue for socializing with students outside of the classroom. Other suggested remedies included admonishment (Landau, Druen, & Arcuri, 2002), instructors demonstrating knowledge of cheating sources (Evans, 2000), providing students with performance (formative) feedback on written work (Landau et al.), providing students with examples of plagiarized passages (Landau et al.), soliciting (formative) feedback from students during the term (Boice), and one-on-one tutoring (Emerson et al., 2005). Carroll and Appleton stressed the importance of creating “a climate of involvement and interest rather than

detection and punishment" (2001, p. 20). All of these remedies will help to reduce any student sense of alienation, which influences plagiarism (Ashworth & Bannister, 1997).

The final set of preventative remedies focused on policy. Among the most important is the presence and enforcement of institutional academic integrity policies and penalties for infractions (Crown & Spiller, 1998; McCabe & Treviño, 1996, 1997). Institutional policies as well as any instructor-specific policies should be clearly communicated to the student in the course syllabus (McMurtry, 2001; Phillips & Horton, 2000), and the administration must support the faculty in enforcing them (Hutton, 2006). Equally important is to define plagiarism for students (McLafferty & Foust, 2004). Other suggested, policy-type remedies included controlling the testing environment (Crown & Spiller; Roig & Ballew, 1994; Whitley, 1998), prohibiting make-up tests (Born, 2003), and as a matter of course policy, requiring that students submit rough drafts and final drafts of all papers to a plagiarism detection service (Martin, 2005; Scanlon, 2003) . Establishing academic honesty policies, openly discussing them with students, as well as enforcing them will help students to "expect plagiarizing to lead to personally important costs" (Malouff & Sims, 1996, Abstract section, ¶ 6), thus discouraging them from doing it.

The Policing/Consequences Approach

Another approach to combating plagiarism is policing (Hinman, 2000; Phillips & Horton, 2000). Policing is a two-step process—catching and punishing offenders—which requires faculty to quickly and consistently respond to each incident of academic dishonesty, especially blatant ones, according to established policies (Ashworth &

Bannister, 1997; Carroll & Appleton, 2001; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1996), and the administration should support faculty in that process (Phillips & Horton). To catch plagiarists, many institutions and instructors rely on a plagiarism detection service, such as Turnitin®. Phillips and Horton recommend that the punishment imposed should be commensurate with the severity of the offense. Typical penalties or consequences include a warning, having to redo the assignment (James et al., 2002), failing the plagiarized assignment, failing the course, suspension, and expulsion (Thomas, 2004). To catch "serial plagiarism" (Baggaley & Spencer, 2005, p. 55), Phillips and Horton recommend that institutions track student incidents of plagiarism. In that way, faculty and administration will be aware of any repeat offenders. Other suggested strategies included archiving student essays (James et al.), reading each essay four times (Bjaaland & Lederman, 1973), using search engines, such as Google, to become familiar with the range of sources readily at student disposal (Culwin & Lancaster, 2001; James et al.), and requiring meta-assignments (Evans, 2000). A final recommendation is to "allow student participation in disciplinary hearings to enable information about the process to permeate the campus and encourage conformance" (Phillips & Horton, The Role of the University section, ¶ 2).

In an article entitled "Playing Dirty in the War on Plagiarism," Moore proposed "to pollute the source" (2002, ¶ 8) by writing faulty, erroneous papers and submitting them to the same paper mills that students patronize. There are at least two problems with Moore's approach, however. First, the suggested remedy will only work for those students who obtain papers from paper mills. A recent study conducted by McCabe for

The Center for Academic Integrity (2005), however, found that 38% of the students polled admitted to cut-and-paste plagiarism—a kind of plagiarism that would remain unaffected by the pollution. Second, Willen describes plagiarism as "evidence of a failure to learn" (2004, p. 55). Assuming that Willen is correct, "polluting the source" contributes nothing to remedying the problem. In fact, it completely ignores the problem.

Plagiarism Detection Software and Services

The colossal growth of the Internet has made plagiarism easy, at least much easier than it used to be, and according to McCabe, "The Internet is likely to intensify the problem" (2001, p. 38). The good news is that the Internet has also made plagiarism easier to catch (McKeever, 2006). Given the prevalence of plagiarism, many institutions of higher education and private instructors have opted for automated plagiarism detection (plagiarism detection services) to solve the problem. According to McKeever, the twofold purpose of such services is "to highlight possible plagiarism [cut-and-paste, paper-mills, and collusion], and also to identify the potential source of the plagiarised paper" (p. 155). A plagiarism detection service compares electronically submitted papers with a database of sources. In a recent report prepared for the Joint Information Systems Commission, Bull, Collins, Coughlin, and Sharp found that some "services are more robust than others" (2001, p. 5). Of the products reviewed for the report, CopyCatch and WordCHECK checked only for collusion, and the functionality of EVE2 and Findsame was limited to cut-and-paste plagiarism. Turnitin®, on the other hand, not only checked

for collusion and cut-and-paste plagiarism, but had the added capability of searching known paper mill databases (Bull et al.).

Plagiarism in Online Courses

Research directly related to plagiarism in online courses is virtually nonexistent (Grijalva, Kerkvliet, & Nowell, 2006). In fact, Donald McCabe, a well-published scholar on academic dishonesty in higher education, wrote in a personal communication (October 26, 2006) that statistics focusing specifically on plagiarism occurring in online courses are "one of the real 'holes' in the current" literature. Given that plagiarism undoubtedly does occur in land-based classrooms, it is logical—and even prudent—to assume the plagiarism does occur in online courses as well. Scholars are, therefore, left to ponder the question whether the body of research for academic dishonesty in traditional and hybrid educational settings is applicable to online learning environments.

According to Kaczmarczyk (n.d.), some recent studies have examined the possibility of incorporating online assessment into traditional courses. For example, Kaczmarczyk cited a study by Mason and Woit (1998), which concluded that online assessments in a computer science course tend to bring "the students to a higher standard, of causing them to reduce the level of cheating and copying, and of encouraging them to attain the practical skills we expect from course work" (n.d., p. 144).

Some scholars have questioned whether the mode of course delivery itself has any influence on the prevalence of cheating (Hamlin & Ryan, 2003; Roach, 2001; Rowe, 2004). Rowe argued that "students have often less commitment to the integrity of

distance-learning programs than traditional programs because distance-learning programs often lack tradition, are often taken by people with pressures from other jobs, and many programs are new and not fully debugged" (Introduction section, ¶ 4). Some students may assume that online courses are easier than their traditional counterparts. However, when faced with the rigor of online courses (Ridley & Husband, 1998), they may be tempted to cheat—at least theoretically.

On the other hand, some scholars argue that academic dishonesty is less common in online courses. According to Roach, Wallace K. Pond, the chief of academic affairs of Education America Online, held that "cheating is far more rampant in the traditional classroom than in the online classes" (2001, ¶ 9). Heberling (2002) put forth that courses offered in an online environment make cheating more difficult to do without being caught. Written assignments must be submitted electronically, making it easier for instructors to submit them to plagiarism detection services, whereas written assignments in traditional courses are oftentimes submitted in hardcopy. Finally, the results of a study conducted by Ridley and Husband (1998), found that final course grades for students enrolled in online courses were lower than those enrolled in corresponding traditional courses. Since successful cheating should equate with higher grades, it is reasonable to conclude that less cheating is occurring in the online courses than in their traditional counterparts.

According to Grijalva et al., student academic dishonesty may be planned cheating or panic cheating and that

> In online classes, planned cheating may be a much greater threat than panic cheating simply because circumstances engendering panic cheating may be

> relatively rare compared to a traditional classroom. Tests are most often completed by students in isolation and the opportunities for panic cheating diminished. (2006, A Model of Cheating section, ¶ 2)

Intentional plagiarism falls under the category of planned cheating, so it is reasonable to assume that it does occur in online courses.

Profile of a Typical Online Student

One of Rowe's concerns regarding the integrity of distance education courses is that they "are often taken by people with pressures from other jobs" (2004, Introduction section, ¶ 3). Pressure, however, is only one of many factors mediating plagiarism, and traditional students have similar nonacademic demands on their time. How such factors play out student's decision to plagiarize is uncertain.

According to the Distance Education and Training Council (2004), the typical American online student at degree-granting institutions is nontraditional. Fifty-five percent are male, at a median age of 37 years, and 94% employed. According to Ashby (2002), they are typically enrolled in education, humanities, and business programs. Qureshi observed that distance education students are generally considered "achievement oriented, highly motivated, and relatively independent" (2002, ¶ 2), although a study conducted by the same author (Qureshi, 2002) found the opposite to be true. Regardless of motivation, with such a profile it is unlikely that the online student would be engaging in the normal, extracurricular activities of a "traditional" college student, such as joining a fraternity, sorority, or trying out for the college football team, activities which have been identified as negatively influencing academic dishonesty (Crown & Spiller, 1998;

Roig & Ballew, 1994). On the other hand, online students are often business majors (Tucker, 2003), and business majors, as well as engineering majors, are more likely to cheat than students in other disciplines ("An Honest Look at Cheating," 2004).

Existing Plagiarism Prevention Models

A thorough literature review uncovered only two existing plagiarism prevention models (not instructional design models)—one based on Vroom's (1964) employee motivation model and the other a three-R's model (Usick, 2004).

Vroom's Expectancy Theory

According to Nash, Vroom's expectancy theory explained how "the expectations that individuals have of their workplace, their coworkers, and their employers, can deeply influence motivation" (2005, ¶ 2). According to Chen and Hoshower

> Expectancy models are cognitive explanations of human behavior that cast a person as an active, thinking, predicting creature in his or her environment. Individuals continuously evaluate the outcomes of their own behavior and subjectively assess the likelihood that their action will lead to those outcomes. A person's choice of the extent of effort invested is based on the systematic analysis of (1) the values of rewards from the outcomes, (2) the likelihood that rewards result from those outcomes, and (3) the likelihood of reaching those outcomes through actions. (2003, p. 74)

While the theory was primarily developed to improve employee motivation and performance, it has also been applied to other areas, including alcohol consumption (Jones, Corbin, & Fromme, 2001), contract grading (Polczynski & Shirland, 1977), and eating disorders (Holstein, Smith, & Atlas, 1998). In 1996, Malouff and Sims utilized the theory to develop a model to prevent plagiarism.

According to Malouff and Sims, the model

> Postulates that instructors can best prevent plagiarism by ensuring that students (a) understand the rules of ethical writing, (b) expect the writing assignment to be manageable, (c) expect ethical writing to lead to personally important benefits, (d) expect plagiarizing to be difficult, (e) expect plagiarizing to lead to personally important costs. (1996, Abstract section, ¶ 1)

The strategies suggested by Malouff and Sims have clear implications for instructional design. For example, the second strategy might impact course structure and assignment design.

Three-R's Model

At the 3rd annual UTS Teaching and Learning Symposium, Usick (2004) introduced a new three-R's model for preventing plagiarism: respect, relevancy, and refresh. According to Usick (2004), respect involves a reciprocated action between the instructor and student; the instructor respects the student and the academic discipline, and the student respects the instructor and the academic discipline. Suggested methods include discussing plagiarism in the classroom as well as explaining the importance of proper citation techniques. Relevancy involves helping "students to create connection between course content and what's happening in the world, program/discipline, and student's interests" (Usick, p. 10). Refresh involves refreshing the instructor's and students' memories on any institutional, departmental, and instructor policies on plagiarism. While the three-R's model for preventing plagiarism offers sound advice, it will not be effective a deterring certain kinds of plagiarism.

Summary

This chapter presented a two-part literature review of instructional design as it relates to the possible development of an instructional design model to deter plagiarism in online courses. The first part of the literature review focused on instructional design theories and models and explored how they might be instrumental in deterring plagiarism in online courses. The second part presented a review of the literature on plagiarism, including the definition of plagiarism, the prevalence of plagiarism, factors mediating plagiarism, suggested remedies for plagiarism, plagiarism in online courses, and existing models for deterring plagiarism.

To summarize, the major findings of the literature review justify the exploration of whether the development an instructional design model may prove useful in the deterrence of plagiarism in online courses:

1. Plagiarism undermines the instructional design process; it obstructs the correct measurement student learning outcomes as well as the assessment of the overall effectiveness of course design.

2. Plagiarism may result from poor course design.

3. Key instructional design elements can be directly linked to plagiarism. Interactivity in online courses has been identified as a remedy for student sense of alienation, which is a factor mediating plagiarism.

4. Many of the reasons why plagiarism occurs are directly related some instructional need.

5. Even some of the noninstructional reasons why plagiarism occurs (such as student procrastination) can be addressed through course design and structure.

CHAPTER 3. METHODOLOGY

Introduction

The purpose of the study was to explore whether an instructional design model could be developed to guide course designers and instructors in the creation of online courses and written assessments that would deter plagiarism. The study sought to answer the following research questions:

1. How do course structure, development, and design influence the incidence of plagiarism in online courses?
2. How can instructional design help to reduce the documented causes of plagiarism in online courses?
3. What are the essential elements of an instructional design model that will help to deter plagiarism in online courses?

The study was a qualitative design and followed a holistic, multiple-case, post facto, naturalistic study methodology to develop and refine an instructional design model to minimize plagiarism in online courses.

Setting of the Study

Since participants were physically located in various parts of the country, the setting for the study was the Internet. Participants were directed to secure, tracked links on surveymonkey.com to complete the study.

Target Population

The target population for the study was faculty from any regionally accredited U.S. institution of higher education who has had college-level experience teaching totally online. Participants were recruited through the researcher's contact with conveners of online programs from various regionally accredited institutions of higher education, editors of journals whose readership is primarily online educators, and targeted e-mail.

Instrumentation

The instrumentation for the study was a Qualifying Demographics Survey (QDS), a Course Analysis Questionnaire (CAQ), and a Critique and Refinement Survey (CRS), which was drafted upon completion of data analysis phase of the study. The QDS, CAQ, and CRS are located in Appendix D, Appendix E, and Appendix F, respectively. The purpose of the QDS was to select a group of participants who, together, provided for a wide variation in situationality (academic discipline, number of years teaching in higher education, and experience teaching online). The collective results of the QDS are included in chapter 4. The CAQ had a total of 25 questions and included a combination of multiple-answer and open-ended questions. It was estimated that it would take participants approximately 30 minutes to complete the questionnaire, although the actual time commitment greatly depended on how much thought and detail participants chose to put into their responses. The CAQ was constructed based on the findings of Phase I of this study, as described in the following section. The aim of the questionnaire was for participants to reflect on the course structure, development, and design of the online

courses that they have taught as well as to identify which of the remedies for plagiarism uncovered in the literature have been implemented in their online courses. Findings from the CAQ along with the findings from the Phase II factor search itself were, together, utilized to develop an instructional design model to deter plagiarism in online courses. The CRS was estimated to take no more than 30 minutes to complete.

Research Design

The study was divided into three distinct phases: I, the Factor Search, II, the Model Development, and the III, Critique and Refinement of the new model. Each phase contributed in its own way to answering the three research questions that guided the study. Phase I laid out the theoretical groundwork for the study, identifying any instructional interventions and/or course and assessment design elements that had emerged from the literature as possible remedies for plagiarism. The existing body of literature, however, did not yield any studies that directly evaluated the efficacy of the suggested remedies for plagiarism (Malouff & Sims, 1996). Phase II answered the research questions on a more practical level, identifying which remedies uncovered in the factor search, if any, had been implemented in the online courses taught by the participants. Finally, in Phase III, the three research questions were answered again, making any necessary changes.

In Phase I, the factor search allowed the researcher to identify factors that contribute to and/or inhibit plagiarism as well as any proposed remedies. Those factors were sorted into categories. Eventually, the researcher determined which factors could be

dealt with through some instructional or course design intervention. Those factors with any corresponding remedies served as the basis for constructing the CAQ that each participant was asked to complete. The procedure and methodological grounding for the factor search is explained in detail in the next section of this chapter. In Phase II, the researcher disseminated the CAQ via the Internet. The purpose of the CAQ was to encourage participants to identify the strengths and weaknesses of the course structure, development, and design of their own online courses as well as to identify which of the remedies for plagiarism uncovered in the literature have been implemented in their online courses. In Phase III, the researcher asked participants to complete the CRS to refine the newly developed model and to determine its overall effectiveness, efficiency, and appeal (Reigeluth & Frick, 1999). A summary of the research process is provided in Figure 3.

Phase I—Factor Search

The factor search was a narrowly focused literature review conducted to identify factors that foster and/or inhibit plagiarism as well as any proposed remedies. The findings of the factor search were a critical element of the study; they served as the basis for constructing the CAQ that was distributed to the participants. Since the findings of the factor search were a key component, the researcher created and maintained an audit trail. Each piece of literature reviewed was catalogued by author, by title, and by any factors and remedies identified.

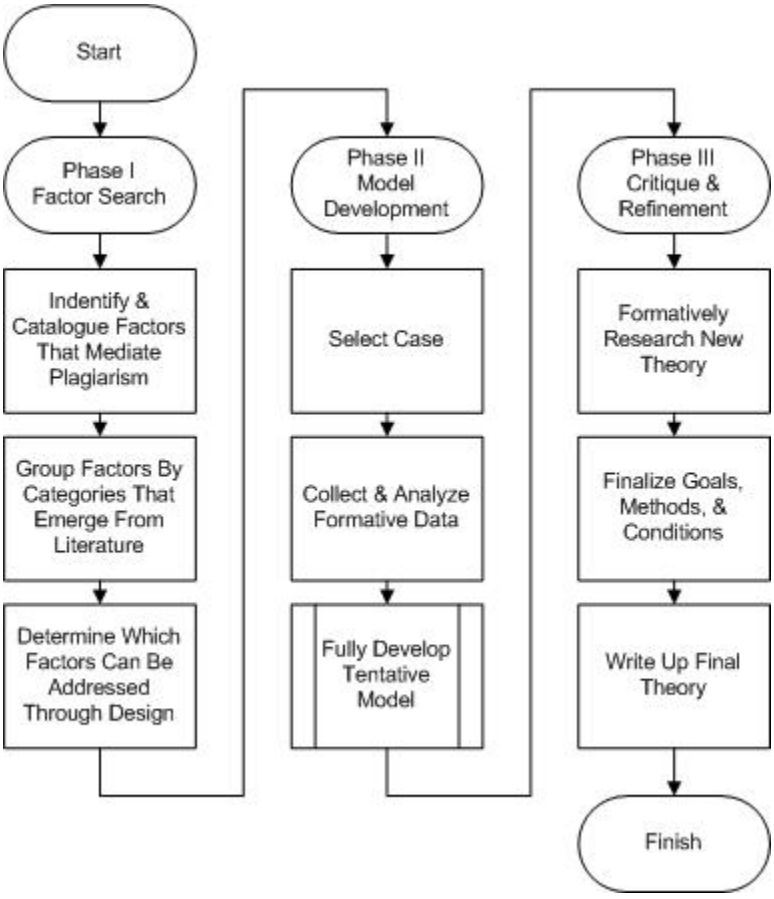

Figure 3. Research design process.

Once the process of cataloging was completed, the factors and remedies were grouped by categories that emerged from the literature. For example, Love and Simmons identified two major categories of factors "mediating cheating and plagiarism behavior" (1998, p. 2)—those that inhibited it and those that fostered it. Each of those categories was further broken down into two subcategories—internal factors and external factors. Once the categorization process was completed, the researcher determined which factors could be solved through some instructional or course design intervention. In some cases, the process was fairly straightforward. For example, plagiarism due to a lack of

knowledge, writing, or research skills is a problem that can be solved through instruction (Kalman, 1987; Rossett, 1999). Other cases were not as clear-cut, however. For example, plagiarism due to procrastination may seem like a motivational problem that cannot be addressed through instruction or course design. However, focusing on the process of writing in lieu of the product and requiring that papers be submitted in stages may deter such plagiarism (Johnson, 2004). This was an important step since the goal of the study was to develop an instructional design model to deter plagiarism, and instructional design can only address goals that are instructional (Gagne et al., 1992). A diagram summarizing the categorization of factors mediating plagiarism discussed in the Love and Simmons article was presented in Figure 1.

Proposed remedies for plagiarism were also sorted into two categories—those that are appropriate for an online course and those that are not. For example, instructor-student, student face-to-face conferences are not possible in online courses. Once a given factor was identified as one that could be addressed through some instructional or course design intervention, it was then matched to any appropriate remedies that may reasonably be applied to online courses. In some cases, these matches were already identified in the literature. For any factors that were not matched to remedies, however, the researcher made the matches based on intuition and personal experience.

The matched factors and remedies served as the basis for constructing the questionnaire. Christe proposed "a multilayered approach" (2003, p. 54) to deter plagiarism with five course design focus areas: the syllabus, content presentation, student/instructor relationship, assessment design, and monitoring (p. 55). These areas

were be used to help organize and structure the questionnaire, and the matched factors and remedies were distributed among them, as appropriate.

Phase II—Model Development

To develop the new instructional design model, the study followed a formative research methodology developed by Reigeluth and Frick (1999) for creating and improving design theories. The same authors, as well as Nelson (1998), utilized the terms theory and model interchangeably. For the purposes of this study, the researcher has consistently used the term model, although the term theory may be found in quotations from the aforementioned authors. According to the same authors, formative research is "drawn from formative evaluation and case study research methodologies" (Reigeluth & Frick, p. 634) and may be designed cases, in vivo naturalistic cases, or post facto naturalistic cases. For all cases, the study followed the suggested process for conducting post facto naturalistic study for creating a new theory and involved the following steps, as outlined by Reigeluth and Frick: "[1.] Select a case. [2.] Collect and analyze formative data on the case. [3.] Fully develop your tentative" model (p. 638).

Reigeluth ad Frick defined post facto naturalistic cases as those "in which the formative evaluation of the instantiation is done after its application (1999, p. 637).Cases for the study were considered post facto in the sense that participants were asked to answer questions, at least in part, based on course structure and design, assignment design, and their experience teaching online courses that have already been completed.

Select a Case

For the purposes of the study, a case constituted one participant. To select the cases, the study employed a purposeful criterion sampling technique. According to Patton, the goal of purposeful sampling is to select the most "information rich" cases (2001, p. 40). Reigeluth and Frick point out that "the case should be a situation that fits within the general class of situations to which the theory applies" (1999, p. 645). Therefore, to be eligible to participate in the study, prospective participants were required to meet the following criteria:

1. He/she must currently teach at least one course totally online at a regionally accredited institution of higher education.

2. He/she must have previously taught totally online courses at a regionally accredited institution of higher education for at least two semesters (or terms).

3. He/she must have required a major writing component as part of the evaluation methods chosen for the online courses taught.

To locate and establish a preliminary pool of prospective participants, the researcher contacted conveners of online programs from various regionally accredited institutions of higher education, editors of journals whose readership is primarily online educators, and targeted e-mail. Prospective participants were sent a recruitment letter via e-mail summarizing the purpose of the study and the selection criteria. Prospective participants were asked to complete the QDS, which was used to qualify and select participants. Since the selected participants together had to vary situationality, the researcher selected those that provided for a wide variation in academic discipline and course levels taught. The researcher also considered the amount of online teaching

experience that each prospective participant had since more experience may reasonably yield more meaningful information.

One important consideration in case study research is determining the desired number of cases. While a single case would yield in-depth information about a particular instance of the phenomenon under investigation, the findings may not be as generalizable. A single case is not sufficient to develop a theory or model. On the other hand, while a multiple-case study adds breadth to a given study, thereby increasing generalizability, the end-result is less depth (Patton, 2001). Ideally, one should continue to select cases until the point of redundancy—until no new information is uncovered (Patton). For the purposes of the study, however, the minimum number of cases was 20. The actual sample size, however, was determined by the number of participants who responded to the CAQ. This allowed the researcher to question online instructors across the disciplines and at varying levels, thereby providing breadth without sacrificing the depth of analysis for each case. The first two cases were considered pilot tests. Once the data gleaned from the pilot tests was deemed valid and reliable, then the remaining selected participants were invited to participate in the study.

Collect and Analyze Formative Data

The operational procedures and general timeline for completing Phase II of the study was as follows:

1. Recruit prospective participants through contact with conveners of online programs from various regionally accredited institutions of higher education, editors of journals whose readership is primarily online educators, and targeted e-mail.

2. Invite those who respond to the recruitment letter to complete the QDS. Respondents will have 1 week to complete the QDS upon having receiving the invitation.

3. Select participants based on the data gleaned from each submitted QDS. Those who respond to the QDS will be included or excluded upon review of the QDS until a minimum of 20 participants have been selected.

4. Send letters of inclusion or noninclusion to those who completed the QDS. Those who have been included in the study will also be sent the Information and Consent Form (ICF), which must be signed prior to commencing the study. Selected participants will have 2 weeks to sign and return the form.

5. Once a signed ICF has been received, invite the participant to complete the CAQ; participants will have 2 weeks to complete the CAQ upon receiving the invitation. The first two to three participants to complete the CAQ will serve as pilot tests.

6. Once all CAQ have been completed, analyze data according to the procedures described in the following sections and develop a tentative instructional design model to deter plagiarism.

For the CAQ, participants were asked to respond openly and honestly to a total of 25 questions, which included a combination of multiple-answer and open-ended questions. Responses to the multiple-answer questions were scored by SurveyMonkey and underwent statistical analysis. Responses to open-ended questions were analyzed qualitatively employing the following procedure, as outlined by Isbell:

1. The researcher read each [participant's responses] a minimum of two times for the purpose of identifying basic themes and meanings.

2. The researcher read all documents as a completed body of work for the purpose of coding recurring themes and meanings

3. The researcher searched for patterns and other connections among various themes and meanings.

4. The researcher attempted to identify salient conclusions based on themes and meaning patterns.

5. The researcher e-mailed [her] data analyses to participants and asked them for feedback that would allow [her] to refine the data and establish greater validity for the findings.

6. The researcher considered and discussed the findings in light of the research questions and the current literature. (2006, pp. 88–89)

Fully Develop Tentative Model

To develop the tentative model, the researcher utilized a condensed version of Nelson's (1998) theory-building methodology, which is an elaboration of Reigeluth's (1983) procedure for building instructional design theory, as outlined below:

1. Define the purpose of the theory.

2. Select a paradigm for the theory.

3. Determine domain, situation, and scope.

4. Identify an optimal . . . process on which to model theory.

5. Develop goal, methods, and conditions.

6. Create a variable taxonomy.

7. Build a theory prototype.

8. Use existing instructional theories and research findings to formatively research the new theory.

9. Finalize goals, methods, and conditions.

10. Write up the final theory. (pp. 17–21)

The first seven of these procedures are discussed fully in chapter 4 of this study; the remaining three, which deal with critiquing and revising the tentative model, are discussed in chapter 5.

Phase III—Critique and Refinement of Model

Once the new model was fully developed, participants were asked to complete a short survey to critique and refine the new model. In particular, participants were asked to evaluate the overall effectiveness, efficiency, and appeal of the newly developed instructional design model. In other words, the survey attempted to answer whether the newly developed instructional design model has the potential to accomplish its intended goal – to deter plagiarism in online courses (effectiveness) with an acceptable investment of faculty time and resources (efficiency) and without being overly cumbersome (appeal). Survey questions were written once the prototype model had been constructed. Data from the survey were analyzed in he same manner as the data from the CAQ and was used to refine the model. The final version of the model is presented in chapter 5.

Validity and Reliability

The findings of the study were assessed based on the following criteria, as suggested by Yin (1984): construct validity, internal and external validity, and reliability.

Construct Validity

Construct validity is defined as "the extent to which a measure used in a case study correctly operationalizes the concepts being studied" (Gall, Gall, & Borg, 2003, p.

460). The study addressed the issue of construct validity in two ways: ensuring the thoroughness and completeness of data and ensuring the credibility and accuracy of the data. To ensure the thoroughness and completeness of data, the researcher established a chain of evidence by documenting all data-collection procedures as thoroughly and concretely as possible and established an audit trail (Guba & Lincoln, 1981). To this end, the researcher maintained field notes. After having collected the data, the researcher conducted a member check to ensure that the data recorded accurately reflected what the participants had intended to convey.

Internal Validity

Since the purpose of the study was not to establish a causal relationship between two variables, this criterion was not applicable.

External Validity

According to Gall et al., external validity "is the extent to which findings of a case study can be generalized to similar cases" (2003, p. 460). As a means of enhancing external validity, the study explored situationality. To this end, the researcher selected participants who, together, provided for the most variation in situationality (years employed in higher education, number of semesters/terms having taught online, levels taught, and academic discipline).

Reliability

Reliability "is the extent to which other researchers would arrive at similar results if they studied the same case using exactly the same procedures as the first researcher"

(Gall et al., 2003, p. 460). To ensure reliability, the researcher employed the following techniques:

1. Clarify researcher's theoretical position and biases (Merriam, 1988).
2. Follow an emergent data-collection process (Lincoln & Guba, 1985).
3. Record observations and actions thoroughly and as concretely as possible.
4. Develop a case study database.

The Pilot Tests

In order to ensure the validity and reliability of the instrumentation selected for the study, the first two cases selected were considered pilot tests. The pilot tests were carried out in precisely the same manner as procedures outlined for the study in chapter 3:

1. Send recruitment letter.
2. Invite those who respond to recruitment letter to complete the Qualifying Demographics Survey (QDS).
3. Select two pilot tests based on data gleaned from the QDS.
4. Send inclusion letter along with the Information and Consent Form (ICF).
5. Once a signed ICF has been received, invite the participant to complete the Course Analysis Questionnaire (CAQ).
6. Analyze data quantitatively and qualitatively.

The data from the QDS revealed that both participants have taught or currently teach at least one graduate-level, education course totally online. Moreover, both participants indicated that he/she had taught the same online course for at least two

semesters or terms. According to survey responses, one participant has taught in higher education for 6 to 10 years while the other participant has taught in higher education for 15 or more years. Both participants indicated that they require a major writing component as part of the evaluation methods chosen for the online courses that they have taught or currently teach.

Time stamps on SurveyMonkey for each CAQ revealed that one participant took 56 minutes to complete the CAQ while the other participant took 1 hour 20 minutes to complete it. It is not possible to determine whether the amount of time elapsed was devoted exclusively to responding to the CAQ. Participants may have left the browser open but broke away to perform other tasks. Neither participant complained that the CAQ was too time-consuming.

Neither participant appeared to have had any difficulties navigating through the CAQ or incurred any technical difficulties while completing it. Combining both pilot tests, 48 out of 50 possible responses were valid; one participant completed 100% of the survey while the other participant completed 92% of the survey, leaving the last two open-ended questions blank. It is not possible to determine why the participant chose not to respond to those questions.

Upon reviewing the qualitative data gleaned from the pilot tests, the questions, in general, did not seem to be ambiguous or confusing to the participants, and they generated the kind of responses that the researcher expected to receive. Regarding Question 16 on the CAQ (see Appendix E), one participant found the phrase “expect that plagiarism be difficult” to be problematic. The other participant, however, had no

difficulty with the phrase and gave a valid response. For Question 19 on the CAQ (see Appendix E), the response given by one participant did not answer the question posed; however, the response given by the other participant did provide a valid, detailed answer to the question. Based on the possibility that Question 16 and Question 19, as originally written, may have proved ambiguous to some participants, the researcher decided to revise each one to read as follows:

Question 16: The literature suggests that another way to deter plagiarism is for students to expect that plagiarism be difficult for them to do on a given assignment`. In your experience, how might course design accomplish that?

Question 19: Some scholars claim that online students may feel alienated or isolated as opposed to a traditional, face-to-face course. As an online instructor, how do you attempt to minimize a student's sense of alienation in your courses?

Summary

This chapter described in detail the methodology for the study. To summarize, the research was conducted in three phases: (a) a factor search to identify factors that foster and/or inhibit plagiarism as well as any proposed remedies, (b) one online questionnaire that has a total of 25 questions (a combination of multiple-answer and open-ended questions), and (c) a Web survey to critique and refine the newly created model. The findings from the factor search served as the basis for constructing the questionnaire. Once the first two phases of the study was completed, a survey was constructed by the researcher to answer whether the newly developed instructional design model has the

potential to accomplish its intended goal—to deter plagiarism in online courses (effectiveness) with an acceptable investment of time and resources (efficiency) and without being overly cumbersome (appeal). Based on the results of the survey, a final version of the instructional design model was developed and is presented in chapter 4.

CHAPTER 4. DATA ANALYSIS AND RESULTS

Introduction

This study endeavored to develop an instructional design model to deter plagiarism in online courses. The following research questions guided the study:

1. How do course structure, development, and design influence the incidence of plagiarism in online courses?

2. How can instructional design help to reduce the documented causes of plagiarism in online courses?

3. What are the essential elements of an instructional design model that will help to deter plagiarism in online courses?

The study was conducted in three phases: In Phase I, the researcher performed a narrowly focused literature review to identify any mediating factors as well as any purported remedies of plagiarism. Any identified factors were cataloged and then grouped by categories that emerged from the literature and identified which ones could be addressed through instructional design. In the second phase of the study, results from the factor search were then utilized to construct a questionnaire that participants completed online. Responses to multiple-answer questions were scored automatically by SurveyMonkey, online survey software that enables researchers to collect and analyze responses to self-designed surveys, and underwent descriptive, statistical analysis. Responses to open-ended questions were analyzed qualitatively employing the procedure

described in chapter 3. Based on the findings from the factor search as well as the findings from the quantitative and qualitative analyses, a tentative instructional design model to deter plagiarism was developed. In the final phase of the study, to critique and refine the model, the researcher presented the newly developed model to the same participants who had completed the questionnaire in Phase II and asked them to evaluate whether the newly developed instructional design model had the potential to deter plagiarism in online courses with an acceptable investment of time and resources, and without being overly cumbersome. Based on the results of the survey, a final version of the instructional design model was developed, which is presented in chapter 5. Figure 3 in Chapter 3 offers a visual presentation of the research process just described.

This chapter is divided into four sections. The first and second sections describe the data collection tools and the final sampling for the study. The third section presents the findings, organized by research questions. The final section describes the process for developing the instructional design model as well as presents the prototype.

The Data Collection Tools

A pilot study was conducted as described at the end of chapter 3 to ensure the validity and reliability of the instrumentation selected for the study. The study utilized three data collection tools: the Qualifying Demographics Survey (QDS), the Course Analysis Questionnaire (CAQ), and the Critique and Refinement Survey (CRS). The purpose of the QDS was to select a group of participants who, together, provided for a wide variation in situationality. A description of the final sampling is presented in the

next section. The CAQ asked participants to reflect on the course structure, development, and design of the online courses that they have taught as well as to identify which of the remedies for plagiarism uncovered in the literature that they have implemented in their online courses. The CAQ consisted of a total of 25 questions and included a combination of multiple-answer and open-ended questions. The findings of the CAQ, along with the findings from Phase I of the study were used to build the model prototype. The QDS and CAQ are located in Appendix D and Appendix E, respectively. The CRS (see Appendix F) consisted of 10 questions and included a combination of yes/no and open-ended questions.

The Final Sampling

The final case sampling for the QDS and CAQ included 28 faculty from various, regionally accredited, U.S. institutions of higher education. Participants were recruited by contacting conveners of online programs from various regionally accredited institutions of higher education, editors of journals whose readership is primarily online educators, and targeted e-mail. The response rate was 65%; 28 out of 43 prospective participants followed through to complete both the QDS and CAQ. All participants indicated that they currently teach online and have taught online for a minimum of two semesters or terms. All participants indicated that they require a major writing component in their online courses. According to survey responses, 64.3% of the participants have taught in higher education for 11 or more years. The breakdown of the number of years' experience teaching in higher education is presented in Table 2.

Table 2. Participant Distribution of Experience Teaching in Higher Education

Years experience	Distribution
0–5 Years	10.7%
6–10 Years	25.0%
11–15 Years	17.9%
15+ Years	46.4%

The case sampling provided for a wide variation in course levels taught and academic disciplines. 92.9% of the participants indicated that they have taught undergraduate level while 17.9% indicated that they have taught graduate level. Academic disciplines represented in the case sampling are given in Table 3.

Academic disciplines that participants listed as *other* included chemistry, medical terminology, philosophy, literature, forensic science, music (history/appreciation), interdisciplinary, American literature, and online instructor training courses.

The Findings

This section presents the findings of the study (organized by research question). Since the study was conducted in three phases, each phase of the study answered the research questions in a different manner. The findings from each phase of the study are presented as they relate to each research question.

Table 3. Academic Disciplines Represented

Discipline	Distribution
Business	17.9%
Education	21.4%
English Composition	14.3%
Fine Arts	3.6%
Humanities	3.6%
Information Technology	17.9%
Mathematics	3.6%
Natural Sciences	14.3%
Social Sciences	21.4%
Other	28.6%

When discussing the findings from Phase I of the study, it may seem more like a synthesis of the literature than a presentation of the findings. That is because Phase I of the study was a narrowly focused literature review conducted to identify and catalogue any factors that foster and/or inhibit plagiarism as well as any proposed remedies; it did not, however, match those factors up with the key elements of the instructional design process, which is what is accomplished in chapter 4. This matching is a finding of the study. In presenting the data from Phase II of the study, only the questionnaire items from the CAQ providing the most salient findings pertaining to the development of the

tentative model are presented. The CAQ in its entirety is provided in Appendix E. Similarly, in discussing the findings from Phase III of the study, only the most salient ones are presented. Finally, since the purpose of the study was to develop an instructional design model to deter plagiarism in online courses, the prototype and final version of the models, presented in chapters 4 and 5 respectively, are considered findings of the study.

Research Question 1

The first research question asked, "How do course structure, development, and design influence the incidence of plagiarism in online courses?"

Phase I

Phase I, the factor search, provided a theoretical response to the first research question. As noted in chapter 2, Zheng and Smaldino (2003) identified five key elements in the design of distance education courses: learner considerations, content organization, instructional strategies, distance education technology characteristics (DETC), and evaluation. Each of those design elements can influence the incidence of plagiarism in online courses.

Learner considerations. According to Chute et al., "It is not just the learners' presence but also the characteristics and needs they bring with them that influence the design, structure, and structure of the distance learning system" (1999, p. 66). According to Zheng and Smaldino, characteristics such as "attitude or interest, prior skills, knowledge, experience, and learning styles" (2003, p. 157) are critical. The literature review identified the same characteristics, excluding learning styles, as mediators of

plagiarism. Table 4 matches Zheng and Smaldino's learner characteristics with the corresponding characteristics mediating plagiarism uncovered in the literature review.

Table 4. Learner Characteristics Mediating Plagiarism

Learner characteristics	Learner characteristics	Source
Student lack of awareness or ignorance of plagiarism	Knowledge	Beasley, 2004; Love & Simmons, 1998
Student lack of competence; poor preparation	Skills, prior experience	Beasley, 2004; Love & Simmons, 1998; Thomas, 2004
Student negative attitude toward instructor or class	Attitude	Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997; Underwood & Szabo, n.d.
Student negative personal attitudes	Attitude	Love & Simmons, 1998
Student poor time management skills; poor planning	Skills	Thomas, 2004

Scribner stressed the importance of students possessing "skills necessary for completing [a written assignment] without resorting to cheating" (2003, p. 32). The necessary skills to avoid plagiarism include critical analysis skills (James et al., 2002), summarizing and paraphrasing skills (James et al.), and referencing and citation skills (Carroll & Appleton, 2001; James et al.).

Given that the typical online student is nontraditional, with a median age of 37 years (Distance Education and Training Council, 2004), almost 20 years may have elapsed since the typical student has taken a course. This learner consideration may affect the selection of course content and instructional strategies, how the content is sequenced, the selection of assessment methods, and the nature of feedback to be provided. Making such decisions is not only a necessary part of the instructional design process for distance education courses (Moore & Kearsley, 1996), but as will become evident, also plays a vital role in preventing plagiarism.

Another key learner consideration identified by Zheng and Smaldino (2003) is course interaction. Moore and Kearsley (1996) recommended that online students interact with their instructor, with course content, and with each other. It is important that such interaction be built into online courses since it can help to alleviate any sense of isolation or alienation that students may feel (Belanger & Jordan, 2000). Student sense of alienation, however, has been identified in the literature as a mediator of plagiarism (Ashworth & Bannister, 1997; Ashworth, Freewood, & MacDonald, 2003).

While course interaction is generally considered a key component of the instructional design process for distance education courses (Belanger & Jordan, 2000; Zheng & Smaldino, 2003), the literature identified several ways in which faculty-student interaction can foster plagiarism. Faculty can communicate an incorrect message about plagiarism to students in the following ways:

1. Demonstrating ambivalence by lack of response to occurrences of academic dishonesty, whether inadvertent or intentional (Aaron, 1992; Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; Love & Simmons, 1998; McCabe & Treviño, 1997; Phillips & Horton, 2000).

2. "Accepting cut-and-paste projects and papers with no or incomplete citations" (Scribner, 2003, p. 32).

3. Failing to take "the time to check sources" (Scribner, 2003, p. 32).

4. Devaluing a written assignment (Renard, 1999) by making its weight in determining the final course grade disproportionate to the amount of work required to complete it or valuing the product over the process.

Moreover, several scholars pointed out that a student's impression of the instructor is a factor that mediates plagiarism (Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997; Underwood & Szabo, n.d.). For example, if students do not feel that their instructors are knowledgeable, they may be more inclined to attempt plagiarism (Love & Simmons, 1998).

While peer-peer interaction is strongly encouraged in distance education (Belanger & Jordan, 2000; Born, 2003; Carroll, 2004; James et al., 2002; Zheng & Smaldino, 2003), Hutton pointed out that "where there are strong relationships between students and weak relationships between students and faculty and administrators, widespread cheating is more likely to occur" (2006, p. 173). To remedy the situation, he argued that faculty must work hard to "strengthen [their] relationships with students so that the culture of academy trumps that of relationships between students" (p. 171). Table 5 presents a summary of strategies found in the literature to build and nurture faculty-student relationships.

In an online environment, there are many ways in which such strategies may be accomplished. For example, mingling with early arrivals would involve answering any e-mails that come in a day or so before the course actually begins and acknowledging those brave souls that risk themselves by posting first.

Table 5. Strategies for Strengthening Faculty-Student Relationships

Strategy	Source
Establish a good tone and atmosphere at the beginning of course	Boice, 2000; McKeachie, 2002; Whitley & Keith-Spiegel, 2002
Mingle with early arrivals and to make oneself available for questions	McKeachie, 2002; Whitley & Keith-Spiegel, 2002
Build positive rapport	McLafferty & Foust, 2004
Build mutual trust	Born, 2003
Provide a venue for socializing with students outside of the classroom	Hutton, 2006
Admonish students	Landau et al., 2002
Demonstrate knowledge of cheating sources	Evans, 2000
Provide performance feedback	Landau et al., 2002
Provide examples of plagiarized text	Landau et al., 2002
Solicit (formative) feedback from students during the term	Boice, 2000
Offer one-on-one tutoring	Emerson et al., 2005
"[Create] a climate of involvement and interest rather than detection and punishment" (p. 20)	Carroll & Appleton, 2001

Building mutual trust can be accomplished by faculty establishing, communicating, and following through with a timeline for responding to student queries and providing feedback. Students can solicit formative feedback by setting up a midterm course evaluation, asking students for input.

Content organization. According to Zheng and Smaldino, "Content organization is very important in achieving learning objectives; the way in which to organize the content may affect the learning outcomes directly" (2003, p. 160). One of the first tasks to be completed in designing an online course is to determine learning outcomes for a given course. To deter plagiarism, Carroll and Appleton recommended that one should "reconsider the learning outcomes for the course and decrease those that ask for knowledge and understanding, substituting instead those that require analysis, evaluation, and synthesis" (2001, p. 10). Smaldino and Simonson stressed the importance of "[examining] the nature of the content, as well as the sequence of information" (1999, p. 216). When learning outcomes, the course content, and learner evaluation activities do not align properly, the end result may be plagiarism. James et al. suggested that instructors "Ensure assessment tasks relate to the specific content and focus of the subject so students are less tempted to simply copy something from the web" (2002, p. 44).

One major finding of the literature review on remedies for plagiarism is the need to focus on the process of writing over the final product (Born, 2003; Carroll & Appleton, 2001; Harris, 2001; Johnson, 2004; Leland, 2002; Malouff & Sims, 1996; McKeachie, 2002; McKenzie, 2003; Scribner, 2003; Wilhoit, 1994; Willen, 2004). To do this, however, requires considerable attention the sequencing of information, as proposed by Smaldino and Simonson (1999).

Gibson (1998) identified several distant learner needs regarding course content: "clearly outlined expectations" (p. 72), learner control of course pace, samples of completed assignments that learners can use to evaluate their own work, and instructor

feedback on assignments completed. All of these needs are also important because they help to deter plagiarism. For example, Scribner (2003) stressed the importance of clear directions; Landau, Druen, and Arcuri (2002) stressed the importance of performance feedback. McLafferty and Foust (2004) recommended that written assignments be unique and meaningful to the student. It is logical that the same principle would also apply to course content.

Instructional strategies. Willis (2000/2001) presented several effective teaching strategies for distance education courses, many of which was also found in the literature on plagiarism. For example, Willis suggested using as often as possible locally relevant examples. Similar strategies from the literature on plagiarism include setting the assignment specification on a unique or recent event (Culwin & Lancaster, 2001), creating individualized tasks (Carroll & Appleton, 2001), selecting essay topics that integrate personal experience (Carroll, 2004), and selecting assignments that are unique and meaningful (McLafferty & Foust, 2004). Willis further recommended the integration of local case studies into the course content, which may also be integrated into or replace written assignments to deter plagiarism (Culwin & Lancaster).

Zheng and Smaldino claim that strategies and "methods that focus on the learners and incorporate interactivity have been shown to be the most successful" (2003, p. 161). Of the 108 remedies for plagiarism uncovered in the literature review, 30 of them fall under one of these two categories as well as may be addressed through some instructional design intervention. Table 6 presents strategies focusing on the learners while Table 7 presents strategies focusing on interaction.

Table 6. Strategies Focusing on Learners

Strategy	Source
Assess throughout the writing process	Scribner, 2003, p. 33
Assign different questions to different students	Born, 2003
Create assignments that are unique and meaningful	McLafferty & Foust, 2004
Create individualized tasks	Carroll & Appleton, 2001
Use creative projects - PowerPoints, etc.	Talab, 2004
Design assignments so that they reveal the ways writing contributes to learning	Willen, 2004
Emphasize that writings be in student's own voice	Scribner, 2003
Include reflective assignments after writing is complete	Scribner, 2003
Use essay/assignment topics that integrate theory and examples or use personal experience	Carroll, 2004
Provide adequate time to complete assignment	McMurtry, 2001
Expect plagiarizing to lead to personally important costs	Malouff & Sims, 1996
Expect ethical writing to lead to personally important benefits	Malouff & Sims, 1996

Distance education technology characteristics. In distance education, the mode of course delivery itself can be problematic. In a study conducted by Wang-Chavez and Branon (2001), in which they observed instructor participation in one online course, they found three major problems: First, interaction was minimal during the first part of the

course. Second, individual, instructor feedback to students was minimal. The third problem involved student lack of clarity regarding how they were being evaluated.

Table 7. Strategies Focusing on Interaction

Strategy	Source
Collaborative work—positive use	James et al., 2002; Born, 2003
Give very specific assignments/directions	James et al., 2002; Born, 2003
Integrate assessment tasks (formative assessment)	Carroll & Appleton, 2001
Build trust	Born, 2003
"Create a climate of involvement and interest rather than detection and punishment"	Carroll, 2004, p. 20
"Create strong relationships with students that are not limited to the classroom and teaching pedagogy"	Hutton, 2006
Create good tone and atmosphere at beginning of course	Boice, 2000, McKeachie, 2002, Whitley & Keith-Spiegel, 2002
Instructor stance and increasing rapport	McLafferty & Foust, 2004
Conduct one-on-one tutoring	Emerson et al., 2005
Mingle with early arrivals and making oneself available	McKeachie, 2002, Whiltley & Keith-Spiegel, 2002
Provide performance feedback or examples of plagiarized passages	Landau, Druen, & Arcuri, 2002
Solicit feedback from students during the term	Boice, 2000

Table 7. Strategies Focusing on Interaction (*continued*)

Strategy	Source
View acts of plagiarism as educational opportunities	McCabe, 2005
Discuss academic policy with students	McMurtry, 2001
Faculty response to academic dishonesty	Ashworth & Bannister, 1997; McCabe & Treviño, 1996
Campus ethos of integrity	Willen, 2004
Promote climate of academic integrity	Phillips & Horton, 2000
Educators must model ethical behavior	Scribner, 2003; Carroll & Appleton, 2001

In general, these difficulties stemmed from student and instructor unfamiliarity of the mode of course delivery as well as instructor time shortage. These three issues—interactivity, feedback, and the need for clarity—have already been determined to play a pivotal role in the deterrence of plagiarism in online courses. Technological issues, however, was not mentioned specifically in the literature review as a mediator of plagiarism.

Evaluation. Zheng and Smaldino considered evaluation as "an important procedure in the instructional design process in distance education" (2003, p. 164). According to Morgan and O'Reilly, the purpose of evaluation is "to know if students are attaining the intended learning outcomes, to know if course materials and teaching activities are effective, to be able to certify that students have achieved standard or met

requirements" (1999, p. 16). When plagiarism occurs, evaluation does not fulfill its intended purpose; on the contrary, it "poses a threat to the equity and efficacy of instructional measurement, so that a student's relative abilities are not accurately evaluated" (Lupton et al., 2000, p. 231). Fortunately, the findings gleaned from the literature review offer guidance on how to design written assignments so that they effectively deter plagiarism. Table A1 in Appendix A presents those findings.

This section presented the findings for the first phase of the study as related to the first research question. It matched the possible causes of and remedies for plagiarism uncovered in the literature to key instructional design elements. Matches formed four clusters: learner characteristics mediating plagiarism, strategies strengthening faculty-student relationships, design strategies focusing on learners, and strategies focusing on interaction.

Phase II

Phase II of the study answered the first research question, how course structure, development, and design influence the incidence of plagiarism in online courses, based on the self-reported practices of 28 online faculty from various, regionally accredited, U.S. institutions of higher education. The CAQ comprised a total of 25 questions, including multiple-answer and open-ended questions. Responses to open-ended questions were coded and quantified. The data results from the CAQ have been organized as much as possible according to the five key elements in the design of distance education courses: learner considerations, content organization, instructional strategies, DETC, and

evaluation. Any data results that do not fit under one of the five elements are discussed in a separate section.

Learner considerations. Five out of the 25 questions on the CAQ dealt with learner considerations. Question 10 focused on the skills that the participants' online courses formally teach, reinforce, and/or practice while the other four questions focused on interactivity. Data results for each question are presented in Tables 8–12. Participants were permitted to select and/or write in more than one response, so the percentages reflect the number of participants who selected a given answer out of the total valid responses given for that question.

Table 8. Question 10: Which skills do your online courses formally teach, reinforce, and/or practice? N=28

Skills taught, reinforced, and/or practiced	*n*	%
Critical thinking skills	27	96.4%
Critical analysis skills and building an argument	22	78.6%
Higher-order thinking skills	21	75.0%
Summarizing and paraphrasing	20	71.4%
Referencing and citation skills	19	67.9%
Deduction	1	3.6%
Intellectually respectful discussions	1	3.6%

All 28 participants responded to Question 10. Except for the last two responses, more than the majority of participants indicated that their courses formally teach, reinforce, and/or practice all of the skills mentioned. Critical thinking skills and higher-order thinking skills (Scribner, 2003), critical analysis skills (James et al., 2002), summarizing and paraphrasing skills (James et al.), and referencing and citation skills (Carroll & Appleton, 2001; James et al.) have all been identified in the literature as deterrents to plagiarism.

Table 9. Question 19: Some scholars claim that online students may feel alienated or isolated as opposed to a traditional, face-to-face course. As an online instructor, how do you attempt to minimize a student's sense of alienation in your courses? N=27

Minimizing alienation	*n*	%
Discussion boards	13	48.1%
E-mails	8	29.6%
Bios	6	22.2%
Clear expectations about instructor presence/accessibility	4	14.8%
Instant messaging	4	14.8%
Student lounge	3	11.1%
Chats	3	11.1%
Ask the Prof	3	11.1%
Phone	3	11.1%
Workgroups	3	11.1%

Table 9. Question 19 (*continued*)

Minimizing alienation	*n*	%
Be Personable	3	11.1%
Photos	2	7.4%
Office visits	1	3.7%
Web cam	1	3.7%
“Live” lectures	1	3.7%
Announcements	1	3.7%
Feedback	1	3.7%
Post projects to course Web site	1	3.7%
Study guides	1	3.7%
Emphasize critical thinking skills	1	3.7%
Build sense of community	1	3.7%
Ice breaker activities	1	3.7%
Personalize comments	1	3.7%
Peer reviews	1	3.7%
Use active voice in course materials	1	3.7%
Encourage cooperation	1	3.7%
Time zone link	1	3.7%
Small class size	1	3.7%

Twenty-seven out of 28 participants responded to Question 19. Qualitative data gleaned from Question 19 indicated a general disagreement with the premise of the question. For example, one participant wrote, "I do not agree that online students feel alienated, because they are alienated by choice." Another participant commented that most of their students "say that they are closer to their fellow students in our online classes than they ever were in an onground program." Yet another participant expressed similar sentiments, suggesting that students can exercise some control over any sense of alienation:

> I also state the following in my Web page and during my class orientation: "Unlike popular myth, online classes are not cold and distant. As with face-to-face classes, a student's level of investment in the online class will correlate with how engaging and interactive the class will be experienced by the student. So, you got the power to make your online class as enjoyable and interactive as you want it to be."

Twenty-six out of 28 participants responded to Question 20 (see Table 10). Although included in the qualitative data for Question 20, weekly "dear teacher" e-mails are a strategy to encourage student-instructor interaction; they are not a means of instructor feedback and would, therefore, be a more appropriate response to Question 21 (see Table 11). The participant described them as follows:

> I require a weekly "Dear teacher" e-mail just to keep in touch. They can air problems, chat, tell me they hate the course—whatever. There's no specified length or topic, and it's a free A for 5% of their grade if they do it, but F if they don't.

Table 10. Question 20: What kind of feedback do you generally provide in your online courses throughout the semester/term? N=26

Kind of feedback	*n*	%
E-mail	8	30.8%
Comment on/summarize discussion board topics	7	26.9%
Feedback in gradebook	4	15.4%
Final/midterm grades	3	11.5%
General feedback and reminder announcements	3	11.5%
Frequent feedback	3	11.5%
Praise and encouragement	3	11.5%
Timely response to questions	3	11.5%
Clear Expectations about instructor presence	2	7.7%
Post announcements to explain delays, etc.	2	7.7%
Ask students to rethink/repost	2	7.7%
Questions forum	2	7.7%
Phone	2	7.7%
Encourage questions	2	7.7%
Grading rubric	2	7.7%
Detailed feedback	1	3.8%
Discuss results of exam	1	3.8%

Table 11. Question 21: How do you encourage interaction (peer-peer and student-instructor) feedback in your online courses? N=26

Design elements for interactivity	*n*	%
Discussion board	11	42.3%
Groups	6	23.1%
E-mail	6	23.1%
Peer review	6	23.1%
Student lounge	5	19.2%
Student bios	2	7.7%
Graded participation	2	7.7%
Chats	2	7.7%
Refer students to other students' posts	1	3.8%
Icebreaker	1	3.8%
Office hours	1	3.8%
Instant messaging	1	3.8%
Phone	1	3.8%

Twenty-six out of 28 participants responded to Question 21. Here, the most frequently selected responses focus on instructor-student and peer-peer interaction related to coursework. However, not only should instructors strive to build a positive rapport with students in academic matters (McLafferty & Foust, 2004) and mutual trust (Born, 2003), but Hutton (2006) suggested that they should provide a venue for socializing with

students outside of the classroom. In response to Question 25 (see Appendix E), one participant wrote

> I've done a somewhat informal study of what students want in an online advisor/instructor (I function as both), and although they say they want structure, information, details of what's required of them, they also describe the ideal advisor/teacher in almost totally affective terms: supportive, good listener, encouraging, "there" for the student. One student's description was "somewhere between midwife and father confessor." So it's my belief that a certain amount of virtual head-patting is a real deterrent to plagiarism.

Table 12. Question 23: How many days a week do you typically log on and participate in your online courses? (Please enter a numerical value.) N=28

Number of days	*n*	%
7 days per week	17	60.7%
6 days per week	4	14.3%
4 days per week	4	14.3%
5 days per week	2	7.1%
3 days per week	1	3.6%

All participants responded to Question 23 (see Table 12), with more than three-fourths of the participants (82.1%) indicating that they participate in their online courses at least 5 days per week. More than the majority of the participants (60.7%) indicated that they participate in their courses 7 days per week.

Content organization. Six of the questions on the CAQ (Questions 5, 8, 11, 14, 15, and 16) dealt with course content and organization. Data results for each question are

presented in Tables 13–18 respectively. As discussed in the previous section, the literature review linked several course content items to the deterrence of plagiarism, including the following: the meeting of learner needs, learning outcomes, unique and meaningful course content, the nature and sequence of content, the linkage of assessments to specific course content, focus on process over product, clear directions, student control of course pace, and performance feedback.

Table 13. Question 5: If you require that students submit stages of a written assignment (working bibliography, outline, rough draft, etc.), do you assign a grade for those stages? N=27

Response	*n*	%
Yes	14	51.9%
No	8	18.5%
I do not assign stages.	5	29.6%

Twenty-seven out of 28 participants responded to Question 5. According to the data, 70.4% of the participants require that students submit a written assignment in stages; almost 52% of those who do assign stages also assign a grade for them. Scribner (2003) asserted that assessment throughout the writing process as well as assigning significant weight to each step of the process are deterrents to plagiarism. However, close to 30% of the participants do not assign stages although the literature strongly suggests that a process-based approach to writing is an effective deterrent to plagiarism (Born,

2003; Carroll & Appleton, 2001; Harris, 2001; Johnson, 2004; Leland, 2002; Malouff & Sims, 1996; McKeachie, 2002; McKenzie, 2003; Scribner; Wilhoit, 1994; Willen, 2004).

Table 14. Question 8: On average, how many weeks do you give students to complete a major writing assignment from the date assigned to the date due? (Please enter a numerical value.) N=28

Number of weeks	*n*	%
1 week	5	17.9%
2 weeks	5	17.9%
3 weeks	5	17.9%
4 weeks	5	17.9%
6 weeks	5	17.9%
5 weeks	2	7.1%
8 weeks	2	7.1%
18 weeks	2	7.1%
10 weeks	1	3.6%
12 weeks	1	3.6%

All of the participants responded to Question 8. Although the question requested a numerical response, two participants responded qualitatively:

> I post all my writing assignments before the semester and students can access them when they are allowed to log on to the course on the first day of a semester. They know from the first day of class what their two major papers will be.

Based on the contents of the first qualitative response, the researcher counted the answer as 18 weeks. For the second response, the researcher assumed that the course being taught was a semester-long course and also counted the answer as 18 weeks. Although the literature does not offer specific guidance, McMurtry (2001) pointed out that students need sufficient time to complete a written assignment.

Table 15. Question 11: On average, how many major assessments (written, midterm, final, etc.) do your online courses have? (Please enter a numeric value.) N=28

Number of assessments	*n*	%
3 assessments	6	21.4%
5 assessments	5	17.9%
4 assessments	4	14.3%
1 assessment	3	10.7%
2 assessments	3	10.7%
7 assessments	2	7.1%
6 assessments	1	3.6%
10 assessments	1	3.6%
11 assessments	1	3.6%
15 assessments	1	3.6%
18 assessments	1	3.6%

All participants responded to Question 11. There seems to be a lack of consensus in the literature concerning how many written assessments should be included in a course. Langsam (2001) argued that written assessments should be minimized while Abbott et al. (2000) and Cox (n.d.) recommended several, short assessments throughout the course. The variance in the number of assessments assigned by participants exemplifies that lack of consensus.

Perhaps one way to resolve the discrepancy is to consider the issue in light of other findings. For example, as already discussed, the literature is very clear about the effectiveness of process-based writing in the deterrence of plagiarism. Estimating that it would take approximately 4 to 5 weeks to work through the writing process for one written assessment, then the maximum assessment load for a semester-long course would be 3 to 4. That number would change based on the length of the course; a 10-week course should have no more than two assessments. Other factors may also work into the equation. For example, a shorter written assignment may require less time to complete and would have a lesser weight in the overall course grade.

While 23 out of 28 participants responded to Question 14, most of the participants did not respond as anticipated. 43.5% of participants indicated that the ethical behavior could be modeled through course/instructor example as well as samples and modeling. One participant wrote

> Ethical course design? A new concept to me. It would have to include course materials that were properly attributed, would not link to plagiarized material or require downloading of copy protected material for which permission to do so has not been obtained; should have objectives that clearly link to assignments and evaluation; would have clear grading standards that were adhered to fairly; would

indicate how to "take" the class, what to do if problems arise. Most importantly, the instructor would have to act ethically throughout the course.

In contrast, another participant wrote:

I think that is an idealistic view that isn't truly possible. Students with elastic ethics will enroll in any variety of courses. One semester's experience will not change those students.

Table 16. Question 14: What ideas do you have on how course design can model ethical behavior? N=23

Design elements for manageability	*n*	%
Course/instructor example; samples, modeling	10	43.5%
Turnitin®® as instructional tool	3	13.0%
Communicate policies/ethics	3	13.0%
Meaningful assignments	2	8.7%
Have students sign statement of acknowledgment/authenticity	2	8.7%
Stages/process writing	2	8.7%
Discuss importance of ethical writing and costs of dishonesty	2	8.7%
Teach about plagiarism; teach citation skills	2	8.7%
Apply knowledge to real world	1	4.3%
Test knowledge about plagiarism	1	4.3%
Tests on campus	1	4.3%
Familiarity with student writing	1	4.3%
Synchronous communication	1	4.3%
Online quizzes open-book	1	4.3%

Table 16. Question 14 (*continued*)

Design elements for manageability	*n*	%
Timely feedback	1	4.3%
Reduce high stakes	1	4.3%
Require substantive responses	1	4.3%
Explicit directions	1	4.3%
Relate concepts learned to personal experience	1	4.3%
Ban Wikipedia	1	4.3%
Let students know that instructor is familiar with sites they might plagiarize from	1	4.3%
Objectives that clearly link to assignments	1	4.3%
Clear grading standards	1	4.3%

Table 17. Question 15: The literature suggests that one way to deter plagiarism is for students to expect that writing assignments be manageable. In your experience, how might course design accomplish that? N=27

Design elements for manageability	*n*	%
Provide samples/resources	6	22.2%
Process writing	5	18.5%

Table 17. Question 15 *(continued)*

Design elements for manageability	*n*	%
Assignment-specific, instructor-student interaction	4	14.8%
Adequate time to complete assignment	4	14.8%
Limited length/more frequent writing assignments	4	14.8%
Limit number of writing assignments	3	11.1%
Detailed instructions	3	11.1%
Student selects topic	2	7.4%
Balance between workload and timeframe allotted	2	7.4%
Assignment relevant to course	1	3.7%
Encourage questions	1	3.7%
Appropriate assignment weight	1	3.7%
Collaboration	1	3.7%
Increase from simple to difficult over time	1	3.7%
Interface design	1	3.7%
Progress checks/reminders	1	3.7%
Instructor-controlled sources/topics	1	3.7%
Address entrance competencies	1	3.7%
Peer-to-peer interaction	1	3.7%
Colleague-to-colleague review	1	3.7%

Twenty-seven out of 28 participants responded to Question 15 (see Table 17) and made several salient points. Among them, the first is that "A course should be designed to be manageable given the prerequisites—in other words, any skills which need to be used in a writing assignment should be required as a prerequisite and/or taught in the course."

A couple of comments focused on student time constraint issues:

> Students who I have caught plagiarizing have said they did so because they had run out of time or were faced with other stresses, or couldn't understand the material and needed "help" from friends who had taken the course the previous semester.

Of course, as one participant pointed out, the definition of manageability varies from student to student. The challenge of course design is to establish a workload and timeframe that is balanced and reasonable. One participant stressed the importance of "choosing the right weight or point value for the assignment. It needs to be enough to make it *worth their time* [emphasis added], but not so much that they feel overwhelming pressure to perform." Perhaps an example of an unbalanced and unreasonable workload is the following:

> All of our writing assignments are within 2–10 pages in length in order to keep it manageable in a one week time frame.

A two-page written assignment due within a week is balanced and reasonable; a ten-page written assignment due within an assignment may not be.

Another participant suggested an incremental approach to writing assignments:

> My experience has been (again, not only online) that students benefit from gradual and incremental changes in levels of difficulty. So, my first writing

assignments are smaller in length and grade value. That way, students have a chance to learn from their mistakes and improved over the course of the semester.

This seems like a balanced and reasonable approach provided that other factors be taken into consideration. Despite one participant's belief that manageability is not "a major player to prevent plagiarism," there seems to be a triad of factors—the length of the writing assignment, the time allotted to complete the writing assignment, and the weight of the written assignment in the overall course grade—that must work together as an integrated, balanced and reasonable whole to deter plagiarism.

Twenty-five out of 28 participants responded to Question 16. Some of the data results have nothing to do with course or assignment design, such as knowing a student's writing voice and checking for plagiarism. Turnitin®, if used as a part of the writing assignment as an editing tool, may be considered part of design. If used solely for detection, it would not be. Other results are substantiated in the literature, such as personalizing assignments (Carroll & Appleton, 2001), requiring personal fieldwork (Gibelman et al., 1999), and rotating questions/curriculum (Born, 2003; James et al., 2002; VanBelle, n.d.).

Table 18. Question 16: The literature suggests that another way to deter plagiarism is for students to expect that plagiarism be difficult for them to do on a given assignment. In your experience, how might course design accomplish that? N=25

Course design element	*n*	%
Turnitin®	7	28.0%
Personalize assignment	5	20.0%

Table 18. Question 16 *(continued)*

Course design element	*n*	%
Require personal fieldwork	5	20.0%
Assign topics that are new	2	8.0%
Assignments that require application/analysis	2	8.0%
Specific questions	2	8.0%
Know student writing voice	1	4.0%
Rotate questions	1	4.0%
Check for plagiarism	1	4.0%
Require recent sources	1	4.0%
Process writing	1	4.0%
Help them to understand plagiarism	1	4.0%

Instructional strategies. Data results revealed that participants employ many of the instructional strategies mentioned in the literature review. Table 19 presents some of those strategies.

What is interesting is that only 78.6% of the participants indicated that they require "access information for sources."

Distance education technology characteristics. None of the questions on the CAQ related specifically to DETC. However, participants had a few ideas concerning interface design:

> Course design should be navigatable by the students to assist them in how to do specific written assignments. Model samples of work really help the students. Hyperlinks to needed information with return buttons to where they were working are essential. Also hyperlinks in one's course directions to ANY other Web pages within the course Web site is a must.

In Internet-based courses, instructors and course designers should focus some attention on course layout, ensuring that the site is intuitive and navigatable (Smaldino & Simonson, 1999).

Table 19. Question 4: Which of the following components for a written assignment do you require for the online course(s) that you have taught or are currently teaching? (Please check all that apply.) N=28

Writing assignment	*n*	%
Access information for sources	22	78.6%
Individualized tasks	20	71.4%
Annotated bibliography	13	46.4%
Collaborative work	13	46.6%
Reflective assignment	13	46.4%
Working bibliography	11	39.3%
Outline	11	39.3%
Rough draft	11	39.3%
Integration of a specific resource (field learning, assigned reading, etc.)	10	35.7%
Mini-assignments that require students to demonstrate necessary skills (such as plagiarism/citation quiz	10	35.7%
Photocopies of references	4	14.3%
Peer review	2	6.9%

Table 19. Question 4 *(continued)*

Writing assignment	*n*	%
Specific reference requirements, such as sources from the previous 6 months	1	3.6%
Turnitin®	1	3.6%
E'Prime (students must avoid using any form of "to be" in their writing	0	0.0%

Evaluation. As already mentioned, Morgan and O'Reilly pointed out that the purpose of evaluation is "to know if students are attaining the intended learning outcomes, to know if course materials and teaching activities are effective, to be able to certify that students have achieved standard or met requirements" (1999, p. 164). It is, therefore, critical that the correct assessment tool is selected for the given learning outcomes. Data results revealed that participants employ a wide variation in writing assessments, as presented in Table 20.

Table 20. Question 1: Which kinds of writing assignments have you used in the online courses that you have taught or are currently teaching? N=28

Writing assignment	*n*	%
Research reports (term papers)	25	89.3%
Essays	19	67.9%
Case studies	14	50.0%

Table 20. Question 1 *(continued)*

Writing assignment	*n*	%
Creative projects (such as PowerPoints)	11	39.3%
Discussion forum/thread assignments	6	21.4%
Short answers	2	7.1%
Topic search	1	3.6%
Live chats	1	3.6%
Creative writing/fiction	1	3.6%
Prior learning portfolio	1	3.6%
Group projects	1	3.6%

According to participant responses, the two most frequently assigned writing assessments are research reports and essays. However, such assignments can be easily plagiarized, and the literature recommended that alternative assignments be considered.

Another key issue is who selects the topics. Once again, the literature presents differing opinions. According to Guiliano, "Many sources suggest limiting the number of choices and/or the scope of term paper topics available to students" (2000, ¶ 10). On the other hand, others recommended that students should choose their own topics (Johnson, 2004). Table 21 presents how participants reported handling the issue in their own online courses.

Table 21. Question 2: How are the topics (writing prompts, essay questions, etc.) chosen for the online courses that you have taught or are currently teaching? (Please check all that apply.) N=28

Method of topic selection	*n*	%
I select the question/topic that the entire class will write on	17	60.7%
I require that students choose among a set of pre-selected questions/topics	14	50.0%
I suggest topics, but students may still choose any topic they wish	11	39.3%
Students select their own topics	8	28.6%
I assign different questions/topics to different students	7	25.0%
Students select their own topics, but the instructor must approve them.	2	7.1%
Instructor gives a general concept or idea, and the students choose the details for the assignment	1	3.6%
All students in the same class receive the same questions designed by curriculum development	1	3.6%

Of some concern is the comment that "All students in the same class receive the same questions designed by curriculum development." Not only does such a practice seriously limit faculty and students, but it raises concerns over curriculum rotation such

as whether there is a mechanism in place for faculty to provide feedback into the instructional design loop so that questions can be revised and updated, as necessary.

Phase III

The final phase of the study answered the first research question through the critique and refinement of an instructional design model to deter plagiarism. The original participants were asked to evaluate the model based on three qualities, effectiveness, efficiency, and appeal. The details of this critique and refinement process will be presented in chapter 5.

This section presented the findings of the second phase of the study as related to the first research question. It matched the data gleaned from the CAQ to the same, key instructional design elements as in Phase I of the study. Together, the findings from Phase I and Phase II were utilized to build the tentative model, which will be presented further in this chapter.

Research Question 2

The second research question asked, "How can instructional design help to reduce the documented causes of plagiarism in online courses?"

Phase I

In order to answer the question, it was first necessary to identify the documented causes of plagiarism. Phase I of the study uncovered 46 factors that foster plagiarism; 28 were internal while 18 were external. A complete listing of those factors is presented in

Appendix B. Of the external 28 factors that foster plagiarism, 14 are a related to faculty and/or administrative behaviors. Table 22 presents a summary of those factors.

The remedies for such behaviors are rather straightforward; faculty should refuse to accept cut-and-paste (plagiarized) projects from students (the remedy is in reference to the first behavior listed in Table 19; Scribner [2003] was referring to faculty who award (partial) credit for a written assignment, even though it has been plagiarized); teach the skills necessary to complete a given assignment, and ensure that their expectations for written assignments are realistic. Faculty should verify sources referenced in student papers and rotate the curriculum. They should also work to build trust between themselves and their students.

Of the internal factors that foster plagiarism, some of them (such as age, gender, marital status, and cultural background, and previous academic achievement) cannot be addressed through design. Student thrill-seeking is another factor that cannot be directly addressed through course design. However, course and assignment design should be used to create the expectation that plagiarism will be difficult as well as the expectation that plagiarism will lead to personally important costs (Malouff & Sims, 1996) will hopefully counterbalance those factors.

Other factors that foster plagiarism, such as student lack of awareness or ignorance of plagiarism (Beasley, 2004; Love & Simmons, 1998) and student difficulty distinguishing between paraphrased and plagiarized text (Ashworth & Bannister, 1997; Roig, 1999) can be addressed by teaching referencing, citation, summarizing, and

Table 22. Faculty and Administrative Behaviors That Foster Plagiarism

Behavior	Source
Instructors "accepting cut-and-paste projects and papers with no or incomplete citations"	Scribner, 2003, p. 32
Instructors "failing to teach the skills necessary for completing assignments without resorting to cheating"	Scribner, 2003, p. 32
Instructors "making unrealistic assignments"	Scribner, 2003, p.32
Ambivalence of faculty and administration	Aaron, 1992
Devaluing of written assignment by instructor who assigned it	Renard, 1999, ¶ 22
Ethical lapses	Beasley, 2004
Faculty response to academic dishonesty	Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997; Phillip & Horton, 2000; Love & Simmons, 1998
Information overload	Beasley, 2004
Institution's subscription to market ideologies	Saltmarsh, 2004
Instructor bad example	Townley & Parsell, 2004
Instructors "making 'traditional' assignments that haven't kept pace with advances in information, technology- or for that matter, with 'best practices' pedagogy"	Scribner, 2003, p. 32
Instructors "not taking the time to check sources"	Scribner, 2003, p. 32
Instructors' failure to rotate curriculum	Scribner, 2003
Lack of trust between instructor and student	Townley & Parsell (2004)

paraphrasing skills (Carroll, 2004) as well as providing opportunities for students to practice them (Schuetze, 2004). Student disorganization, poor time management skills, poor planning, procrastination, and laziness (Beasley; Hamilton, 2003; Love & Simmons; Thomas, 2004) can be addressed through a commitment to a process-based approach to writing. Student negative attitudes (Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; Love & Simmons; McCabe & Treviño, 1997; Underwood & Szabo, n.d.) and student fear of failure (Beasley; Hamilton,) can be overcome by building trust (Born, 2003), creating "a climate of involvement and interest rather than detection and punishment" (Carroll, p. 20), establishing a good tone and atmosphere at the beginning of a course (Boice, 2000; McKeachie, 2002; Whitley & Keith-Spiegel, 2002), increasing instructor-student rapport (McLafferty & Foust, 2004), and performance feedback (Landau et al., 2002).

To summarize, this section presented the findings for the first phase of the study as related to the second research question. In addition to cataloguing the many causes of plagiarism, it put forth several possible strategies for overcoming them. These findings were utilized to build the tentative model, which is presented further in this chapter.

Phase II

Phase II of the study answered the second research question based on the participant responses to the CAQ. While none of the questions on the CAQ asked participants to comment directly on the causes of plagiarism, participant responses to

various questions did confirm many of the findings from the factor search. For example, one participant found that student age was a mediating factor; younger students were more inclined to plagiarize. Another participant wrote the following:

> Students who I have caught plagiarizing have said they did so because they had run out of time or were faced with other stresses, or couldn't understand the material and needed "help" from friends who had taken the course the previous semester . . . Overwhelmingly big writing assignments may well encourage plagiarism.

Another kind of pressure mentioned by participants is high stakes: "A small number of high-point-value quizzes or essays might encourage plagiarism since the stakes are so high." A few participants attributed acts of plagiarism to inadequate writing, citation, and paraphrasing skills:

> There is a general, over-riding problem with writing skills among many undergraduate college students. Students are not well prepared for writing assignments and are not comfortable with the use of APA or MLA guidelines. Out of 29 papers I recently reviewed, only two or three adhered to the APA writing guidelines as required, despite the presence of available resources within the course.

A final observation focused on the relevance of a given written assignment:

> Course design should present assignments to be relevant for the students. If it's a meaningless assignment with no connection to their prior knowledge and if no "rationale" for the assignment is posted, students could resort to plagiarism out of frustration.

Phase III

The critique and refinement stage of the model did not reveal any new findings.

Research Question 3

The final research question asked, "What are the essential elements of an instructional design model that will help to deter plagiarism in online courses?"

Phase I

The findings of the factor search uncovered several instructional design elements identified as effective deterrents to plagiarism. Appendix A presents six categorized lists:

1. Assessment design
2. Course design
3. Interaction and communication
4. Policy
5. Policing and consequences
6. Virtues

The factor search findings, along with data results from the CAQ, served as the foundation for developing the tentative model.

Phase II

The tentative instructional design model was developed by using the first seven stages of the condensed version of Nelson's (1998) theory-building methodology, as presented in chapter 3. The last three stages deal with the final version of the model and will, therefore, be presented in chapter 5. Figure 4 provides a visual representation of the theory-building process.

Define the purpose of the theory. As stated in chapter 1, the purpose was to develop an instructional design model that will guide course designers (and instructors) in

the creation of online courses and written assessments that will deter plagiarism. The instructional goals are (a) to help students understand and develop the skills necessary to avoid plagiarism in their own writing, and (b) to provide instructional designers and instructors with general guidelines for designing online courses and written assessments that will deter plagiarism.

Select a paradigm for the theory. According to Nelson, "A precursor to developing an instructional theory is to determine the appropriate paradigm for the theory" (1998, p. 17). The tentative model presented in this chapter has been designed to function as an intact model; to deter plagiarism effectively, educational practitioners who utilize the model should select as many strategies as practicable under each method given. In selecting strategies, consideration should be given to the subject matter, course objectives, and course content.

Determine domain, situation, and scope. The general domain, situation, and scope for the tentative model are the deterrence of plagiarism in any online course that utilizes written assessment. The model is intended to guide instructional designers and instructors to build online courses and writing assignments that deter plagiarism. The strategies selected may vary depending on the subject matter, course objectives, and course content.

Identify an optimal process on which to model theory. The tentative model presented in this chapter was built on the key elements of the instructional design process, as discussed in chapter 2: learner considerations, content organization, instructional strategies, DETC, and evaluation.

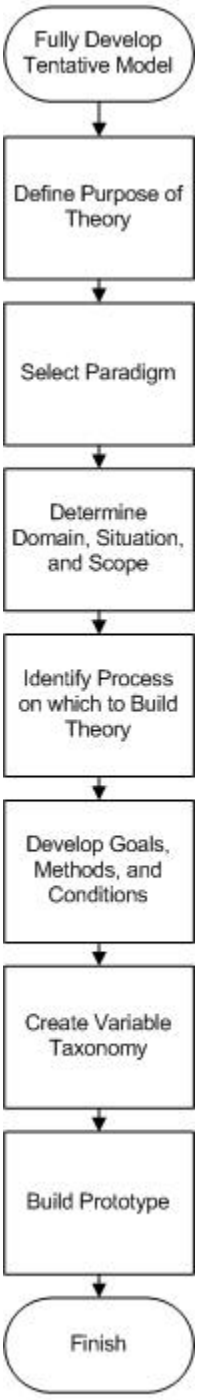

Figure 4. Theory-building process.

Develop goals, methods, and conditions. The goal overall goal of the model is to deter plagiarism in online courses. The instructional goals included (a) helping students understand the importance of academic integrity, (b) helping students develop the skills necessary to avoid plagiarism, (c) instilling in students the desire to avoid plagiarism in their own writing, and (d) providing instructional designers and instructors with general guidelines for designing online courses and written assessments that will deter plagiarism. In building the tentative model, the researcher employed many of the same methods identified by Nelson to develop the methods, including the following:

1. Deducing methods and strategies
2. Inducing methods and strategies
3. Extracting applicable methods from existing instructional theories identified in the literature review [as well as the CAQ data results]
4. Identifying appropriate "best practice" methods from developer's own experience (1998, p. 19).

Conditions for using the model are an online course in which at least one written assessment is used.

Create a variable taxonomy. As described by Nelson (1998), a variable taxonomy was created by listing and grouping the methods and any conditions. Once that task was completed, "a variable taxonomy for each [was developed] to highlight the superordinate and subordinate relationships and act as a scaffolding for the prototype model" (Nelson, p. 20).

Build a theory prototype. The completion of the previous stages culminated in the building of the instructional design model prototype presented in the next section. The

model is not intended to serve as the sole remedy against plagiarism in online courses. As McCabe asserted, it takes a village: "The whole campus community—students, faculty, and administrators" (2005, ¶ 14), as well as instructional designers to deter plagiarism. In *A Letter to My Students*, Taylor wrote that he is "deeply convinced that integrity is an essential part of every true educational experience, integrity on my part as a faculty member and integrity on your part as a student" (n.d., ¶ 2). It is reasonable to conclude that the same applies to each member of the campus community. Ethical teaching, ethical administration, ethical studentship, and ethical course design are not an option; they are a responsibility.

The model is designed to be utilized in the development and implementation of online courses only with a writing component, although many of the suggested methods may prove effective in a traditional classroom. The model has been designed to function as an intact mode. In other words, to deter plagiarism effectively, educational practitioners who utilize the model should select as many strategies as practicable under each method given, taking the subject, learning outcomes, and course content into consideration. It is important that each of the methods must be implemented to some degree.

The core values upon which the model was developed emerged from the literature review. Each value plays an essential role in deterring plagiarism because each one counterbalances one or more of the documented causes of plagiarism. For example, according to social network theory, "Where there are strong relationships between students and weak relationships between students and faculty and administrators,

widespread cheating is more likely to occur" (Hutton, 2006, p. 173). To counterbalance, Hutton suggested that faculty "must strengthen [their] relationships with students so that the culture of the academy trumps that of the relationships between students" (p. 171). The values of building strong, student-instructor relationships that go beyond the courseroom, building a sense of trust between student and instructor, and valuing the learner are some of the ways in which that might be accomplished.

The model includes a set of seven methods: designing plagiarism-resistant courses, designing plagiarism-resistant assignments, ensuring manageability, modeling ethical behavior, encouraging interactivity, providing feedback, and building strong relationships and trust. For each method, there is a list of supporting strategies. To be effective, instructional designers/instructors must select at least some strategies under each of the seven methods. The ideal is to incorporate as many strategies as possible in the course design without being cumbersome. Balance is key.

Linking the Model to the Instructional Design Process

Table 23 matches the methods of the newly developed instructional design model to the five key instructional design elements for online learning that were given by Zheng and Smaldino (2003): learner considerations, content organization, instructional strategies, DETC, and evaluation. As Table 23 indicates, all five key instructional design elements are linked in multiple ways to the model.

Table 23. Matching Model to Key Elements of Instructional Design

Methods	LC	CO	IS	DETC	Eval
Designing plagiarism-resistant courses	X	X			
Designing plagiarism-resistant assignments	X	X	X	X	
Ensuring manageability		X	X		X
Modeling ethical behavior	X	X	X		X
Encouraging interactivity	X				
Providing feedback	X			X	
Building strong relationships and trust	X			X	

Note. LC = Learner Considerations, CO = Content Organization, IS = Instructional Strategies, DETC = Distance Education Technology Characteristics, Eval = Evaluation.

Presentation of the Tentative Model

An abbreviated version of the tentative instructional design model for deterring plagiarism in online courses is presented in Table 24. The full version of the model, as critiqued by participants in Phase III of the study, is provided in Appendix G.

Phase III

The final model that was developed during Phase III of the study is the findings of this phase of the study. The final model will be presented in chapter 5.

Table 24. Tentative Instructional Design Model to Deter Plagiarism in Online Courses

Goals and preconditions
The primary goal of the instructional design model is to deter plagiarism in online courses. The instructional goals are to 1) help students understand the importance of academic integrity, 2) help students develop the skills necessary to avoid plagiarism, 3) instill in students the desire to avoid plagiarism in their own writing, and 4) provide instructional designers and instructors with general guidelines for designing online courses and written assessments that will deter plagiarism.
Values (for course designers and faculty)
Some of the values upon which the model is based are 1) focusing on plagiarism prevention rather than detection and punishment, 2) viewing plagiarism as an educational opportunity, 3) creating an online-community ethos of integrity, 4) creating a climate of involvement and interest, 5) building strong, student-instructor relationships that go beyond the courseroom, 6) building a sense of trust between student and instructor, 7) valuing the learner, 8) valuing the learning process over the product, 9) promoting student understanding of the rules of ethical writing (understanding), 10) encouraging student internalization of ethical behavior (desiring), and 11) acknowledging and praising students who do practice ethical behavior in their writing (doing).
Methods
Designing plagiarism-resistant course Designing plagiarism-resistant assignments Ensuring manageability Modeling ethical behavior Encouraging interactivity Providing feedback Building strong relationships and trust
Major contributions
The deterrence of plagiarism in online courses and the development of an online-community ethos of academic integrity.

Summary

This chapter presented the findings of the factor search and the quantitative and qualitative data analyses, as they related to the three research questions that guided the study. The study was conducted in three phases, each one contributing in its own way to answering the research questions. Based on the findings of the first two phases of the study, a tentative instructional design model for deterring plagiarism in online courses was designed and presented. Data from Phase I of the study resulted in a comprehensive list of factors that mediate (foster and deter) plagiarism as well as proposed remedies. Phase II documented the current course design, assessment design, and course facilitation practices of 28 online faculty. Based on the findings of the first two phases of the study, a tentative instructional design model for deterring plagiarism in online courses was designed and presented. In Phase III of the study, the model was critiqued by the same faculty who completed Phase II of the study and then refined.

The next chapter will present the final, critiqued model, discuss conclusions, significant findings, and make recommendations for future research.

CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this study was to develop an instructional design model that will guide course designers (and instructors) in the creation of online courses and written assessments that will deter plagiarism. The study was a qualitative design and followed a holistic, multiple-case, formative research methodology for creating and improving design theories, as developed by Reigeluth and Frick (1999). The research was divided into three distinct phases: I, the factor search, II, the model development, and the III, critique and refinement of the new model. Phase I laid out the theoretical groundwork for the study, identifying any instructional interventions and/or course and assessment design elements that emerged from the literature as possible remedies for plagiarism; furthermore, Phase I documented mediators of plagiarism. Phase II answered the research questions on a more practical level, identifying which remedies uncovered in the factor search, if any, have been implemented in the online courses taught by the participants. Finally, in Phase III, the three research questions were answered again, filtering out any elements of the newly developed instructional design model that participants judged as ineffective, inefficient, or lacking in appeal. The study sought to answer the following research questions:

1. How do course structure, development, and design influence the incidence of plagiarism in online courses?

2. How can instructional design help to reduce the documented causes of plagiarism in online courses?

3. What are the essential elements of an instructional design model that will help to deter plagiarism in online courses?

The case sampling for the study included 28 faculty from various, regionally-accredited, U.S. institutions of higher education. The case sampling provided for a wide variation in course levels taught and academic disciplines, with participants teaching at undergraduate and graduate levels in all major academic disciplines. Participants were asked to respond openly and honestly to a total of 25 questions, which included a combination of multiple-answer and open-ended questions.

This chapter presents the critique and refinement of the tentative model, the final version of the instructional design model to deter plagiarism in online courses, discusses conclusions from the study, and makes some recommendations for future research.

Critique and Refinement of Tentative Model

In the final phase of the study, the 28 original participants were asked to critique and refine the tentative model using the Critique and Refine Survey (CRS), located in Appendix F. In particular, participants were asked to evaluate the overall effectiveness, efficiency, and appeal of the model. The response rate was 82.1%; 23 of the 28 original participants who responded to the Course Analysis Questionnaire (CAQ) followed through to respond to the CRS. Data gleaned from the survey were analyzed following the same procedure as the data from the CAQ (read responses individually and as a

completed body of work, code recurring themes and meanings, search from patterns, identify conclusions, solicit feedback) and were used to critique and refine the model, which was described in detail in chapter 3. A discussion of the findings from the critique is presented below with reference to the criteria of effectiveness, efficiency, and appeal.

Effectiveness

Reigeluth and Frick claimed that "the most important aspect of effectiveness is the extent or degree to which the application of the theory (or guideline or method) attained the goal in a given situation" (1999, p. 635). While it was not within the scope of this study to build an online course based on the model and formatively evaluate it for the overall effectiveness of the model, 100% of the participants found that the model has the potential to accomplish its intended goal—to deter plagiarism in online courses. As one participant commented, the model "looks promising as it relates to quality aspects of course design." Participants described the model as "proactive," "comprehensive," and "learner-centered."

A few participants pointed out that the success of the model relies heavily on an instructor's commitment and willingness to implement the model. One participant wrote:

> Instructor engagement—the students must know that the instructor is available, is responsive and is paying attention to assessment of the assignments.

Similarly, another participant stressed the importance of a strong, instructor presence, noting that "if any of this was taken away it would weaken the model."

One participant linked the success of the model to the support of the entire academic community:

> The model seems common sense but I'd add that it must be implemented in a larger school context that is supportive. The model would work best, I suspect, if the entire school is not only supportive but puts special emphasis on it in faculty meetings and official pronouncements.

This is in line with McCabe's opinion that it takes "the whole campus community—students, faculty, and administrators" (2005, ¶ 14) to deter plagiarism effectively. In all, the model was judged to be effective.

Efficiency

To ascertain the efficiency of the instructional design model, participants were asked how much time they typically spend setting up an online course as well as whether the amount of time that it would take for them to set up an online course using the newly developed model. In response to the amount of time that it currently takes participants to set up an online course, responses ranged from 3 hours to 100 hours. Based on qualitative responses, the sizeable range in responses can be explained because some participants interpreted the question as building a course from scratch while others interpreted it as revising an existing course. In response to the amount of time it would take to set up a course using the newly developed model, 65.5% of the participants indicated that the required investment of time would be about the same. The remaining participants thought that the required investment of time would increase slightly. One participant indicated that "it would take a significantly greater amount of time to prepare, but the feedback and student involvement that it suggests are valuable and would hopefully HELP to deter plagiarism." Therefore, based on data gleaned from the CRS, it is reasonable to conclude that the model is efficient and would yield a good return on investment.

Appeal

When asked whether the newly developed model was appealing, only one participant found the model "way too complex and complicated for [her] as a dean to get faculty to use." The remaining participants (who did not identify themselves as deans) found the model to be appealing, as evidenced by the following comments:

> It's not punitive and attempts to structure the course in terms of (a) manageable time (so students don't panic) and (b) higher order thinking (since that's harder to cherry pick from the Internet). The model is reasonable and sound.
>
> Yes, the model offers a fully thought out environment that will not only lessen plagiarism but increase student satisfaction.
>
> Very appealing. I do a good many of the things suggested, but I see other things that I don't and could/should do as well.
>
> Yes. It provides me with a general guideline to avoid plagiarism when I design or refine my online courses.

Some comments pointed out that not all strategies are appropriate in all situations. For example, one participant made the following observation:

> Some aspects of the model may not be feasible given the duration of some online courses (i.e., 5-week or 8-week). There is not enough time for correction and re-writes of many of the assignments.

Another participant noted:

> Some elements would not be a practical fit for my class and my personality, but it is reasonably good overall.

It should be noted, however, that those using the model should select at least some strategies listed under each method. They are free to choose whichever strategies work for them and their courses. For example, another participant noted that she did not feel comfortable incorporating personal photos. Other strategies, however, may be selected in

lieu of the photos to encourage interactivity. Given those clarifications, the model is appealing.

Suggested Revisions

Although the general consensus is that the newly developed model is effective, efficient, and appealing, participants did propose a few revisions:

1. Present the model as a chart so that it will be more visually appealing.
2. Reword some of the strategies listed under "Designing Plagiarism-Resistant Courses" so that the verbs are active.
3. Provide examples of how some of the suggested strategies would work in real assignments.
4. Add building strong relationships and trust among students.
5. Provide a "bare bones" iteration of the model.
6. Provide instructors with "specific examples, a thorough discussion, and a course syllabus that incorporates [the suggested strategies]."
7. Add the following elements to the model: definition of plagiarism, citation examples, and penalties for plagiarism.
8. Add that rewrites may be required on an "individual basis" and that there should be a penalty as well.
9. Change the ordering of strategies, if they are meant to be hierarchical.

Several participants pointed out various strategies that were not applicable to their courses. For example, selecting alternative assessments is not possible in a writing course. The model, however, is designed in such a way that instructors may select the strategies most appropriate for their courses. Additionally, a few participants, while they acknowledged the importance of stressing the process, expressed concern that the product should not be undervalued.

Presentation of the Final Model

This section presents the last three stages of the condensed version of Nelson's (1998) theory-building methodology, which was utilized to build the finalized version of the instructional design model to deter plagiarism in online courses.

Use Existing Instructional Theories and Research Findings to Formatively Research the New Theory

The newly developed model was formatively researched by comparing the findings from Phase II of the study with the research findings from the CRS, noting any discrepancies between them. The comparison helped to determine which, if any, of the suggested revisions to include in the final version. Nelson also noted the importance of examining "the comprehensiveness, cohesion, and congruency of the new theory" (1998, p. 20), all of which were supported by qualitative data gleaned from the CRS. The model was also compared with Malouff and Sims (1996) expectancy model as well as Usick's (2004) three-R's model for deterring plagiarism to ensure that both were incorporated into the new model. The expectancy model is based on an employee-motivation model; the three-R model focuses on respect, relevancy, and refresh.

Finalize Goals, Methods, and Conditions

Data gleaned from the CRS were used to finalize the goals, methods, and conditions. Another method, designing prevention-focused syllabi, and accompanying strategies were added to the model. Some strategies for other methods were reworded for clarity; none were deleted, however.

Write Up the Final Theory

An abbreviated version of the final model is presented in Table 25. The elaborated version (with suggested strategies for each method) is presented in Appendix H. Since the model is designed to function as an intact model, one major change involved the exclusion of suggested strategies from the model itself. In that way, the model's key elements, the eight methods, can be emphasized. Another major change to the model is the addition of one method: designing prevention-focused syllabi. Strategies for the new method are also included in Appendix H. Finally, a few, minor changes in wording were made to some of the strategies listed.

The methods are hierarchical in the sense that the first three methods (designing prevention-focused syllabi, designing plagiarism-resistant courses, and designing plagiarism-resistant assignments) should generally be in place before an online course begins; the remaining methods, however, require varying degrees of instructor advance-preparedness and instructor-student interaction.

Table 25. Final Instructional Design Model to Deter Plagiarism in Online Courses

Goals and preconditions
The primary goal of the instructional design model is to deter plagiarism in online courses. The instructional goals are to 1) help students understand the importance of academic integrity, 2) help students develop the skills necessary to avoid plagiarism, 3) instill in students the desire to avoid plagiarism in their own writing, and 4) provide instructional designers and instructors with general guidelines for designing online courses and written assessments that will deter plagiarism.
Values (for course designers and faculty)
Some of the values upon which the model is based are 1) focusing on plagiarism prevention rather than detection and punishment, 2) viewing plagiarism as an educational opportunity, 3) creating an online-community ethos of integrity, 4) creating a climate of involvement and interest, 5) building strong, student-instructor relationships that go beyond the courseroom, 6) building a sense of trust between student and instructor, 7) valuing the learner, 8) valuing the learning process over the product, 9) promoting student understanding of the rules of ethical writing (understanding), 10) encouraging student internalization of ethical behavior (desiring), and 11) acknowledging and praising students who do practice ethical behavior in their writing (doing).
Methods
Designing prevention-focused syllabi Designing plagiarism-resistant courses Designing plagiarism-resistant assignments Ensuring manageability Modeling ethical behavior Encouraging interactivity Providing feedback Building strong relationships and trust
Major contributions
The deterrence of plagiarism in online courses and the development of an online-community ethos of academic integrity.

Conclusions from the Data

Data from this study were gleaned at each of the three phases of the study: I) the factor search, II) model development, and III) critique and refinement. Based on the analysis of that data, several conclusions that can be drawn.

1. Instructional design does play a significant role in the deterrence of plagiarism in online courses. This study has linked key instructional design elements (learner considerations, content organization, instructional strategies, distance education technology characteristics, and evaluation) for online learning to plagiarism.

2. Just as students have a responsibility to follow the rules of ethical writing, courses designers and instructors should follow the rules of ethical course design. One participant commented: "Ethical course design? A new concept to me." Yet it seems reasonable to expect that designers and instructors hold themselves to the same standards that are expected of students. Taylor (n.d.) wrote in a letter addressed to his students that he "is deeply convinced that integrity is an essential part of any true educational experience, integrity on [his] part as a faculty member and integrity on your part as a student." The remainder of the letter outlines his and his students' responsibilities regarding academic integrity.

3. It appears that the general mindset of faculty regarding plagiarism in online courses focuses on detection and/or punishment rather than prevention. This is evident from the heavy emphasis on Turnitin® in participant responses although the study was clearly directed toward plagiarism prevention. Even in the CRS, some responses focused on the need to address punitive measures, such as the comment that "Rewriting plagiarized work (rather than harsher punishment) may be counterproductive ('Well, if I don't get away with it I can always do it over without penalty!')." Requiring the rewriting of plagiarized work provides the learner with an educational opportunity to learn proper citation techniques. Whether a penalty is also attached to a given incident of plagiarism is solely at the discretion of the instructor; it is not within the scope of the model to address which penalties should be imposed.

4. Students should be required to engage in writing activities that have a clear purpose and are related to course learning outcomes. Some of the suggested strategies uncovered in completing the study involved requiring learners to engage in activities in which the sole purpose is to serve as a roadblock to plagiarism. For example, it was recommended that

instructors require the submission of hardcopies of each source or annotated bibliographies. Maas (2002) suggested that instructors forbid the use of any form of the verb *to be* in student writing. While such a task might be useful in teaching students to paraphrase more creatively, it would be quite cumbersome for a long paper, not to mention frustrating. Moreover, such assignments oppose the directive to create assignments that are unique and meaningful (McLafferty & Foust, 2004).

5. Despite one participant's belief that manageability is not "a major player to prevent plagiarism," there seems to be a triad of factors—the length of the writing assignment, the time allotted to complete the writing assignment, and the weight of the written assignment in the overall course grade—that must work together as an integrated, balanced and reasonable whole to deter plagiarism.

Limitations of the Study

In retrospect, one major limitation of the study was that the data results were not course-specific. It was, therefore, not possible to observe how various strategies interacted with each other within a course environment. Furthermore, the findings were based on commentary collected by participants about their own courses and practices and may be biased. Another limitation is that the newly developed model was not formatively researched. The model's overall effectiveness and efficiency can only be projected. Another limitation of the study is that the methods along with their respective strategies were not rank ordered. Consequently, it is not possible for designers and instructors to ascertain which strategies or combination of strategies may be more effective than others. Finally, one participant indicated that she incurred Internet connectivity issues while completing the CRS. Therefore, her responses were much briefer than may have been otherwise.

Significance of the Findings

The findings of this study are significant for many reasons. First, the findings from this study produced a comprehensive list of the causes of and the remedies for plagiarism. From that list and the data results, a comprehensive, instructional design model to deter plagiarism was developed and refined. Through the implementation of that model, the number of incidents of plagiarism may be reduced in online courses.

Second, minimizing plagiarism in online courses will increase the likelihood that evaluation will achieve its purpose. According to Morgan and O'Reilly, the purpose of evaluation is "to know if students are attaining the intended learning outcomes, to know if course materials and teaching activities are effective, to be able to certify that students have achieved standard or met requirements" (1999, p. 16).

Finally, one major critique of distance education, online education in particular, is that its mode of course delivery may encourage academic dishonesty among students (Hamlin & Ryan, 2003; Roach, 2001). As one participant wrote, "To the extent that we effectively combat plagiarism in the online delivery of education, to that extent we will increase the credibility of this form of education and increase [its] unlimited potential."

Recommendations for Future Research

Based on the findings of this study, the following recommendations are made for future research.

Formative Research on Newly Developed Model

One recommendation is to conduct formative research on the newly developed instructional design model presented in this study to refine the model further. Reigeluth and Frick offered a methodological procedure for conducting such research and noted that the "testing and design of theories is not a one-trial endeavor . . . Such theories continue to be improved and refined over many interations" (1999, p. 635). Ideally, the model should be tested in a variety of situations, including differing academic levels, academic disciplines, and kinds of institutions.

Although participants noted no ambiguities inherent to the model, other than requesting specific examples of how some of the strategies might be implemented, it is not clear whether a certain number of strategies or combination of strategies would be required for the model to be effective. For example, this researcher has found that a heavy emphasis on the writing process has been an effective deterrent in her online writing courses. However, if the writing process were emphasized to a lesser degree in online courses for another academic discipline, it is not clear how that would impact the incidence of plagiarism. Furthermore, it should be determined whether the methods and their respective strategies should be presented in a more deliberate, hierarchical order. Only formative evaluation and observational studies, as discussed below, will answer such questions.

Mediating Factors Unique to the Online Learning Environment

Furthermore, it is recommended that one study any factors mediating plagiarism that may be unique to the online mode of course delivery. For example, one participant made the following comment:

> One type of plagiarism didn't come to my attention right away. A particular student seemed to have problems writing papers, but did well in posts. For some reason I "googled" one post and found that it was completely plagiarized. I looked back through the course and found the same thing. Then I looked back in previous courses and found consistent plagiarism [in] almost all the important (graded) posts. I now use this as a cautionary tale for other students.

At least one study (Wang-Chavez & Branon, 2001) found that instructor participation in online, asynchronous discussions was very low or nonexistent, yet this study has demonstrated the importance of student-instructor interaction in deterring plagiarism. Therefore, it is possible that plagiarism in discussion postings may be fostered by a lack of instructor participation.

Another issue is that student research methods are antiquated. The old note card method of taking notes and creating an outline is not effective in an online world. Inadvertent cut-and-paste plagiarism may occur because students do not have an effective means of taking careful notes at their disposal. When they copy the text into their document, they lose track of what is quoted material and what is their own writing. Effective online note-taking strategies need to be developed and tested.

Replication Studies

Another recommendation is to replicate plagiarism studies (i.e., longitudinal and self-reported plagiarism studies) that have been conducted at land-based institutions on virtual campuses. As McCabe indicated in a personal communication (October 26, 2006),

statistics focusing specifically on plagiarism occurring in online courses are "one of the real 'holes' in the current" literature. It is important to uncover whether there are factors unique to online that may foster plagiarism. If so, the model may be revised to account for it.

Observational Studies

Finally, one limitation of this study is that it did not provide an opportunity to observe how various strategies interacted with each other within an online course environment. Online courses are unique in that archives provide an almost perfect record of all course events, including instructor-student and student-student interaction in discussion threads, and date stamps. It is recommended to conduct post facto, observational research to uncover any mediators of plagiarism.

Summary and Final Thoughts

Plagiarism has serious repercussions for instructional design for online learning; first, it undermines the credibility of the mode of education. More importantly, it obstructs the correct assessment and evaluation of what the learner has learned as well as invalidates feedback into the instructional design process for the purpose of course improvement. Moreover, in some cases, plagiarism can be a direct or indirect result of poorly aligned courses and poorly chosen or designed written assessments. The good news is that good instructional design can favorably influence the incidence of plagiarism. This study has linked the key elements of the instructional design process for online learning – learner considerations, course organization, instructional strategies, and

evaluation to many of the mediators and remedies for plagiarism identified in the literature. It has also developed an instructional design model to deter plagiarism in online courses. Good instructional design is necessary to deter plagiarism. Without it, plagiarism will continue without restraint.

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APPENDIX A. REMEDIES FOR PLAGIARISM

Table A1. Prevention by Assessment Design

Remedy	Source
A timed open-book essay	James et al., 2002
Annotated bibliographies	Culwin & Lancaster, 2001
"Ask students to include the library site and call number of each paper source they use and to include the date they accessed each website."	James et al., 2002, p. 45
Ask students to supply photocopies of any references used as part of an appendix	Culwin & Lancaster, 2001; Phillips & Horton, 2000, Harris, 2001
Assess work produced in class	Culwin & Lancaster, 2001
Assessment throughout the writing process	Scribner, 2003, p. 33
Assign different questions to different students	Born, 2003
Assignments that are unique and meaningful	McLafferty & Foust, 2004
Avoid assignments that ask students to collect, describe, and present information	Carroll, 2004
Collaborative work - positive use	Born, 2003; James et al., 2002
Create individualized tasks	Carroll & Appleton, 2001
Creative projects - PowerPoints, etc.	Talab, 2004

Table A1. Prevention by Assessment Design (*continued*)

Remedy	Source
Design assignments so that they reveal the ways writing contributes to learning	Willen, 2004
Design of assessment	Ashworth & Bannister, 1997; Carroll & Appleton, 2001; Johnson, 2004; McMurtry, 2001; Olt, 2002; Phillips & Horton, 2000; Whitley & Keith-Spiegel, 2002
E' prime	Maas, 2002
Emphasize that writings be in student's own voice	Scribner, 2003, p. 33
Giving very specific assignments/directions	Scribner, 2003, p. 33
Include in assessment regimes mini-assignments that require students to demonstrate necessary skills	James et al., 2002
Include reflective assignments after writing is complete	Scribner, 2003, p. 33
"Insist on evidence for significant claims and let students know that the assignments will not be assessed if this evidence is missing."	James et al., 2002, p. 45
Oral presentations	Gibelman et al., 1999; McMurtry, 2001
Randomize questions and answers for electronic quizzes/assignments	James et al., 2002
Require outlines, rough drafts, etc.	
Require specific components	Harris, 2001

Table A1. Prevention by Assessment Design (*continued*)

Remedy	Source
Require that assignments be submitted electronically	McMurtry, 2001
"Set the assignment specification on a unique or recent event" (p. 2)	Culwin & Lancaster, 2001
Use alternatives to the standard essay, such as case studies	Culwin & Lancaster, 2001
Use assignments that integrate classroom dynamic, field learning, assigned reading and classroom learning	Gibelman et al., 1999
Use essay/assignment topics that integrate theory and examples or use personal experience	Carroll, 2004
Viva	Culwin & Lancaster, 2001

Table A2. Prevention by Course Design

Remedy	Source
Adequate time to complete assignment	McMurtry, 2001
Assigning significant weight to each step of the process	Scribner, 2003, p. 33
Changing assessments frequently	Carroll & Appleton, 2001
"Design out" easy cheating options	Carroll, 2004
Emphasize critical thinking skills	Scribner, 2003, p. 33

Table A2. Prevention by Course Design (*continued*)

Remedy	Source
"Ensure assessment tasks relate to the specific content and focus of the subject so students are less tempted to simply copy something from the web."	James et al., 2002, p. 44
Expect plagiarizing to be difficult	Malouff & Sims, 1996, Abstract
Expect the writing assignment to be manageable	Malouff & Sims, 1996, Abstract
Integrate assessment tasks (formative assessment)	Carroll & Appleton, 2001
Minimize number of assessments	Langsam, 2001
More frequent tests, quizzes, assignments	Born, 2003
Provide opportunities to practice proper citation techniques	Schuetze, 2004
Reconsider learning outcomes	Carroll & Appleton, 2001
Rotate curriculum	VanBelle, n.d.; Born, 2003
Set range of assessment tasks	Carroll & Appleton, 2001
Several short assessments throughout the course	Abbott, et al., 2000; Cox, n.d.
Stressing the importance of process (not just product)	Carroll, 2004; Harris, 2001 Leland, 2002; Malouff & Sims, 1996; McKenzie, 1998; McKeachie, 2002; Renard, 1999; Scribner, 2003, p. 33; Wilhoit, 1994; Willen, 2004;
Teach the skills of critical analysis and building an argument	Johnson, 2004; Born, 2003
Teach the skills of referencing and citation	

Table A2. Prevention by Course Design (*continued*)

Remedy	Source
Teach the skills of summarizing and paraphrasing	Carroll, 2004

Table A3. Prevention by Interaction and Communication

Remedy	Source
Admonishment	Landau et al., 2002, p. 114
Build trust	Born, 2003
'Create a climate of involvement and interest rather than detection and punishment"	Carroll, 2004, p. 20
"Create strong relationships with students that are not limited to the classroom and teaching pedagogy"	Hutton, 2006
Demonstrate your awareness of electronic resources available	Evans, 2000
Good tone & atmosphere at beginning of course	Boice, 2000; McKeachie, 2002; Whitley & Keith-Spiegel, 2002
Instructor stance & increasing rapport	McLafferty & Foust, 2004
"Make students aware of faculty monitoring activities"	Phillips & Horton, 2000
Mingling with early arrivals & making oneself available	McKeachie, 2002; Whiltley & Keith-Spiegel, 2002
One-on-one tutoring	Emerson et al., 2005

Table A3. Prevention by Interaction and Communication (*continued*)

Remedy	Source
Performance feedback or examples of plagiarized passages	Landau et al., 2002, p. 115
Soliciting feedback from students during the term	Boice, 2000
Student sense of alienation	Ashworth & Bannister, 1997
Tenured faculty more effective than TA's	Kerkvliet & Sigmund, 1999
Viewing acts of plagiarism as educational opportunities	McCabe, 2005

Table A4. Prevention by Policy

Remedy	Source
Administrative support of faculty	Hutton, 2006
Defining plagiarism	McLafferty & Foust, 2004
Discuss academic policy with students	McMurtry, 2001
Establish policy and address it in syllabus	McMurtry, 2001; Phillips & Horton, 2000
Expect plagiarizing to lead to personally important costs	Malouff & Sims, 1996, Abstract
Nonspecific directive on syllabus	Landau et al., 2002, p. 115
Plagiarism detection services	Martin, 2005
Presence of Academic Integrity Policies & Penalties for Infractions	Crown & Spiller, 1998; McCabe & Treviño, 1997

Table A4. Prevention by Policy (*continued*)

Remedy	Source
Prohibit make up tests	Born, 2003
Testing Environment	Crown & Spiller, 1998; Roig & Ballew, 1994; Whitley, 1998
Use mechanical detection as a teaching tool	Scanlon, 2003
Vague statement in class	Landau et al., 2002, p. 115
Verbal announcements that honesty is an enforced university policy	Kerkvliet & Sigmund, 1999

Table A5. Policing and Consequences

Remedy	Source
Administrative support of faculty	Phillips & Horton, 2000
Allow students to participate in hearings to enable information to permeate campus	Phillips & Horton, 2000
Archive electronic student essays	James et al., 2002
Consequences of decisions	Willen, 2004
Deterrence penalties	Langsam, 2001
Develop a system of record keeping to record individual offenses	Phillips & Horton, 2000
Do something about blatant examples of plagiarism immediately	Carroll, 2004

Table A5. Policing and Consequences (*continued*)

Remedy	Source
Educate yourself about electronic options available for chosen assignments	Culwin & Lancaster, 2001
Enforcing policies	Indirectly by several authors, including Carroll, 2004; Ashworth & Bannister, 1997; McCabe & Treviño, 1996; Phillips & Horton, 2000
Faculty response to academic dishonesty	Ashworth & Bannister, 1997; McCabe & Treviño, 1996
Let the punishment fit the crime	Phillips & Horton, 2000
Make students redo if requirements are not met	Centre for the Study of Higher Education & the Australian Universities Teaching Committee, 2002
Meta-assignments	Evans, 2000
Plagiarism detection services	Martin, 2005
Policing	Phillips & Horton, 2000
Polluting the source	Moore, 2002
Presence of Academic Integrity Policies & Penalties for Infractions	McCabe & Treviño, 1996, 1997; Crown & Spiller, 1998
Reading each essay four times	Bjaaland & Lederman, 1973
"Use a search engine to help find the sites students are likely to find. Supply choose a phrase that students are likely to use—a history example is 'Thomas Samuel Kuhn was born'."	James et al., 2002, p. 44

Table A5. Policing and Consequences (*continued*)

Remedy	Source
"Warn students of the possibility of their files being stolen or copied if left on the hard disk of university computers and teach them how to delete files they have finished"	James et al., 2002, p. 44

Table A6. Virtues Approach

Remedy	Source
Campus ethos of integrity	Willen, 2004
Educators must model ethical behavior	Carroll & Appleton, 2001; Scribner, 2003, p. 33
Expect ethical writing to lead to personally important benefits	Malouff & Sims, 1996, Abstract
Presence of Academic Integrity Policies & Penalties for Infractions	Crown & Spiller, 1998; McCabe & Treviño, 1996, 1997
Promote climate of academic integrity	Phillips & Horton, 2000
"Request that all work outside of examinations be submitted with a cover sheet defining plagiarism and requiring the student's signature."	James et al., 2002
Signing of acceptance policies	Scribner, 2003, p. 33
Understand rules of ethical writing	Malouff & Sims, 1996, Abstract
Value learning	Willen, 2004

APPENDIX B. FACTORS THAT FOSTER PLAGIARISM

Table B1. External Factors That Foster Plagiarism

Factor	Sources
Instructors "accepting cut-and-paste projects and papers with no or incomplete citations"	Scribner, 2003, p. 32
Instructors "failing to teach the skills necessary for completing assignments without resorting to cheating"	Scribner, 2003, p. 32
Instructors "making unrealistic assignments"	Scribner, 2003, p.32
Ambivalence of faculty and administration	Aaron, 1992
Benefits outweigh risks	Hutton, 2006; Phillip & Horton, 2000
Competition - jobs and grad school	Phillips & Horton, 2000
Cryptomnesia	Beasley, 2004
Devaluing of written assignment by instructor who assigned it	Renard, 1999, ¶ 22
Ethical lapses	Beasley, 2004
Faculty Response to Academic Dishonesty	Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997; Phillip & Horton, 2000; Love & Simmons, 1998
Information overload	Beasley, 2004

Table B1. External Factors That Foster Plagiarism (*continued*)

Factor	Sources
Institution's subscription to market Ideologies	Saltmarsh, 2004
Instructor bad example	Townley & Parsell, 2004
Instructors "making 'traditional' Assignments that haven't kept pace with advances in information, technology- or for that matter, with 'best practices' pedagogy" (p. 32)	Scribner, 2003
Instructors "not taking the time to check sources" (p. 32)	Scribner, 2003
Instructors' failure to rotate curriculum	Scribner, 2003
Lack of trust between instructor and student	Townley & Parsell, 2004
Opportunity	Hutton, 2006; Thomas, 2004; Phillip & Horton, 2000
Other commitments	Park, 2003
Peer Observation	Crown & Spiller, 1998; McCabe & Treviño, 1997
Presence of Academic Integrity Policies & Penalties for Infractions	Crown & Spiller, 1998; McCabe & Treviño, 1997
Pressure – grades	Love & Simmons, 1998; Thomas, 2004
Pressure - task; excessive, mindless workload	Love & Simmons, 1998; Thomas, 2004
Pressure – time	Love & Simmons, 1998
Prominent bad examples	Thomas, 2004

Table B1. External Factors That Foster Plagiarism (*continued*)

Factor	Sources
Social network theory	Hutton, 2006
Student perception of instructor	Underwood & Szabo, n.d.; Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997
"Testing Environment	Crown & Spiller, 1998; Roig & Ballew, 1994; Whitley, 1998
Instructors "making 'traditional' Assignments that haven't kept pace with advances in information, technology- or for that matter, with 'best practices' pedagogy" (p. 32)	Scribner, 2003
Instructors "not taking the time to check sources" (p. 32)	Scribner, 2003
Instructors' failure to rotate curriculum	Scribner, 2003
Lack of trust between instructor and student	Townley & Parsell, 2004
Opportunity	Thomas, 2004; Phillip & Horton, 2000; Hutton, 2006
Other commitments	Park, 2003
Peer Observation	Crown & Spiller, 1998; McCabe & Treviño, 1997
Presence of Academic Integrity Policies & Penalties for Infractions	Crown & Spiller, 1998; McCabe & Treviño, 1997
Pressure – grades	Love & Simmons, 1998; Thomas, 2004
Pressure - task; excessive, mindless workload	Love & Simmons, 1998; Thomas, 2004

Table B1. External Factors That Foster Plagiarism (*continued*)

Factor	Sources
Pressure – time	Love & Simmons, 1998
Prominent bad examples	Thomas, 2004
Social network theory	Hutton, 2006
Student perception of instructor	Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997; Underwood & Szabo, n.d.
"Testing Environment	Crown & Spiller, 1998; Roig & Ballew, 1994; Whitley, 1998

B2. Student Internal Factors That Foster Plagiarism

Factor	Sources
Academic achievement	Antion & Michael, 1983; Crown & Spiller, 1998
Age	Crown & Spiller, 1998; McCabe & Treviño, 1997; Whitley, 1998
Cultural background	Thomas, 2004
Difficulty distinguishing between paraphrased and plagiarized text*	Ashworth & Bannister, 1997; Roig, 1999
Disorganization - poor time management skills; poor planning*	Beasley, 2004; Thomas, 2004
Fear of failure*	Beasley, 2004; Hamilton, 2003
Gender	Crown & Spiller, 1998; Underwood & Szabo, n.d.; Whitley, 1998

B2. Student Internal Factors That Foster Plagiarism (*continued*)

Factor	Sources
Lack of awareness or ignorance of plagiarism*	Beasley, 2004; Love & Simmons, 1998
Lack of competence; poor preparation*	Beasley, 2004; Love & Simmons, 1998; Thomas, 2004
Major	Crown & Spiller, 1998; Roig & Ballew, 1994; Tucker, 2003
Marital status	Haines, Diekhoff, LaBeff, and Clark (as cited in Phillips & Horton, 2000); Whitley, 1998
Negative attitude toward instructor or class*	Ashworth & Bannister, 1997; Kerkvliet & Sigmund, 1999; McCabe & Treviño, 1997; Underwood & Szabo, n.d.
Poor time management skills; poor planning*	Thomas, 2004
Procrastination and laziness*	Beasley, 2004; Hamilton, 2003; Love & Simmons, 1998
Social activities	Crown & Spiller, 1998; Roig & Ballew, 1994
Sense of alienation*	Ashworth & Bannister, 1997
Thrill seeking	Beasley, 2004

*Factor can be addressed by instructional design.

APPENDIX C. FACTORS THAT INHIBIT PLAGIARISM

Table C1. Internal Factors That Inhibit Plagiarism

Factor	Source
Desire to work or learn	Love & Simmons, 1998
Fairness to authors	Love & Simmons, 1998
Fairness to others	Love & Simmons, 1998
Fear (of consequences)	Love & Simmons, 1998; McCabe & Treviño, 1993
Guilt	Love & Simmons, 1998
Personal confidence	Love & Simmons, 1998
Positive professional ethics	Love & Simmons, 1998

Table C2. External Factors That Inhibit Plagiarism

Factor	Source
Cheating as dangerous	Love & Simmons, 1998
Need for knowledge in future	Love & Simmons, 1998
Probability of being caught	Love & Simmons, 1998; McCabe & Treviño, 1993

Table C2. External Factors That Inhibit Plagiarism (*continued*)

Factor	Source
Professors' knowledge	Love & Simmons, 1998
Time pressure	Love & Simmons, 1998

APPENDIX D. QUALIFYING DEMOGRAPHICS SURVEY

Dear prospective participant,

Since you expressed an interest in my study entitled *A New Design on Plagiarism: Developing an Instructional Design Model for Deterring Plagiarism in Online Courses*, I am sending you the following link to the demographics survey:

LINK

Once you access the link, you will be required to enter the following password:

design

The purpose of the survey is to select a group of participants who, together, will provide for the most variation in situationality. The information gleaned from such a diverse group will help me to develop as comprehensive an instructional design model as possible. Completion of the demographics survey is optional and does not guarantee inclusion in the study. Once an adequate number demographic surveys has been received and reviewed, you will receive an e-mail indicating whether you have been included in the study.

You may choose to withdraw from the survey at any time. Should you decide to do so, please contact me as soon as possible via telephone (- -) or e-mail ( ) so that I can destroy any responses you may have given to the Qualifying Demographics Survey.

If you choose to complete the survey, you may refuse to answer any question(s) in whole or in part.

Only the researcher will have access to the data that you provide on the survey. All data will be destroyed upon completion of the data collection phase of the study.

The collective results of the Qualifying Demographics Survey will be included in the report of the study's findings. For example, the researcher may report that X number of participants teach at the undergraduate level while X number of participants teach at the graduate level. Your confidentiality will be maintained throughout the entire research process.

If you have any question regarding the survey or the study in general, please do not hesitate to contact the researcher at - - or .

Kind regards,

Qualifying Demographics Survey

1. Please indicate the number of years that you have taught in higher education?

0 – 5___ 6 – 10 ___ 11 – 15 ___ 15+ ___

2. Have you ever taught or are you currently teaching at least one totally online course?

Yes ___ No ___

3. Have you ever taught the same online course for at least two semesters/terms?

Yes___ No ___

4. Please indicate all levels at which you have taught a totally online course.

Undergraduate ___ Graduate ___

5. Please indicate all academic discipline(s) in which you have taught a totally online course.

Business ___
Education ___
English Composition ___
Fine Arts ___
Humanities ___
Information Technology ___
Mathematics ___
Natural Sciences ___
Social Sciences ___
Other (Please specify.) _____

6. Do you require a major writing component as part of the evaluation methods chosen for the online course(s) that you teach?

Yes ___ No ___

Thank you for taking the time to complete this survey. Once your Qualifying Demographics Survey has been received and reviewed, you will receive an e-mail indicating whether you have been included in the study.

APPENDIX E. COURSE ANALYSIS QUESTIONNAIRE

Welcome!
Thank you for agreeing to participate in this study. The following questionnaire has a total of 25 questions (a combination of multiple-answer and open-ended questions). It is estimated that it will take approximately 30 minutes to complete, although the actual time depends much on how detailed your answers are. The questions are based on the findings of a literature review to uncover suggested remedies for plagiarism. Please respond to each question based on your experience as an online instructor.

1. Which kinds of writing assignments have you used in the online courses that you have taught or are currently teaching? (Please check all that apply.)
   - ☐ Research Reports (Term Papers)
   - ☐ Case Studies
   - ☐ Creative Projects (such as PowerPoints)
   - ☐ Essays
   - ☐ Other (please specify)

2. How are the topics (writing prompts, essay questions, etc.) chosen for the online courses that you have taught or are currently teaching? (Please check all that apply.)

   - ☐ I select the question/topic that the entire class will write on.
   - ☐ I assign different questions/topics to different students.
   - ☐ I require that students choose among a set of pre-selected questions/topics.
   - ☐ I suggest topics, but students may still choose any topic they wish.
   - ☐ Students select their own topics.
   - ☐ Other (please specify)

3. Which of the following tasks do the assigned or selected the topics (writing prompts, essay questions, etc.) ask the students to do? (Check all that apply.)

   - ☐ Collect, describe, or present information
   - ☐ Analyze, evaluate, or synthesize
   - ☐ Integrate theory and examples
   - ☐ Use personal experience
   - ☐ Write on a unique or personal event

- ☐ Write in their own voice
- ☐ Select a topic that is unique, meaningful, and contributes to learning
- ☐ Other (please specify)

4. Which of the following components for a written assignment do you require for the online course(s) that you have taught or are currently teaching? (Please check all that apply.)

    - ☐ Annotated bibliography
    - ☐ Access information for sources
    - ☐ Photocopies of references
    - ☐ Collaborative work
    - ☐ Individualized tasks
    - ☐ E' Prime (students must avoid using any form of 'to be' in their writing)
    - ☐ Reflective assignment
    - ☐ Working bibliography
    - ☐ Outline
    - ☐ Rough draft
    - ☐ Integration of a specific resource (field learning, assigned reading, etc.)
    - ☐ Mini-assignments that require students to demonstrate necessary skills (such as a plagiarism or citation quiz)
    - ☐ Other (please specify)

5. If you require that students submit stages of a written assignment (working bibliography, outline, rough draft, etc.), do you assign a grade for those stages?

    - ☐ Yes
    - ☐ No
    - ☐ I do not assign stages.

6. How do you typically assess written assignments?

    - ☐ I assess throughout the writing process.
    - ☐ I assess once the final paper is submitted.
    - ☐ Other (please specify)

7. How do you require that written assignments be submitted?

    - ☐ I assess throughout the writing process.
    - ☐ I assess once the final paper is submitted.
    - ☐ Other (please specify)

8. On average, how many weeks do you give students to complete a major writing assignment from the date assigned to the date due? (Please enter a numerical value.)

9. What is the highest percentage weight that you have assigned to a major writing assignment in your online courses (10%, 20%, etc.)?

10. Which skills do your online courses formally teach, reinforce, and/or practice?

    - ☐ Critical thinking skills
    - ☐ Critical analysis skills and building an argument
    - ☐ Higher-order thinking skills
    - ☐ Referencing and citation skills
    - ☐ Summarizing and paraphrasing
    - ☐ Other (please specify)

11. On average, how many major assessments (written, midterm, final, etc.) do your online courses have? (Please enter a numeric value.)

12. What has been your experience with plagiarism in the online courses that you have taught or are currently teaching?

13. For any online courses that you have taught for more than one semester/term, were there any course changes that you made from one semester/term to the next that you feel may have impacted the occurrence of plagiarism in that course? If so, please describe.

14. What ideas do you have on how course design can model ethical behavior?

15. The literature suggests that one way to deter plagiarism is for students to expect that writing assignments be manageable. In your experience, how might course design accomplish that?

16. The literature suggests that another way to deter plagiarism is for students to expect that plagiarism be difficult. In your experience, how might course design accomplish that?

17. Which of the following would describe your practice and policy on plagiarism in the online courses that you have taught or are currently teaching?

    - ☐ Define (in the syllabus or elsewhere) the term “plagiarism” for students
    - ☐ Discuss academic policy on plagiarism with students
    - ☐ Address the academic honesty policy in the syllabus

- ☐ Provide students with specific directives on plagiarism
- ☐ Create a visible presence of academic integrity policies and penalties for infractions
- ☐ Mention plagiarism detection services in the syllabus
- ☐ Use mechanical detection of plagiarism as a teaching tool
- ☐ Reference plagiarism in course materials
- ☐ Post an announcement that academic honesty is an enforced college/university policy
- ☐ Other (please specify)

18. Which of the following policing/consequences strategies do you usually employ in your online courses?

    - ☐ Archive an electronic copy of student papers
    - ☐ Establish clear consequences for infractions
    - ☐ Put deterrence strategies in place
    - ☐ Respond immediately to blatant examples of plagiarism
    - ☐ Enforce existing policies
    - ☐ Punishment fits the crime
    - ☐ Require students to redo plagiarized assignments
    - ☐ Require a meta-assignment
    - ☐ Utilize a plagiarism detection service

19. As an online instructor, how do you attempt to minimize a student's sense of alienation?

20. What kind of feedback do you generally provide in your online courses throughout the semester/term?

21. How do you encourage interaction (peer-peer and student-instructor) feedback in your online courses?

22. How do you generally view an incident of plagiarism?

    - ☐ A moral issue
    - ☐ An educational opportunity
    - ☐ A disciplinary issue
    - ☐ Other (please specify)

23. How many days a week do you typically log on and participate in your online courses? (Please enter a numerical value.)

24. Is there any course or assignment design element not covered on this questionnaire that you have implemented in your online courses that you feel is effective at deterring plagiarism? If so, please describe.

25. Please include any other comments you have about plagiarism in online courses.

Thank you!

I appreciate the time and effort that you have taken in responding to this questionnaire. Once all responses have been gathered and the data have been analyzed, you will be sent an invitation to view the results of the study online and to participate in a short feedback survey. Thanks again for your participation!

APPENDIX F. CRITIQUE AND REFINEMENT SURVEY

1. Ideally, course designers/faculty using the model should select at least some strategies listed under EACH method. Do you think that the model, if used properly, has the potential to accomplish its intended goal – to deter plagiarism in online courses? Please elaborate.

   ☐ Yes
   ☐ No

   Comment:

2. How much time do you typically spend setting up an online course? Do you feel that the amount of time that it would take for you to set up an online course using the newly developed model would be more, less, or about the same as it currently takes? Explain.

3. Do you find the model appealing?

   ☐ Yes
   ☐ No

   Comment:

4. Please comment on any perceived strengths/weaknesses of the tentative model?

5. Is there anything about the model that may be too cumbersome or difficult to use?

6. Are each of the values listed in the model above adequately reflected in the methods and strategies (also listed above)? Please explain.

   ☐ Yes
   ☐ No

   Comment:

7. Are there any ambiguities? If so, what are they?

   ☐ Yes
   ☐ No

   Comment:

8. Is there anything that you would add to or delete from the model? Why?

9. Please identify any strategies that you think would be indispensable to the success of the model.

10. Please make at least one other comment or recommendation concerning the model as a whole.

APPENDIX G. FULL VERSION OF TENTATIVE MODEL

Goals and Preconditions

The primary goal of the instructional design model is to deter plagiarism in online courses. The instructional goals are to 1) help students understand the importance of academic integrity, 2) help students develop the skills necessary to avoid plagiarism, 3) instill in students the desire to avoid plagiarism in their own writing, and 4) provide instructional designers and instructors with general guidelines for designing online courses and written assessments that will deter plagiarism.

Values (For course designers and faculty)

Some of the values upon which the model is based are 1) focusing on plagiarism prevention rather than detection and punishment, 2) viewing plagiarism as an educational opportunity, 3) creating an online-community ethos of integrity, 4) creating a climate of involvement and interest, 5) building strong, student-instructor relationships that go beyond the courseroom, 6) building a sense of trust between student and instructor, 7) valuing the learner, 8) valuing the learning process over the product, 9) promoting student understanding of the rules of ethical writing (understanding), 10) encouraging student internalization of ethical behavior (desiring), and 11) acknowledging and praising students who do practice ethical behavior in their writing (doing).

Methods

Designing Plagiarism-Resistant Courses

- Establish learning outcomes that focus on critical analysis, building an argument, and higher-order thinking skills.
- Consider whether written assessment is the most effective means to evaluate whether learning outcomes have been met.
- Verify that the learning outcomes, course content, and assessment activities are well aligned.
- Ensure that students possess the necessary skills (critical analysis, citing and referencing, summarizing and paraphrasing) to satisfactorily complete the written assessment and avoid plagiarism; if necessary, require that students complete mini-assignments to demonstrate that they possess those skills.
- Ensure that assessment tasks relate to the specific course content.

- Consider how many written assessments may reasonably be completed.
- Rotate the curriculum regularly.

Designing Plagiarism-Resistant Assignments

- Integrate courseroom dynamic, field learning, assigned reading, theory and examples, case studies, personal experience, and/or a unique or recent event into the written assessment.
- Require that student use recent and/or specific sources.
- Consider alternatives to the standard essay, such as case studies, creative projects, and original fieldwork.
- Create assignments that are unique, personally meaningful, and reveal the ways writing contributes to learning.
- Create assignments that require students to utilize critical analysis and higher-order thinking skills.
- Include a reflective component once the writing is completed.
- Provide students with clear directions and samples of successfully completed projects.
- Focus on the process of writing rather than the product, requiring specific components such as a tentative reference list, an annotated bibliography, an outline, a rough draft, etc.
- Allow students to choose among a set of pre-selected questions/topics or to select their own.
- Encourage students to develop their own writing voice.

Ensuring Manageability

- Provide students with adequate time to complete the writing assignment.
- Ensure written assignments are relevant to course.
- Encourage assignment-specific, instructor-student interaction.
- Encourage student questions.
- Provide detailed instructions, samples, and resources.
- Increase from simple to difficult over time.
- Balance workload, timeframe allotted, and assignment weight for written assessments.

Modeling Ethical Behavior

- Cite and reference, as appropriate, in the syllabus, lecture notes, study guides, etc.
- Model correct citation and referencing techniques, as appropriate, in all correspondence with students.
- Provide students with examples of how to cite and reference sources properly.
- Point out student citation and referencing errors.
- Reduce high stakes by allowing students to rewrite.
- Require that students redo assignments that have been plagiarized.

Encouraging Interactivity

- Post bios, photos, etc.
- Set up a student lounge or cybercafé

- Post weekly assignments
- Provide students with at least two means of contacting you: e-mail, phone, instant messaging, chat sessions, "Ask the Prof" forum, virtual office hours, etc.
- Utilize discussion forums; require students to respond substantively to the discussion topic as well as each other.
- Provide clear expectations regarding discussion board participation requirements.
- Require peer review
- Acknowledge receipt of all student correspondence in a timely manner, even if unable to address the concern immediately.
- Acknowledge all public queries publicly, even if the response must be provided privately.

Providing Feedback

- Assess throughout the writing process.
- Provide individualized, detailed, and timely feedback.
- Post weekly general feedback messages.
- Challenge students to rethink and reconsider their responses.

Building Strong Relationships and Trust

- Mingle with early arrivals (those who log on to an online course early) and respond to any questions or concerns.
- Establish and communicate general expectations for course protocol: timeline for grading assignments and providing feedback, virtual office hours, instructor presence in the courseroom, etc. If unable to meet those expectations, post a message apprising students in advance of the need to deviate from the published protocol.
- Solicit feedback from students during the term.
- Personalize comments to students; address students by their first names.
- Adopt personable language when communicating with students; utilize exclamations and emoticons.
- Socialize with students outside the courseroom (cybercafé, faculty-student lounge, instant messaging, e-mails, etc.).

Major Contributions

The deterrence of plagiarism in online courses and the development of an online-community ethos of academic integrity.

APPENDIX H. FULL VERSION OF FINAL MODEL

Goals & Preconditions

The primary goal of the instructional design model is to deter plagiarism in online courses. The instructional goals are 1) to help students understand the importance of academic integrity, 2) to help students develop the skills necessary to avoid plagiarism, 3) to instill in students the desire to avoid plagiarism in their own writing, and 4) to provide instructional designers and instructors with general guidelines for designing online courses and written assessments that will deter plagiarism.

Values (For course designers and faculty)

Some of the values upon which the model is based are 1) focusing on plagiarism prevention rather than detection and punishment, 2) viewing plagiarism as an educational opportunity, 3) creating an online-community ethos of integrity, 4) creating a climate of involvement and interest, 5) building strong, student-instructor relationships that go beyond the courseroom, 6) building a sense of trust between student and instructor, 7) valuing the learner, 8) valuing the learning process over the product, 9) promoting student understanding of the rules of ethical writing (understanding), 10) encouraging student internalization of ethical behavior (desiring), and 11) acknowledging and praising students who do practice ethical behavior in their writing (doing).

Methods

Designing Prevention-focused Syllabi

- Include a definition of plagiarism.
- Remind students of college/university academic integrity policies and violation penalties.
- Delineate clearly and concisely all course-specific policies, procedures, and instructor expectations.
- Include an appendix with useful links on proper citation techniques.
- Designing Plagiarism-Resistant Courses

- Establish learning outcomes that focus on critical analysis, building an argument, and higher-order thinking skills.
- Determine whether written assessment is the most effective means to evaluate whether learning outcomes have been met.
- Verify that the learning outcomes, course content, and assessment activities are well aligned.
- Ensure that students possess the necessary skills (critical analysis, citing and referencing, summarizing and paraphrasing) to satisfactorily complete the written assessment and avoid plagiarism; if necessary, require that students complete mini-assignments to demonstrate that they possess those skills.
- Ensure that assessment tasks relate to the specific course content.
- Determine how many written assessments may reasonably be completed.
- Rotate the curriculum regularly.

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- Integrate courseroom dynamic, field learning, assigned reading, theory and examples, case studies, personal experience, and/or a unique or recent event into the written assessment.
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- Consider alternatives to the standard essay, such as case studies, creative projects, and original fieldwork.
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- Include a reflective component once the writing is completed.
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- Focus on the process of writing rather than the product, requiring specific components such as a tentative reference list, an annotated bibliography, an outline, a rough draft, etc.
- Allow students to choose among a set of pre-selected questions/topics or to select their own.
- Encourage students to develop their own writing voice.

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- Provide students with adequate time to complete the writing assignment.
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- Encourage questions.
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- Provide students with examples of how to cite and reference sources properly.
- Point out student citation and referencing errors.
- Reduce high stakes by allowing students rewrite.
- Require that students redo assignments (grade penalty at instructor discretion) that have been plagiarized.

Encouraging Interactivity

- Post bios, photos, etc.
- Set up a student lounge or cybercafé
- Post weekly assignments
- Provide students with at least two means of contacting you: e-mail, phone, instant messaging, chat sessions, "Ask the Prof" forum, virtual office hours, etc.
- Utilize discussion forums; require students to respond substantively to the discussion topic as well as each other.
- Provide clear expectations regarding discussion board participation requirements.
- Require peer review
- Acknowledge receipt of all student correspondence in a timely manner, even if unable to address the concern immediately.
- Acknowledge all public queries publicly, even if the response must be provided privately.

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Major Contributions

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