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Technology-Mediated Caring in Online Teaching and Learning

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ABSTRACT

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As online K-12 education becomes more prevalent, there arises a need to examine caring as it is experienced in technology-mediated contexts. The first article in this dissertation examines the definition of the term "caring pedagogies" and synthesizes relevant research helpful to understanding its application in a variety of contexts, including the technology-mediated context. The literature review is organized in the following categories: understanding caring pedagogy (defining and measuring), developing caring characteristics in individuals, developing caring communities, and developing caring in unique contexts. This article concludes that more research related to care is necessary in contexts other than the early childhood education context. The technology-mediated context would greatly benefit from such research.

The second article in this dissertation investigates the experience of two teachers and four students in the Open High School of Utah and how they engaged in technology-mediated caring. Findings indicated that teachers care for students in this context by gaining a deep understanding of the student through shared perspective, continuous dialogue, and vigilant observation. Based on this understanding, teachers execute caring actions with the purpose of structuring the learning environment, attending to students' individual academic needs, and attending to students' wellbeing. Students completed the caring relationship by reacting to teachers' caring actions and acknowledging the care they received.

The third article in this dissertation investigates technology choices conducive to creating and nurturing caring relationships in technology-mediated contexts. This article is based on the experience of the two teachers and four students in the Open High School of Utah. This study provides guidelines to help educators make technology choices that are effective in knowing the student, executing acts in the student's best interest, and receiving student reactions. Although research related to information and communication technologies has produced various useful frameworks for online education related to presence and immediacy, investigating technology-mediated caring has the potential to greatly enrich this scholarly discourse.

Keywords: caring pedagogies, nurturing pedagogies, ethic of care

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DESCRIPTION OF CONTENT AND STRUCTURE

This dissertation, Technology-Mediated Caring in Online Teaching and Learning, is written in a hybrid format. The hybrid format brings together traditional dissertation requirements and journal publication formats.

The preliminary pages of this dissertation reflect requirements for submission to the university. The report is presented as three journal articles, and conforms to length and style requirements for submitting research reports to education journals. The first article is an extensive literature review on the topic of caring pedagogy. This article provides a theoretical foundation and categorizes extant empirical research in the following categories: understanding caring pedagogy (defining and measuring), developing caring characteristics in individuals, developing caring communities, and developing caring in unique contexts. The second and third articles report findings of a qualitative study exploring caring pedagogies in an online high school. The second article examines teacher and student participants' experiences with caring pedagogies in the technology-mediated context. The third article, based on research findings, provides a model for caring that may be used for making technological choices with the purpose of creating and nurturing caring pedagogies. This article provides an argument encouraging researchers to look beyond presence and immediacy, to consider caring as a valuable supplement to the literature.

A literature review is not included in the appendices because article one is an extensive literature review. Appendix A consists of a detailed description of the methods used for article two and three.

This dissertation format contains four reference lists. The first three reference lists contain references included in the three journal-ready articles. The fourth list includes all citations used elsewhere in the dissertation.

ARTICLE 1

Teacher, Do You Love Me? A Review of the Research on Caring and Nurturing Pedagogies

Abstract

Education has been criticized for a disproportionate focus on the technical aspects of teaching with less focus on its "human" aspects. Consequently, many researchers and theorists have expressed a need to discuss the role that care plays in education. In this paper, we briefly consider moral development and ethical care theories pertinent to teaching and learning. We synthesize the research findings related to defining and measuring caring pedagogy, developing caring characteristics in teachers and students, caring in classroom communities, and caring in unique and challenging contexts. Finally, we argue for more research on developing valid instruments for measuring caring pedagogy and examining under-explored contexts such as higher education and technology-mediated learning. We conclude that caring pedagogy provides a powerful means to student learning improvement, one meriting the greatest attention by educators and education researchers.

Introduction

One of the most complex questions defying education scholars is the concept of what makes a good teacher. Research suggests that expert teachers know their subject matter and how to teach it to others (Grossman, Wilson, & Shulman, 1989; Hamachek, 1969); they have pedagogical content knowledge (Shulman, 1986, 1987). Nonetheless, education has been criticized for disproportionately focusing on the technical aspects of teaching, with little or no focus on its "human" aspects, which attend to students more holistically as moral beings and members of larger democratic communities (Fenstermacher, 1990; Fenstermacher & Richardson, 2010; Hamachek, 1969).

Part of caring for students holistically is accepting that education is a moral endeavor in which teachers have a moral obligation for practicing a caring pedagogy (Goodlad, 1984, 1990; Goodlad, Soder, & Sirotnik, 1990; Noddings, 1984). In addition to moral obligations, evidence indicating that teacher-student relationships can impact student-learning outcomes (Muller, Katz, & Dance, 1999) and intellectual development (Goldstein, 1999) has heightened interest in the examination of caring pedagogies. Caring teacher interactions have also been shown to improve students' self-efficacy, retention, evaluations of teachers, and affect towards the content (Benson, Cohen, & Buskist, 2005; Lewis et al., in press; Teven, 2007). Consequently, many theorists (Fenstermacher, 1999; Goldstein, 1999; Kerr, 1996, 1999; Noddings, 1984) have expressed interest in discussing the role that care plays in teaching and learning. Researchers have also expressed a need for "more interpretive kinds of analyses that reveal the actual pedagogical and cognitive strategies teachers use to make caring familiar in diverse classroom settings" (Lewis et al., in press).

In order to better understand caring pedagogies, we first consider theoretical foundations in moral development and ethic of care theories that pertain to caring pedagogy. We then discuss the contributions of Noddings as well as other theorists. Finally, we synthesize the research on caring pedagogies as they relate to care theory, including examples of practical outcomes of caring pedagogy and recommendations for future research. In this review, we use the term "caring pedagogy" to refer to strategies that foster care and nurturance in education. Another goal of this review is to clarify and amplify the meaning of this term in education.

Theoretical Foundations of Caring Pedagogy

Believing a strong teacher-student relationship can have a positive effect on students is not a novel idea (Montessori, 1912; Juvonen, Wentzel, & Weiner, 1996; Wentzel, 1999; Martin & Dowson, 2009; Oldfather, 1993). Many distinguished pedagogues throughout the ages (i.e., Socrates, Pestalozzi, Dewey, Montessori) have constructed pedagogies of care in which they practice listening and dialogue, prioritize student's wellbeing, apply democratic and moral principles, and create caring environments (Saran & Neisser, 2004; Pestalozzi, 1898; Dewey, 1916; Montessori, 1912). The ethic of care is a more recent theoretical framework developed in the second half of the 20th Century. This care-centered moral development theory evolved out of questions and ideas fundamental to other moral development theories, based on justice and equality, of the time. In order to understand how the ethic of care came to be considered in education, it is important to review the history of moral education leading up to the emergence of the ethic of care. In this section, we review the theoretical literature first on moral education as it relates to the ethic of care and second on ethic of care theories that relate to caring pedagogies. Our purpose is not to provide an extensive review on moral education theory or the ethic of care,

but rather to provide a context for understanding our research synthesis related to caring in the teaching and learning process.

Moral education. Moral education literature suggests, in part, that values and ethical aspects are ever present in making educational choices (Damarin, 1994; Damon, 1992; Fenstermacher, 1990; Thomas, 1990; Watson & Ashton, 1995), and thus moral education is an inevitable part of schooling and an imperative in promoting a healthy democratic society (Ball & Wilson, 1996; Dewey, 1909; Dewey, 1972; Elbaz, 1992; Fenstermacher, 1990; Goodlad, et al., 1990; Goodlad, et al., 2004; Hansen, 1998; Olson, 1992; Purpel, 1997; Tom, 1984; Watson & Ashton, 1995). However, despite great consensus that education is inherently moral, America has witnessed erratic variations in approaches to moral education and the theories that undergird those approaches (McClellan, 1999).

For example, many developmental psychologists (i.e., Piaget, Maslow, Freud, Kohlberg) have believed that moral development is a progression of stages in moral awareness and development (Banks, 2009). Building on Piaget's theories, through empirical research conducted largely on males, Kohlberg postulated that human beings progress through six stages of moral development—from self-centeredness in childhood to increased moral maturity based on justice and equality (Larrabee, 1993). This approach differed from the character education view that moral education consists of teaching a variety of virtues, and the values-clarification view that there is no single, universal ethical solution to moral dilemmas (McClellan, 1999).

Kohlberg's theory of moral development provided a context for the ethic of care in various ways. First, in claiming that there exists a universal ethical solution to moral dilemmas based on the principles of justice and equality, Kohlberg's ethic of justice provided a context or opportunity for an alternate view, the ethic of care. Second, Kohlberg's methodology—an

empirical examination of moral development in the context of specific moral dilemmas—was the technique used by Gilligan (1982) to empirically examine and develop the ethic of care. Third, the ethic of justice provided a context for the ethic of care in the field of education. In his later work, Kohlberg (1975) promoted Dewey's ideas of a democratic society and the importance of applying the moral approach to education in "just communities"—communities that promote justice and equality. Although the ethic of care does not focus on principles of justice, the contribution of Kohlberg's ideas about justice in the field of education has been substantial and influenced later care theory development.

  Ethic of care. In the early 1970s under Kohlberg's guidance, Gilligan began examining moral conflicts in real-life scenarios. Her research in examining real-life moral conflicts contrasted with Kohlberg's examination of hypothetical moral conflicts. Through her examination of women facing difficult decisions related to abortion, Gilligan criticized Kohlberg for studying largely privileged male populations and for considering male's justice-centered view of development superior to women's care-centered view (Gilligan, 1982). Gilligan's work demonstrated that there is a moral orientation that is less related to justice, equality, autonomy, and abstract reasoning, and more related to care, concern, empathy, and connecting with people. She identified a three-stage progression of moral growth leading from selfishness to complete interconnection in relationships (Gilligan, 1982). Her work has been influential in the fields of psychology, philosophy, social theory, history, literature, law and jurisprudence, nursing, professional ethics, therapy and counseling, and pedagogy, to name a few (Larrabee, 1993). However, Gilligan has been criticized for associating gender with her theory, challenging the justice approach to ethics, and basing findings on anecdotal evidence, small samples, and findings impossible to reproduce (Larrabee, 1993). She addressed these criticisms by explaining

limitations in Kohlberg's measurements of moral development and stating that, although empirical, her study was not statistical and only claimed to present a different approach (Gilligan, 1993).

Noddings (1984) built on the work of Gilligan and others (Buber, 1965; Mayeroff, 1971; Murdoch, 1970; Weil, 1977) by philosophically examining the concept of care in depth and applying it to the field of education. Thus, theories on the ethics of care in education did not emerge until the latter half of the 20th century (Noddings, 1984), as America sought to revive moral aspects in the theory and practice of education (McClellan, 1999). The ethic of care provided an alternate approach to moral reasoning that was meant not to displace the ethic of justice "or to divide men and women into opposing camps" (Noddings, 1984 p. 6). Rather, it was meant to

> show how great the chasm is that already divides the masculine and feminine in each of
> us and to suggest that we enter a dialogue of genuine dialectical nature in order to achieve
> an ultimate transcendence of the masculine and the feminine in moral matters. (p. 6)

Similar to Gilligan, Noddings asserted that the ethic of care, while rooted in the female perspective, is applicable to males and that both males and females alike can take the role of one-caring or cared-for (Gilligan, 1986; Lyman, 2000; Noddings, 1984).

The approach to moral education grounded in ethics of care focused more on students' needs than their behavior (Noddings, 2008). According to Noddings, caring "provides the motivation for us to be moral" (1984, p. 5) and "learning what it means to be cared for is the first step in moral education" (2008, p. 168). Other contributions to the ethic of care have included careful examinations of empathy (Hoffman, 2000; Slote, 2007; Noddings, 2010), autonomy (Clement, 1996), happiness (Noddings, 2003), trust (Baier, 1985), motherhood (Ruddick, 1989),

fidelity (Noddings, 1986), and various definitions of the aims of caring by other theorists in various contexts less related to pedagogy (Tronto, 1993; Walker, 1998; Bubeck, 1995; Clement, 1996; Held, 2006). For example, the ethic of care has been examined in the context of political science (Tronto, 1993), caring for the disabled (Kittay, 2011), nursing (Watson, 2006), social work (Wærness, 2006), and global reform (Held, 2006).

Caring Pedagogy

Although we find the work of other care theorists useful and worthy of consideration, Noddings' contributions to the ethic of care have been particularly useful because she (1) applied the ethic of care to the context of education, (2) was rigorous and descriptive in how she examined and philosophically dissected the complexity of the concept of care, and (3) considered the perspective of the cared-for. Education is largely a relational process occurring in a context rather than in abstraction, and in a relation rather than in isolation; as such, Noddings' theory on care is appropriate. Noddings' book, *Caring* (1984), is particularly useful, as she defines care, care components, caring teaching (see Table 1), and care in practice as it applies to pedagogy. For these reasons, we have chosen to focus on Noddings' perspective in this review.

Noddings' care theory. It is very difficult to understand, research, and describe care accurately (Beck & Newman, 1996; Mayeroff, 1971; Noddings, 1984; Rogers & Webb, 1991). For example, caring is not always observable and largely depends on preliminary motives (Noddings, 1984, 2008) and does not constitute permissiveness or a tolerant attitude (Noddings, 1984; Baugh 2006). In fact, "it requires different behaviors from situation to situation and person to person. It sometimes calls for toughness, sometimes tenderness. Some situations require only a few minutes of attentive care; others require continuous effort over long periods of time" (Noddings, 1992, p. xi–xii).

Care in education does not mean the same as "caregiving" or service to the public. To care in education is not simply to give attention to detail (as in being careful) (Noddings, 2008; Goldstein, 2002a). In education, because a caring act may sometimes lead to adverse effects (such as physical or psychological harm inflicted on students by teachers meaning to do good), caring should not be seen solely as a behavior, but rather a relation with others, which leads the one caring to commit to actions in the others' behalf (Noddings, 1984). In fact, implementing caring pedagogy often requires educators to forego ideas or actions that may normally be thought of as caring in other contexts (Noddings, 2008).

Although Noddings (1984) stated that care is complex, she did provide general principles. In her theory, engrossment is a focus of attention or receptivity converging with the other to feel what they feel. Motivational displacement is "regard, desire for the other's well-being" (1984, p. 19) that leads to an action. Finally, a caring encounter is characterized by reciprocity (Noddings, 1984, 2001), or the act of the cared-for accepting and acknowledging the action of the one-caring even if a caring action or attitude is not returned (Noddings, 1984). In this way, reciprocity provides a way for caring to energize the giver as well as the receiver (Noddings, 1988). Although essential, considering the cared-for's contribution has made it more difficult to conduct rigorous research in education because it requires researchers to listen to the additional voices of the cared-for in relationships and include reciprocity as a criterion in finding evidence of care (Noddings, 2001).

Table 1

Summary of Noddings' Theory of Care

Definition	Seeing the other's reality as a possibility for one's self, or a "displacement of interest" (Noddings, 1984, p. 14)	
Domains	Care for self Care for intimate others Care for distant others Care for non-human beings Care for plants Care for objects and instruments Care for ideas	
Components of care	Engrossment	Not projection, not planning, not analyzing, not empathy, but receiving someone into yourself so to see and feel with the other. A complete acceptance of the other.
	Motivational displacement	A shift that "compels the one-caring to give primacy, even if momentarily, to the goals and needs of the cared-for" (Goldstein, 1998, p. 246). It is not enough simply to respond to the cared-for; the response must be shaped by the process of "stepping out of one's own personal frame of reference and into the other's" (Noddings, 1984, p. 24). This leads to an action.
	Reciprocity	An acknowledgement of caring by the cared-for.
How to teach	Modeling	Exemplifying a caring disposition to students.
	Dialogue	Providing an open negotiation of ideas.
	Practice	Creating opportunities to practice caring with others.
	Confirmation	Acknowledging and confirming the ethical ideal of each student.
Practical aspects to foster an ethic of care	Lateral moves	Shifting between the receptive mode (reception to student) and the thinking (finding a solution to a problem) mode.
	Continuity	Uninterrupted periods of time in which students engage in the same place, with the same people, with a continuous purpose and curriculum.
	More dialogue	Continuity has the potential of increasing dialogue.
	Themes of care	An organization of the curriculum around the domains of care.
Complexities	Unobservable	Caring actions may be unobservable.
	Context dependent	Caring is context dependent.
	Adverse effects	Caring actions may sometimes cause adverse effects.

One of the main duties of educators "must be nurturance of the ethical ideal" (Noddings, 1984, p. 6). Noddings (1988) suggested four components for applying the ethic of care to moral education: modeling, dialogue, practice, and confirmation. Modeling nurtures students by teaching them how to care for and receive care from others. Dialogue that is open and tolerant of others' views requires time to establish and has two purposes: (1) to give students power in decision-making, and (2) to allow teachers and students to become familiar with each other (Noddings, 1992). Practice in caring should take place with those who are good at caring for others. Opportunities for students to engage in group work can provide such experiences, but it is the quality of the encounters that matters (Noddings, 1988). Confirmation is a powerful way of nurturing students by showing them an attainable ideal self despite their present reality. Noddings (1984) stated, "what we reveal to a student about himself as an ethical and intellectual being has the power to nurture the ethical ideal or to destroy it" (p. 193). In order to confirm we must be receptive to and in dialogue with the student (Noddings, 1984).

Noddings (1984) also offered practical suggestions for caring in education. It is not practical to believe that one can remain in a state of perpetual caring attentiveness, or engrossment. There are times when it is necessary to come out of the "receptive mode" and enter a thinking mode (1984, p. 35). Noddings called this shift "lateral moves" (p. 36) and emphasized the importance of returning to the receptive mode or else risk losing the people we care for and the ability to care.

According to Noddings' ethic of care, caring environments are characterized by smaller groups or classes, less competition, respect for diversity in interests, more dialogue, a curriculum that accommodates students' unique needs and interests, and less rigidity in rules and punishments (Noddings, 1995, 2008, 2001). Other practical aspects involve allowing students

enough time, or continuity, to become increasingly familiar with people, places, and the curriculum. Flexibility in the curriculum and increasingly competent teachers are also an imperative if educators are to address individual student needs (Noddings, 2008). Nevertheless, of foremost importance is placing the student as a priority and nurturing the student-teacher relationship in "receptivity, relatedness, and responsiveness" (Noddings, 1984, p. 2).

Criticisms. Noddings' work has been criticized by feminists and non-feminists for limitations related to its presenting care as an unequal relationship that does not empower women (Hassan, 2008; Hoagland, 1990; Houston, 1990) and neglecting strangers in the public domain (Hoagland, 1991). Perhaps the harshest and most constructive criticism raised is that Noddings' theory overlooks issues of justice (Card, 1990; Katz, Noddings, & Strike, 1999) and makes claims of providing an alternative ethic to the masculine view (Hoagland, 1991).

Rather than discredit Noddings' theory, these criticisms have helped amplify and improve the ethic of care. In addressing criticisms related to the oppression of women, Noddings and others have expressed that, in the act of caring for others, the one caring can be autonomous, increasingly competent, and capable of meeting his or her own needs (Clement, 1996; Noddings, 1990a). Noddings (1990b) also explained that, although care is often an unequal relationship, it allows for interchangeability of roles and thus requires that the cared-for provide energy to the relationship through acknowledging caring acts. Responding to criticisms in addressing distant others and strangers in the public domain, Noddings (2010) modified her original ideas to include the possibility of caring for others at a distance. Finally, in response to criticism, Noddings (1990a) has continually asserted that the ethic of caring applies to males and females and that care is not a gender-specific phenomenon. Noddings' (2002) later work explained that

"justice itself is dependent on caring-about, and caring-about is in turn dependent on caring-for", thus the ethic of justice is an extension of the ethic of care (p. 6).

Other contributions. This section describes contributions made to the theory of care that are specific to the teaching and learning process. These contributions clarify what it means to practice a "caring pedagogy."

Mayeroff's (1971) definition of care as virtues such as devotion, hope, trust, humility, honesty and courage also greatly influenced Noddings' work. Mayeroff stated, "to care for another person, in the most significant sense, is to help him grow and actualize himself" (1971, p. 1). Similarly, Noddings defined caring as seeing the other's reality as a possibility for one's self, or a "displacement of interest" (Noddings, 1984, p. 14). However, Mayeroff's (1971) approach differed from Noddings' (1984) by defining care, not as a relation examined from the perspective of the cared-for, but in terms of virtues or qualities examined from a third-person perspective. Both Noddings and Mayeroff view caring as a relation that includes a contribution by the cared-for and the carer.

In addition to Mayeroff, others have contributed to our understanding of caring in education. Clement (1996) examined the concept that caring and autonomy together are more powerful than caring alone. Slote (2007) agreed that caring accounts for the cared-for's autonomy, therefore autonomy and caring can coexist. Held (1993) and Slote (2007) amplified Noddings' (1984) concept of care to the possibility of caring about strangers and people physically at a distance.

Nurturing pedagogy. The discourse on moral aspects of education has been ongoing, with Goodlad as a major contributor. In 1974 Goodlad led the Study of Schooling initiative to understand the purpose of school institutions (Goodlad, 1984). Researchers found that there was

"a disconnect" between K-12 schools and teacher preparation programs and institutions were not united in their purposes. The decision was then made to launch a second study (Goodlad, 1990) that revealed many teachers were unable to articulate why they had gone into teaching (Goodlad, 1990). Based on the findings, Goodlad attempted to establish a common moral grounding on which to begin a renewal of teacher education programs, asking the question, "what are schools for?" The answer, according to Goodlad, was four-fold: (1) to enculturate the young in a social and political democracy, (2) to provide access to knowledge for all children and youth, (3) to practice a nurturing pedagogy, and (4) to ensure responsible stewardship of schools (Goodlad, J. I., Mantle-Bromley, C., & Goodlad, S. J., 2004, p. 28-32).

After Goodlad developed the term "nurturing pedagogy," others elaborated on the term (Banks, 2009; Baugh, 2006; Fenstermacher, 1999; Hansen, 2001, Mantle- Bromley, 2004; Rodgers & Raider-Roth, 2006) and argued that an important part of practicing a nurturing pedagogy is teacher self-evaluation and improvement (Kerr, 1999).

Child Development Project. The Child Development Project (CDP) is a comprehensive school program that has some commonalities with cognitive development theory and the caring approach. The CDP overlaps with the caring approach in emphasizing close relationships between teacher and student, and student-to-student (Solomon, Watson, & Battistich, 2001) and has provided a strong understanding of many of these theoretical attributes in actual practice.

Purpose of this Review

Caring is important in teacher education (Hayes, 2003; McNamee, Mercurio, & Peloso, 2007; Rogers & Webb, 1991), elementary education (Goldstein & Lake, 2000; Watson, et al., 2003), science education (Richie & Rigano, 2002), middle school contexts (Wentzel, 1997), at the university level (Hawk & Lyons, 2008; Peel, 2000), and other contexts. Numerous studies

indicate that a caring teacher can positively impact learning outcomes, motivation, and social and moral development (Battistich et al., 1997; Cornelius-White, 2007; Witt, Wheeles, & Allen, 2004; Wilson, 2006). Studies that have examined what it means to be a good teacher have included caring (Hamachek, 1969; Perry & Rog, 1992). Moreover, researchers have found that moral behavior begins internally with moral reasoning, motivation, social understanding, and empathy (Miller, Eisenberg, Fabes, & Shell, 1996; Asendorpf & Nunner-Winkler, 1992; Underwood & Moore, 1982; Roberts & Strayer, 1996) and that children who are morally developed have close trusting family relationships, are encouraged to reason and participate in family decisions, have specific responsibilities within the family unit, understand the reasons for rules, and have less power assertive punishments (hitting, yelling, withdrawing love, withdrawing privilege) from adults (Bowlby, 1953; Solomon, Watson, & Battistich, 2001).

The volume of research and theoretical contributions to the theory of care indicate a need to clarify the meaning of the term "caring pedagogies" and understand how to implement a caring pedagogy in different contexts. Thus, in our review of the literature, we seek to examine the definition of the term caring pedagogies and synthesize relevant research helpful to understanding its application.

Methodology

Inclusion Criteria

We established three selection criteria for this review. First, we examined articles that were relevant to the teacher student relationship in the field of education, which includes studies that are useful in defining the term "caring pedagogies." Second, only articles that clearly articulated a theoretical foundation were included. For example, most studies included in this review used Noddings' (1984) care theory or Goodlad's nurturing pedagogy (Goodlad, J. I.,

Mantle-Bromley, C., & Goodlad, S. J., 2004) as a theoretical foundation. This includes the theory and research based Child Development Project studies that promote caring pedagogies. Third, studies were excluded if they used inappropriate research methods such as inadequate control of confounding variables, inadequate sample sizes, interpretative bias, or an incomplete description of methods.

Search Procedures and Categorization Strategies

Our review process consisted of gathering articles according to the inclusion criteria and then grouping articles into the categories of moral education, theory, practical approaches, and research. In the initial phase, the following key words were used to search in major educational databases (ERIC, PsychInfo, and ProQuest): 'caring', 'caring pedagogy', 'nurturing', 'nurturing pedagogy', 'caring AND education', 'nurtur* AND education', 'nurturing AND education', 'nurturance AND education', 'immediacy', 'teacher-student relationship', 'teacher-student', 'nurturant pedagogy', 'pedagogy of nurture', 'Child Development Project (CDP)', and 'developmental discipline'. We additionally searched within prominent journals and the citations of seminal articles. We also included books by prominent educators in this area (Battistich, et al., 1997; Noddings, 1984, 1992; Watson, 1998). Due to the considerable number of articles found, research based on the frameworks created by these prominent scholars was given precedence, including Noddings' theory of care (Buber, 1965; Goldstein, 1999; Hoffman, 2000; Noblit, 1993; Slote, 2007) and articles related to the CDP (Watson, 2008; Watson, Ecken, & Kohn, 2003).

In the second phase of this review, we grouped the articles into categories (moral education, theory, practical approaches, and research) and continued our search through the references of these articles. The final collection of articles included 13 on care using Noddings' framework for empirical research, 24 other articles mentioning Noddings, 29 articles on care in

education (not referencing Noddings), 17 articles related to nurturing pedagogy, and 15 articles written by CDP researchers.

Literature Review

We begin by synthesizing this research on caring and nurturing pedagogies (hereafter called "caring pedagogy") and discussing the following categories: understanding caring pedagogy (defining and measuring), developing caring characteristics in individuals, developing caring communities, and developing caring in unique contexts. Table 2 provides a brief summary of the articles and themes we will discuss.

Factors Affecting Caring Pedagogies

Some studies are useful in confirming care theories (Ferreira, Bosworth, & Smith, 2002; Montgomery, 1991) or describing components of care related to Noddings' theories (Crigger, 2001; Goldstein, 2002a; Newberry, 2010; Tappan; 1998). The principle aim of many studies has been to describe, through phenomenology or ethnography, caring and how it is manifested in specific contexts. For example, Noblit (1993) conducted an ethnography that illustrated how one caring teacher exemplified the ethical use of power, or moral authority in the service of her students. Montgomery (1991) demonstrated that caring with an orientation towards achievement is qualitatively different from caring primarily focused on connection and affect. Other researchers confirmed that caring is not only behavioral, but an ethic guiding behavior and decision-making (Ferreira, et al., 2002; Pratt, 2002). Other studies illustrated and defined care in various contexts (Alder, 2002; Aultman, Williams-Johnson, & Schutz, 2009; Banks, 2009; Eaker-Rich & Van Galen, 1996; Frelin, 2007; Hayes, 2008; Lyman, 2000; Nowak-Fabrykowski & Caldwell, 2002; Pitman & Zorn, 2000; Prillaman, Eaker, & Kendrick, 1994; Tosolt, 2008).

Table 2

Contributions by researchers

Topic	Researcher	Contribution
Defining caring pedagogy	Montgomery, 1991	Montgomery (1991) caring in the nursing field that is achievement oriented is qualitatively different from caring that is primarily focused on connection and understanding.
	Ferreira, Bosworth, & Smith, 2002	Caring is not only a behavioral activity, but an ethic that guides behavior and decision-making.
	Johnson, 2009	Examines teacher support, belongingness, and school culture. Students at caring communities have greater sense of student belonging.
	Newberry, 2010	Recognizes a cycle of 1) Appraisal—information gathering "getting-to-know-you", 2) Agreement—setting of boundaries and patterns of interaction, 3) Testing—exploration of the boundaries, and 4) Planning in creating quality relationships.
	Crigger, 2001	Six themes that precede engrossment: need of the cared-for or the one-caring, physical sensory cues from the cared-for, similarities between the cared-for and the one-caring, projection of attributes to the cared-for, emotions experienced by the one-caring, and reciprocity.
	Goldstein, 1999	Uses Noddings' ethic of care to expound on the relational aspects of Vygotsky's zone of proximal development (ZPD). Caring relationships are essential for intellectual growth to occur.
	Tappan, 1998	Describes how modeling, practice, dialogue, and confirmation promote development. Noddings' and Vygotsky's work used in combination can enhance the ideology of moral education.
	Banks, 2009	A study that examines students' perspectives of what makes a caring teacher. Findings indicate that caring teachers meet students intellectual, social, and affective needs.
Defining caring pedagogy-race	Cha, 2008	Examines the application of Noddings' theories in the Korean culture.
	Patterson, Gordon, & Price, 2008	A four year qualitative study in three elementary schools to examine the African American experience in caring communities.
	Thompson, 1998	Challenges care theorists and educators to consider the issue of "colorblindness" in existing theories of care. Thompson (1998) explains that theories of care that claim to be universal and only consider a particular culture are incomplete and promote "colorblindness". Colorblindness is

		a problem because it ignores other races and ignores the issue of racism. She extends a call to theorists and practitioners to consider other races and cultures in theory and practice.
	Beauboeuf-LaFontant, 2002, 1999	Examines particular attributes of female African-American educators that relate to the implementation of an ethic of care.
	Milner, 2007	Examines particular attributes of African-American male students that relate to the implementation of an ethic of care.
	Tosolt, 2010	A study of 50 middle school students reveals that African-American students and females were more likely to value caring pedagogy that aimed to increase achievement.
	Walker & Archung, 2003	Examined similarities between African American students' experiences in US segregated education and experience of Black South African students in apartheid education.
	Walker & Snarey, 2004	Demonstrates that race is an important factor in moral development. Encourages the revision of care theories to accommodate the experience of all ethnic groups.
Illustrating caring pedagogy	Goldstein, 1998	Illustrations of caring in the early childhood education context are presented in the form of narratives. They are analyzed in terms of engrossment, motivational displacement, and reciprocity.
	Noblit, 1993	An ethnography of an elementary education caring teacher, which serves to demonstrate that caring is not an oppressive activity but one that yields power.
	Watson, Ecken, & Kohn, 2003	Study of an elementary education teacher who uses developmental discipline to meet students needs for competence, belonging, and autonomy.
	Hawk & Lyons, 2008	A study with MBA students illustrating examples of caring and non-caring pedagogy.
	Teven, 2001	Examine specific behaviors (immediacy, assertiveness, responsiveness) that communicate caring to students from the student perspective.
	Teven, 2007	Examine the effects of teacher behaviors and misbehavior on students' perceptions of the teacher and the course.
	Bulach, Brown, & Potter, 1998	Survey three groups of teachers and find five behavior categories that contribute to caring in communities.
Measuring caring pedagogy	Huffman, 2005	An instrument (CARES) that measures care pedagogy in student teachers by examining apprehension, confirmation, disposability, motivational displacement, non-rule bound behavior, and receptivity.
	Nowak-Fabrykowski, 2007	An instrument that uses the Praxis, Noddings' components of care (modeling, dialogue, practice, and confirmation), and Mayeroff's virtues to measure care in student teachers.

Developing caring pedagogy in individuals-teacher education programs	McNamee, Mercurio, & Peloso, 2007	McNamee, Mercurio, & Peloso (2007) provide a review of the literature of care and practical applications in early childhood education teacher preparation programs.
	Freeman, Swick, & Brown, 1999	Freeman, Swick, & Brown (1999) describe a caring curriculum for teacher preparation programs.
	Lake, 2003; Tinkler, 2006; Yusko, 2004	Descriptive case studies on implementing modeling, dialogue, practice and confirmation in teacher education programs.
	Rabin, 2008	How narratives can help novice teachers reflect and improve on their caring pedagogy.
	Rogers & Webb, 1991	The Caring Study- curriculum construction, modeling, dialogue, reflection, confirmation, practice and continuity as essential in teacher preparation.
	McLaughlin, 1994	Study of the intent to care vs. the need to control in student teachers.
	Goldstein, 2002a, 2002b	Cornerstones of Caring model—commitment to an ethic of care, passion for learning, intimacy-in-community— a new approach to teacher education
Developing caring pedagogy in individuals-administrator	Lyman, 2000	Lyman (2000) illustrates and clarifies the roles or caring administrators and leaders.
	Starratt, 1994	Administrators should incorporate an ethic of justice (action based on recognizing injustice and inequality), an ethic of critique (questioning inequalities), and an ethic of care (compassion for others).
	Courtney & Noblit, 1994	Narrative of a principal enacting caring pedagogy. Illustrates the stuggles between aesthetic caring and authentic caring.
Developing caring communities	Furman, 2004	Furman (2004) proposes "an ethic of community" in which moral agency is a constituent of the society and not the individual.
	Bennett, 1998	Examines the culture of nine effective schools. Caring pedagogy is essential in caring communities.
	Green, 1997	Summarizes the literature on nurturing pedagogy and examines the differences between perceived and existant nurturing pedagogy according to three schools.
	Mitchell, 1990	Examines factors that determine success of nine urban high schools. Caring communities were found to be one of the success factors all nine high schools had in common.
	Shann, 1990	Provides indicators to help schools assess caring communities. The most effective schools implemented an ethic of care.
	Sickle & Spector, 1996	Grounded theory in the science classroom that demonstrates that caring communities foster relationships between student-teacher, student-student, student-content and teacher content.

	Ferreira, Bosworth, & Smith, 2002	An evaluation of caring pedagogy and school culture at one urban school. Provides practical suggestions for creating caring communities.
	Noblit, Rogers, & McCadden, 1995	Field notes and interviews for two elementary education teachers indicate that caring pedagogy can support academic and social development.
	Strike, 2003	Warns against risks involved in creating communities.
	Bruce & Stellern, 2005	Reports on the Caring Community Model and positive effects of implementing the program.
	Enomoto, 1997	Examines the compatibility between an ethic of care and an ethic of justice within a school community.
	For studies related caring communities and the CDP see Table 3.	
Caring in unique contexts-Technology-mediated	Goldstein & Freedman, 2003	Examines the use of e-journals in a pre-service teacher course. Raises questions relevant to caring pedagogy in online education.
	Gleaves & Walker, 2006	Created the Caring Model in an effort to translate Noddings components of care—practice, modeling, dialogue—to the online context.
	Delacruz, 2009	A conceptual article on caring pedagogy related to teaching art in online settings.
Caring in unique contexts-other	Kendrick, 1994	A conceptual article on special education and the care images of teachers of handicapped.
	Pitman & Zorn, 2000	A collection of narratives on caring pedagogy based on studies done with at-risk students
	Tebben, 1995	A mixed-methods study with 119 college students investigated the effect of student, teacher and classroom factors on student satisfaction and success in a physiology course. Satisfaction depended on the community created by teacher caring.
	Smith, 2000	A description of how higher ed faculty can and do create caring communities.

Some studies sought to describe the precursory factors necessary for care to develop. Newberry (2010), for example, found through observations, teacher interviews, and field notes with one 8-year-old, male, second-grade student that the teacher-student relationship followed a cycle of (1) appraisal—information gathering, or "getting-to-know-you;" (2) agreement—setting of boundaries and patterns of interaction; (3) testing—exploration of the boundaries; and (4) planning—reflections and improvements made for the sake of the relationship. The steps

happened repeatedly, sometimes simultaneously, and can help define care in education. In another study, Crigger (2001) examined engrossment through interviews with 13 undergraduate nursing students (8 women, 5 male) and found six themes that facilitate engrossment: need of the cared-for or the one-caring, physical sensory cues from the cared-for, similarities between the cared-for and the one-caring, projection of attributes to the cared-for, emotions experienced by the one-caring, and reciprocity.

Besides precursory components of care, other researchers have examined specific behaviors that communicate caring to students (Banks, 2009; Bulach, Brown, & Potter, 1998; Hawk & Lyons, 2008; Teven, 2001; Teven, 2007). Hawk and Lyons (2008) researched graduate students' perspectives on what faculty behaviors best communicated caring and non-caring and found that getting to know students, involving students, providing constructive feedback, and creating a caring environment fostered an ethic of care. Teven (2001, 2007) also examined students' perceptions of teacher caring and found that the implementation of caring pedagogy (empathy, understanding, and responsiveness) increased students' perceptions of teacher competence and student affect for the course. Teven determined that immediacy, assertiveness, and responsiveness are essential in students' perceptions of teacher caring.

Others examined teacher caring behaviors, but from the teacher perspective. Goldstein (1998) qualitatively examined the rationale of a caring teacher and how academic opportunities were balanced with relational experiences. Using narrative, this study looked for evidence of Noddings' components of care (engrossment, motivational displacement, meeting student needs) in the experience of an elementary school teacher during three months. Goldstein provides concrete examples of caring and concludes that caring is not simply a feeling but involves action and is rooted in the intellectual and moral domain. Furthermore, conflict and tension may arise

between student and parent demands and what the teacher deems best for the student (Goldstein, 1998). Bulach, Brown, and Potter (1998) determined five behavioral categories in their research that contributed to caring communities: ability to reduce anxiety, willingness to listen, rewarding appropriate behavior, communicating friendship, and appropriate use of criticism. This emphasis on the relationships between teachers and students can help with behavioral issues. Watson (2008), for example, explained that strategies to address misbehavior should not be based on reward-punishment systems but should aim to "build the teacher student relationship" (p. 183).

In addition to research on the affective nature of caring, researchers have conceptualized an intellectual component of care pedagogy as well. Goldstein (1999) and Tappan (1998) stated that caring relationships support a student in the zone of proximal development (Vygotsky, 1978) and thus give Vygotsky's theory a "moral compass" (Goldstein, 1999, p. 668). Lewis et al. (in press) used student perceptions of teacher caring to examine the relationship between caring and Hispanic student confidence and achievement in math. This study examined the differences in effects between Hispanic English learners (n=657) and Hispanic English speakers (n=799) in one school district in Southern California. This study used standardized tests common to California to measure English language proficiency and mathematics achievement, as well as a five-point Likert scale to measure teacher caring and student math self-efficacy.

Using multilevel modeling, Lewis et al. (in press) found that higher student perceptions of teacher caring improve math self-efficacy in students, which improves math achievement scores. They also found that student perceptions of teacher care impacted math achievement in the English learner population more powerfully (z=6.153, p<.001) than the math achievement of English speaking Hispanic students (z=6.086, p<.001), influencing much more than self-efficacy in English learners. This study suggests that caring pedagogies make a greater performance

impact on students who are struggling academically. More research is necessary to corroborate these findings and to examine the relationship between the ethic of care and academic achievement.

Effects of race on caring. Various studies have determined caring to be dependent on race and gender (Hayes, Ryan, & Zseller, 1994; Tosolt, 2008; Tosolt, 2010). Two qualitative studies (Cha, 2008; Patterson, Gordon, & Price, 2008) used Noddings' components of care to examine the effects of race on caring. Cha's (2008) study on five Korean middle school students and two Caucasian teachers explored the diverse perspectives and interpretations of caring across cultures. Cha found that some theories of care can be modified to better suit other cultures. For example, the components of dialogue and confirmation, when applied in the Korean culture, should consider the element of respect. The researcher concluded that the influence of the home, culture, and interests of each individual are important factors to consider in caring approaches.

Similarly, Patterson et al. (2008) conducted a four-year qualitative study at three elementary schools that represented a wide demographic and geographic diversity. This study examined how caring was enacted and the consequences of caring on African Americans due to "colorblindness" ideology (Thompson, 1998). Their findings illustrated the tensions and limitations that exist in culturally diverse caring communities. They determined that cultural factors should be considered in the formation of theories of care and educational reform.

Researchers have also examined the African American experience in education pre-segregation through examining historical accounts and research (Walker, 1926; Walker, 2005; Walker & Archung, 2003; Walker & Snarey, 2004) and specific attributes that African American students and educators possess and exercise in education (Beauboeuf-LaFontant, 1999, 2002; Milner, 2007; Walker, 2000; Tosolt, 2010). These and other accounts (Eaker-Rich & Van Galen,

1996; Valenzuela, 1999) have caused researchers to explore revising their theories of care to account for the minorities' experiences (Thompson, 1998; Walker & Snarey, 2004). While some studies have examined questions related to race-specific differences in care (Cha, 2008; Patterson, Gordon, & Price, 2008), other studies have created instruments that facilitate defining care in different racial groups (Hayes et al., 1994). Much work remains to be done, however, in exploring care pedagogy within other cultures and minority groups, including the examination of generational effects of culture in caring

Effects of gender on caring. Although gender was a basis for criticism of Noddings' theory of the ethic of care, it has been less examined through research. Some studies have examined gender differences in contexts outside education and found in general women are more likely to employ care-based moral reasoning (Badger, Simpson Craft, & Jensen, 1998; Skoe & Gooden, 1993). More specifically, in the context of the teacher-student relationship, Tosolt (2010) examined the caring perceptions of fifty (27 African American, 19 Caucasian, 2 Asian, 1 Hispanic), fifth-through eighth-graders in a Midwestern school. Thirty-two students were female and 18 were male. Participants were asked to rate 26 behaviors and 25 opinion statements as evidence of a teacher's level of caring on a four-point Likert scale. Through factor and Chi-square analyses, Tosolt (2010) found that female students were more likely to perceive behavior related to academic achievement as caring and male students were more likely to perceive interpersonal behaviors as caring. In an ethnographic study with sixth graders, Hayes et al. (1994) found that female students valued teacher behaviors that were related with warmth and poise, while male students valued teacher behaviors related to classroom management. Both studies suggested that there are gender differences in student perceptions of teacher caring (Hayes, et al. 1994; Tosolt, 2010). More studies examining caring pedagogies with male teachers

and students are necessary to illustrate ways in which males communicate and perceive care.

In regards to defining caring pedagogies, extant research indicates that caring is a phenomenon related to context, culture, and gender. Thus, there are many contexts and cultures in which caring has yet to be phenomenologically examined. Specific components of Noddings' theory can also be examined in more depth. For example, Noddings' engrossment has been examined to a great degree in the nursing field (Crigger, 2001), but must also be examined in the field of education. Additionally, rather than examining the teacher and student perspective separately or creating instruments that predefine teacher behaviors as caring, studies should account for and value student perceptions of teacher caring. Although caring ethicists may argue that caring cannot and should not be defined through specific behaviors, research indicates that there are pedagogies such as listening, responding, empathizing, reducing anxiety, and understanding that have been found to define a caring relationship between student and teacher. Although there is vast research in pedagogies that have been found to be important in strengthening the student-teacher relationship, many of these pedagogies have not yet been examined in the context of Noddings' theory of care.

Measuring Care

Researchers have examined the complex challenge of how to measure care (Huffman, 2005; Brubaker, 2005; Nowak-Fabrykowski, 2007), and some researchers have created instruments that measure care-based morality outside of education (Skoe & Gooden, 1993). Others have focused on measuring care in preservice teachers (Huffman, 2005; Nowak-Fabrykowski, 2007). In a rare quantitative study, Huffman (2005) examined the strength of the caring relation between student teachers and students. The study (n=142) consisted of a two-part Caring Actions and Responses within Encounters Survey. Part A of the survey used Noddings'

constructs to discern how student teachers manifested care theory in action, and Part B examined students' responses. Instrument validity was established through factor analysis, internal consistency reliability, item analysis, inter-rater reliability, and subscale correlations. The 5-point self-reported rating scale was later compared to supervisors' and collaborating teachers' reports. The researchers found that student teachers were more confident in identifying their own caring pedagogy than in recognizing students' responses. Factor analysis demonstrated that apprehending, confirmation, disposability, motivational displacement, non-rule bound behavior, and receptivity are interrelated and interdependent variables in caring. Recommendations for future care measurement instruments included (a) allowing more precision by extending the 5-point scale to a 9-point scale, (b) providing more description through the use of a rubric, (c) considering gender differences, and (d) including inaction as a form of caring.

Nowak-Fabrykowski (2007) also created an instrument to measure care in early childhood education preservice teachers based on Noddings' caring components (modeling, practice, dialogue, and confirmation) and Mayeroff's virtues (hope, trust, honesty, and courage). Aligned with the teachers' Praxis assessments, Nowak-Fabrykowski found that student teachers excelled at certain caring aspects (monitoring understanding, modeling, and feedback) but struggled with others (reflection, content presentation, and organization). Thirty-four teachers tested this instrument for content validity to assess how well it measured caring dispositions. However, it did not include data from the students who were taught by the student teachers.

Other researchers have created instruments that may be considered less robust because 1) they were less related to Noddings' theory of care, 2) focused primarily on behavior ratings, 3) have not established instrument validity, or 4) examined teacher/student perceptions independent of each other (Hayes et al., 1994; Lewis et al., in press; Teven, 2007; Tosolt, 2010). Future

research should strive to provide more robust instruments to measure care by 1) examining the measurement of care in contexts beyond preservice education, 2) providing descriptive rubrics specific to the particular context of learning, 3) considering gender and cultural differences, 4) considering less observable effects of caring in addition to observable caring actions, and 5) gathering data from students and teachers.

Developing Caring Characteristics

A large number of studies have examined how care is developed in teacher preparation programs (Lake, 2003; Rogers & Webb, 1991; Tinkler, 2006; Yusko, 2004), administrators (Courtney & Noblit, 1994; Lyman, 2000; Starrat, 1994), and elementary education students (Rabin, 2009). McNamee, Mercurio, and Peloso (2007) and Freeman, Swick, and Brown (1999) reviewed the literature on care in early childhood education teacher preparation programs and found that it is imperative for would-be caring teachers to learn about care. Descriptive studies have examined how care has been implemented through Noddings' (1984) components—modeling, dialogue, practice, and confirmation (Lake, 2003; Tinkler, 2006; Yusko, 2004). For instance, Lake (2003) discussed how caring pedagogy is implemented in a student-teacher course with 20 early-childhood preservice teachers. Faculty created a course structure centered around modeling, dialogue, practice and confirmation. For example, e-journals helped students' dialogue and course readings challenged student views on caring and promoted critical thinking. Teachers practiced caring and provided opportunities for students to do the same in class and in the field. The authors found that field observations and evaluations by students' supervisors were important to help students feel confirmation.

Yusko (2004) conducted a case study analysis of field notes, observations, and interviews on the thinking and practices of a supervisor with a group of preservice teachers during their

practicum experiences. In this case study, the supervisor modeled through listening, created practice and dialogue opportunities for her students, and confirmed her students during their teaching experiences by using their language in conversation and planning activities that were specific to their needs. She created opportunities for practice and dialogue by sharing power in decision making with the students. In a similar study, Tinkler (2006) concluded that transparency in teaching preservice teachers is important.

Others have examined specific strategies to teaching preservice teachers how to understand and implement an ethic of care. Rabin (2008) studied two teacher preparation courses and found helping novice teachers reflect on stories of moral dilemmas they had with their students helped the teachers further understand care pedagogy. McLaughlin (1994) examined the relationship between control and care in three student teachers and found that attempts to acquire control over a class can limit caring. Control can be a healthy part of creating a caring environment but should not sacrifice personal relations between students and teachers. This and other studies reported student teachers' ideas of caring are sometimes incorrect and ill-informed (Goldstein & Lake, 2000; McLaughlin, 1994).

Other studies have examined the components necessary in teacher preparation programs to foster an ethic of care. The Caring Study (Rogers & Webb, 1991) reported ethnographic data from eight classrooms that suggested curriculum construction, modeling, dialogue, reflection, confirmation, practice and continuity are essential in teacher preparation programs. Goldstein and Freedman (2003) took a more practical approach by collecting data using electronic dialogue journals in a teacher preparation course while explicitly teaching about and with an ethic of care. From this, Goldstein developed the Cornerstones of Caring model, which included a commitment to an ethic of care, passion for learning, and intimacy-in-community. These could

represent a new approach to teacher education (Goldstein, 2002a, 2002b). Other initiatives that have implemented caring practices into teacher education programs include the National Network for Educational Renewal (NNER), which promotes nurturing pedagogy in teacher education programs (Goodlad et al., 2004).

The development of caring pedagogy has also been examined in administrators and school principals (Lyman, 2000; Starrat, 1994). Courtney & Noblit (1994) concluded that aesthetic caring (caring about achievement) can be useful in the service of authentic care by illustrating through narrative how one principal fostered caring pedagogy.

In contrast to these studies, surprisingly very little research has examined how care develops in students (Newberry, 2010; Rabin, 2009) or how caring continues to develop in in-service teachers (Rabin, 2008; Sickle & Spector, 1996). In one study, Rabin (2009) examined care in an elementary education school of 75 students with an emphasis on the element of practice. The study examined students' interpretations about caring related to cultural differences after participating in a play and how this experience strengthened their ideas and relationships. Despite Rabin's research finding that students in this setting learned to care, there is a need for further work on developing caring within in-service teachers and students.

Developing Caring Communities

Besides looking at the personal aspects of care, there has been an increase in research on the school as a caring community in which relationships and responsibilities are given priority over rights and rules (Ferreira et al., 2002; Johnson, 2009; Lewis, Schaps, & Watson, 1996; Sickle & Spector, 1996). Research has shown that an ethic of care is an important factor in schools that meet students' affective, social, and intellectual needs (Bennett, 1998; Green, 1997; Lewis et al., 1996; Mitchell, 1990; Noblit, 1993; Shann, 1990).

Some studies have examined the qualities of schools in which educators are particularly caring in their pedagogical approaches (Ferreira, et al., 2002; Sickle & Spector, 1996). Through a grounded theory study that examined three caring teachers, Sickle and Spector (1996) found that caring teachers build quality relationships with their students but also foster relationships between students, teacher-content, and students-content. However, when students were asked what constitutes a caring teacher, only aspects of the teacher-student relationship were mentioned. This is a misperception that should be overcome with students, as Green (1997) found that teacher-student relationships are only one aspect of caring communities. Caring communities also consider students' self-concept, the schooling environment, and professionalism of the faculty, staff, and administration (Green, 1997). School leadership and organizing teachers into teams can play an important role in establishing and improving this type of school culture (Ferreira et al., 2002).

Other research has examined caring communities through the implementation of specific programs and initiatives (Goodlad et al., 2004; Hansen & Wentworth, 2002). Bruce and Stellern (2005) proposed the Caring Community Model (CCM) for fostering a caring pedagogy in teacher education through implementing twelve principles: humanity, self-awareness, self-wellness, modeling, consequences, conflict resolution, problem solving, reflection, feedback, goal setting, non-verbal behavior, and acceptance. A study done on this model's implementation indicated an increase in students' interpersonal skills, sense of belonging, personal awareness, and ability to connect with others.

The Child Development Project (CDP) is one of the most rigorous research initiatives that has implemented and examined practical applications of caring pedagogy in communities (Battistich et al., 1997; Battistich, Solomon, Watson, Solomon, & Schaps, 1989; Solomon,

Battistich, Watson, Schaps, & Lewis, 2000). The CDP began in the early 1980s as an initiative to influence children socially, ethically, and intellectually by meeting students' needs for competency (ability to be capable), autonomy (self-direction), and belonging (feeling love and respect) (Deci & Ryan, 1985, 2002). The main goal of the CDP is to "help their schools become 'caring communities of learners'" (Battistich et al., 1997, p. 140). The program consisted of five components: cooperative learning, developmental discipline, activities to help others, pro-social values, and promotion of social understanding. CDP research is especially rigorous because 1) its aims are consistent with research done on cognitive-developmental theory, and each component of the program is supported theoretically and empirically, 2) the study is longitudinal with relatively large sample sizes of students from a variety of demographics, and 3) the methodology consisted of a mixed-methods approach that was thoroughly articulated and accurately measured program effects taking into consideration teacher and student responses (Battistich, Watson, Solomon, Schaps, & Solomon, 1991).

The first large-scale implementation and research done on this program began in 1982. In 1997, Battistich et al. described four major conclusions based on previous research up to that point (Battistich, Schaps, Watson, & Solomon, 1996; Battistich, Solomon, Kim, Watson, & Schaps, 1995; Battistich et al., 1989; Solomon et al., 2000). First, not all schools are equally caring communities, but teachers and students are in agreement in their perceptions of caring within communities. Second, teachers and students can experience positive outcomes in school communities. Third, there are activities that lead to increased sense of community. Fourth, the CDP increased sense of community and other related outcomes (students' intrinsic motivation, concern for others, acceptance of other groups, commitment to democratic values, sense of autonomy, sense of efficacy, and decreased drug use and delinquent behavior). The researchers

recommended that future research give importance to the specific underlying values that are at the core of communities and that this be accompanied with an awareness that communities can lead people to conflict rather than care. They called for more research to clarify the relation between academic achievement and students' socioeconomic status and the relation between students' sense of community and students' sense of influence on the school. Their research was mainly in the elementary schools, but more research that examines differences in caring communities at the secondary level is also needed. They also stated a need for research directly assessing students' autonomy, belonging, and competence (Battistich et al., 1997; Solomon, Battistich, Kim, & Watson, 1997). This research also indicates that caring communities are complex entities that require a variety of specific contributions from students, teachers, administrators, and parents. More recently, Battistich (2008) concluded that it is preeminently important that researchers establish a consensual definition of communities and that the system be used as the unit of analysis for examining and implementing developmental approaches. Summaries of key CDP studies are found in Table 3.

Table 3

Contributions by CDP researchers

Battistich, Solomon, Watson, Solomon, & Schaps, 1989	Presents a detailed explanation and findings of the design of the first study (N=6 elementary schools).
Watson, M., Solomon, D., Battistich, V., Schaps, E., & Solomon, J., 1989	Presents an explanation and findings of the design of the first study (N=6 elementary schools). Presents a rationale for the CDP and details on implementation.
Battistich, Watson, Solomon, Schaps, & Solomon, 1991	Explains the CDP initiative and its corresponding components in detail.
Solomon & Battistich, 1993	Provides a concise summary of the larger study (N=24 elementary schools).
Battistich, Solomon, Kim, Watson, & Schaps, 1995	Reports findings on the larger study (N= 24 elementary schools) done by the CDP.
Battistich, Schaps, Watson, & Solomon, 1996	Reports the effects of implementing the CDP and increased sense of community in reducing drug use and delinquency.
Lewis, Schaps, & Watson, 1996	Relates to the work done by Watson, Ecken, & Kohn (2003). Provides practical guidelines of caring pedagogy for educators taken from the CDP.
Battistich, Solomon, Watson, & Schaps, 1997	Summarizes the first study and the second larger study done by the CDP including findings related to school, teacher, and student variables. Examines the correlation between student's sense of caring community and social, intellectual, and moral student outcomes. Findings indicate positive correlations.
Solomon, Battistich, Kim, & Watson, 1997	Focuses on teachers' practices related to students' sense of classroom as community.
Battistich & Hom, 1997	Examines the connections between sense of school as community and student misbehavior.
Watson, 1998	Provides a rationale and practical suggestions to fostering caring pedagogy.
Solomon, Battistich, Watson, Schaps, & Lewis, 2000	Provides an in-depth explanation and findings of the larger study conducted by the CDP.
Solomon, Watson, Battistich, 2001	Provides a broader view of the CDP within the literature on moral development.
Watson, Ecken, & Kohn, 2003	Provides examples and vignettes based on the experience of one elementary school teacher's implementation of the CDP and the Developmental Discipline approach.
Watson, 2008	Explains the developmental discipline within the broader framework of moral development.
Battistich, 2008	Discusses the origins of the CDP, summarizes each of the studies and program effects, and offers final conclusions based on a review of the studies. Offers empirical limitations of these studies.

Note: This table does not represent an exhaustive list of all the research done on the CDP. It is a collection representative of the most important studies conducted.

There are challenges in creating caring school communities. Excessive emphasis on achievement can create tensions and constraints (Noblit, Rogers, & McCadden, 1995). Research has shown that cognitive functions can be impaired in environments that generate overwhelming amounts of fear and stress (LeDoux, 1996). In addition to achievement, implementing an ethic of justice that focuses on equality and rights may also impede creating caring communities. Enomoto (1997) concluded that schools usually negotiate ethics of caring and justice rather than implement them in complementary ways because an ethic of care may seem in opposition to one that implements rules and prioritizes students' rights. Research has shown that it is possible to implement caring approaches on a communal level and that such an approach can have powerful and positive effects.

Applying Care in Unique Contexts

Some researchers have explored the application of caring pedagogy in unique contexts such as technology, special education, and higher education.

Technology-mediated contexts. In studies on technology-mediated contexts, much research has been done on presence (Garrison, Anderson, & Archer, 2000) and immediacy (Mehrabian, 1971) with little or no examination of the theories of care. Goldstein and Freedman (2003) conducted a study in which 17 preservice teachers (16 females, 1 male) participated in submitting e-journals (10 weekly entries with teachers' responses) to help teachers enhance their understanding of the concepts of care through modeling, practicing, dialogue, and confirmation. The researchers found that preservice teachers' understanding of care did not improve through the e-journals, but they were instead frustrated at their students' parents and the realities of teaching. In addition, researchers believed that the instructor's responses to the e-journals "enacted caring partially and sporadically" (p. 10) and preservice teachers were frustrated when

the instructor dictated the topic of the e-journals to be exclusively about caring. These findings

prompted the researchers to raise questions about how well Noddings' theories fit into online

contexts (Goldstein and Freedman, 2003).

However, Gleaves and Walker (2006)'s study on how practice, modeling, and dialogue

take place in technological contexts to promote caring seems to contradict Goldstein and

Freedman (2003). Gleaves and Walker used Noddings' three components of caring to describe

specific actions that could constitute caring in face-to-face interactions and then translated these

criteria to digital interactions. This Caring Model came from studies done by prominent

advocates of caring (Goldstein, 1999; Noddings, 1992; Mayeroff, 1971; Weinstein, 1998) and

offered indicators of each component of caring and who participates in each component. In

Gleaves and Walker's study, instructors of preservice teachers modeled caring and used email,

wikis, blogs, databases, chat tools, and video to allow students opportunities for dialogue on

critiques of their work and alternate viewpoints. The researchers found that as the instructors

made efforts to care for their students through technology, students accepted roles of caregivers

and nurturers. Technology extended opportunities of care and was useful in helping meet

students' intellectual and affective needs.

Because of the apparent contradiction with Goldstein and Freedman (2003), further

research is necessary to define the limitations of technology, if any, in developing and

communicating caring pedagogy. The theory of care would seem to have much to offer both

teachers and students in the technological context (Damarin, 1994; Holmberg, 2007) and may be

useful in amplifying the research in presence and immediacy that has been prevalent in this area

of research literature, or in addressing issues of student drop-out rates in online learning. Very

little empirical research has been done to date on caring theories in technology-mediated

contexts despite the fact that online settings may be optimal research opportunities due to technological affordances that allow teachers to connect with students individually and exclusively and our ability to keep accurate records of such interactions.

Other contexts. Other contexts in which caring pedagogy has been examined include higher education (Brown, 1995; Bulach et al., 1998; Goldstein, 2002a; Hawk & Lyons, 2008; Hewett, Kochniuk, Dalling, Batacan, & Brower, 2002; Kahne & Westheimer, 1992; McCarthy, Pretty, & Catano, 1990; Smith, 2000; Tebben, 1995), special education (Kendrick, 1994), and at-risk education (Pitman & Zorn, 2000), although work in these areas is still being developed.

Suggestions for Future Research

In reviewing these articles, we found that there are four main areas where the research on caring pedagogy could be expanded: (1) development of valid instruments for measuring caring pedagogy; (2) examining components of care theory that have not been researched empirically; (3) increased focus on research in specific learning contexts such as technology-mediated environments, higher education environments and multicultural contexts; and (4) relating care to other previously researched constructs.

Measuring care. Future research should create more valid instruments tailored to specific populations and contexts by making use of what past studies have designed and recommended. Instruments should not only assess the caring dispositions of the one-caring, but should also assess caring from the perspective of the cared-for. More valid instruments to measure care in various populations (i.e., males, other races) and contexts (besides teacher education) are necessary. These instruments may help to satisfy the need for more empirical research in caring pedagogy by answering these questions: is caring a function of professors' attributes, is caring a function of discipline, what student populations benefit most from care

pedagogy, and does caring have a limit in terms of improving student outcomes (Meyers, 2009)?

Examining untested caring principles. Future research should also extend into testing theories of care pedagogy that have not been fully explored. However, it is important for researchers not to oversimplify this complex phenomenon. Future research could consider the relationship between cognitive and interpersonal aspects in the zone of proximal development; care in cross-cultural contexts; the relationship between continuity and dialogue; how educators decide when and how to make lateral moves between engrossment and problem solving; examining the effects of caring communities in secondary-age students and adults; examining autonomy, belonging, and competence from the students' perspective; and care in technology-mediated contexts.

Examining care in specific contexts. More studies should examine components of care theories in a variety of subjects and mediums (technological and non-technological contexts), including a focus on context-specific applications of these components (modeling, practice, dialogue, and confirmation). Most of the studies done on Noddings' theories of care are examples of how these constructs were developed within early childhood teacher education programs. Although early childhood is a context in which nurturing and care are central components of students' development, there is a need for topics of care to be extended to other educational arenas (i.e., higher education, technology-mediated education, multicultural programs, special education, and secondary education). Studies on other aspects of Noddings' care ethic (i.e., continuity, reciprocity, adverse effects of care) should also be considered. More research on the ethic of care in the technology-mediated context could improve efforts in creating online communities and increasing student retention. This research could complement work in presence and immediacy by looking beyond behaviors and mediums to antecedents such

as engrossment and the student's role in the caring relation.

Integrating care research with other comparable topics. Theories of care have the potential of amplifying the foundations of many already widely accepted constructs in education. The topic of care is related to many other topics (i.e., motivation, development, dialogue, reflection, immediacy, learning communities, academic achievement, collaborative learning, teacher presence, teacher expectations) that have already been rigorously studied. Connections through research should be made from theories of care to these other studies. For example, care pedagogy has been conceptualized as a relational aspect of teacher presence (Rodgers & Raider-Roth, 2006). Further research could clarify the connection between these constructs. Alternatively, topics that have been widely accepted can aid in translating these caring theories into practice. Although achievement is not a priority in the ethic of care, part of this research effort should include looking more closely at the relationship between student outcomes and the ethic of care.

Conclusion

Caring pedagogy is the act that results from a symbiotic caring relation between student and teacher in which learning happens through modeling, dialogue, practice, and confirmation at the individual and community level. To nurture students, educators must first understand the components of care. Caring is not a feeling or a single act, but a relation characterized by receptivity, actions informed by motivational displacement, and acknowledgment of caring acts (Noddings, 1984). An ethic of care can help educators nurture students socially, intellectually, and morally at the individual and community level. Decisions based on an ethic of care should be considered along with the ethic of justice to achieve a balance between both and ensure that neither is being suppressed. The research literature demonstrates that a caring approach provides

a powerful means to improvement, one meriting the greatest attention by teachers and education researchers, although continuing research on topics identified in this review will be useful and necessary.

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ARTICLE 2

Caring in a Technology-Mediated Context of an Online High School

Abstract

The objective of this study was to describe how caring is experienced in the technology-mediated context of the Open High School of Utah, an online charter high school. Two female teachers, two male students, and two female students were interviewed. Each participant was interviewed three consecutive times regarding their experience of caring teacher-student interactions. Data were analyzed using Interpretative Phenomenological Analysis (IPA). Discovered themes were then organized into three super-ordinate themes: engrossment, motivational displacement, and reciprocity (Noddings, 1984). Results suggest that caring interactions are possible in the online context. Data reported show that caring teachers at the Open High School of Utah (OHSU) are receptive to student needs and execute caring actions in the student's best interest. Additionally, evidence indicates that student reactions play an important role in caring in the online medium.

Keywords: caring pedagogy, engrossment, motivational displacement, reciprocity

Introduction

To care is one of the most fundamental parts of the human condition (Gilligan, 1982; Heidegger, 1962; Noddings, 1992; May, 1969; Mayeroff, 1971). Specifically, caring has been defined as "a connection or encounter between two human beings—a carer and a recipient of care" (Noddings, 1992, p. 15). Related to education, Noddings' (1984) theory defines caring as a complex phenomenon consisting of the role of the teacher to be receptive to the student and act in the student's best interest, and the role of the student to react to the teacher's caring actions. This relationship is significant in the field of education where interactions are constantly occurring between teachers and students.

Caring is a phenomenon that has been studied mostly in face-to-face educational settings (Battistich, Solomon, Watson, & Schaps, 1997; Goldstein, 1998; Isenbarger & Zembylas, 2006; Noblit, 1993; Pomeroy, 1999; Rossiter, 1999; Teven, 2007). Perhaps care theories have been studied less in technology-mediated contexts because these settings have often been characterized as impersonal educational spaces that seldom emphasize a caring relationship between instructor and student (Damarin, 1994; Walther, 1992). Nevertheless, scholars have argued that it is possible to form well-developed interpersonal relationships online (Baym, 1995; Walther & Burgoon, 1992). This study investigated how caring pedagogy is experienced through the use of information and communication technologies in online education.

Literature Review

Although many philosophers have examined the concept of care (Bartky, 1990; Buber, 1965; Gilligan, 1982; Held, 2006; Kittay, 1999; Mayeroff, 1971; Ruddick, 1983; Slote, 2007), Noddings' (1984) theory on ethics of care is one of the most prominent theories of care in education. Noddings' (1984) conceptualized care as a phenomenon in which the giver (the one

caring) is responsible for approaching the receiver in an open, non-selective, receptive attitude. This attitude cannot be defined as a specific set of behaviors or action criteria, but rather a state of consciousness, defined as *engrossment* (Noddings, 1984; Noddings, 1992). During engrossment, the one-caring strives to experience the world from the cared-for's perspective. The teacher receives the student without judgment and looks at the subject matter with the student through the student's eyes (Noddings, 1984). Once the one caring has experienced this receptive mode, he experiences *motivational displacement*, or an energy that drives him to execute actions in the best interest of the other (Noddings, 1984). The receiver (the cared-for), although not responsible for caring, is responsible for *reciprocity*—acknowledging the caring acts by receiving, recognizing, and responding (Noddings, 1992). This symbiotic process on behalf of the student and the teacher "maintains and enhances the relatedness that is fundamental in human reality and in education" (Noddings, 1984, p. 59-60).

Experimental studies suggest that caring plays a central role in learning. Caring can increase student motivation and retention (Frymier & Thompson, 1992; McArthur, 2005). In other studies, caring led to less disruptive behavior and better learning outcomes (Baker, Terry, Bridger, & Winsor, 1997; Hasenauer & Herrmann, 1996; Lindmark, Marshall, Riley, & Strey, 1996), and increased student affect for the course and for the course instructor (Wilson, 2006; Teven, 2007).

In spite of the numerous studies on caring, few researchers have qualitatively examined the concept of care in the K-12 context from the perspective of both the teacher and student (Johnson 2009; Cha, 2008; Watson, Ecken, & Kohn, 2003). While some researchers have focused on the teacher's experience (Ferreira, Bosworth, & Smith, 2002; Newberry, 2010; Noblit, 1993), others have focused on the student perspective (Banks, 2009; Tosolt, 2010). Still

fewer researchers have empirically examined Noddings' components of care (Goldstein, 1998; Cha, 2008; Nowak-Fabrykowski, 2007).

Moreover, the ethic of care has been underrepresented in the information and communication technology literature. It has been reported that 27 states run online virtual schools with annual growth rates between 20–45% and that the current demand for online options outweighs the available opportunities (Evergreen Education Group, 2009). This increase in online course enrollments has created a need to ensure the quality of courses offered.

In distance education, research on teacher-student interactions (i.e. presence and immediacy) has provided some insight to improving the quality of the relational aspect of online learning. According to this literature, one defining characteristic of successful learning in distance courses are teacher-student interactions that decrease psychological distance between teacher and student (Moore, 1989; Picciano, 2002; Swan, 2002; Wanstreet, 2006). Research on presence and immediacy shows that increased teacher presence and behaviors that reduce psychological and physical distance between student and teacher (Mehrabian, 1971)—non-verbal cues, increased dialogue, humor, self-disclosure—contribute to increased interpersonal interactions online (Arbaugh, 2001, 2007; Baker, 2010). These behaviors are credited for increasing student motivation, active learning and participation, and positive learning outcomes (Du, Havard & Li, 2005; Lam, Cheng, & McNaught, 2005; Sargeant, Curran, Allen, Jarvis-Selinger, & Ho, 2006; Tu, 2005). Thus, research has demonstrated that increasing teacher presence and immediacy in the technology-mediated context can have a positive effect on student learning outcomes.

While there exists much research on presence and immediacy, and despite the evidence that such approaches have proven beneficial in the face-to-face context, researchers have seldom

used theories of care to examine online education. Although research related to presence and immediacy has made major contributions to understanding the learning process online, research on caring focuses primarily on the relational aspect of learning. For this reason we suspect that presence and immediacy may be enhanced through implementing a care-centered approach to teaching in technology-mediated settings. Thus, there is a need to examine student-teacher online interactions through a care-centered approach.

In addition to examining care as it relates to students' learning outcomes and performance, caring should also be examined for the sake of its moral implications. This latter argument assumes that the moral work of teaching is worth studying for its own sake; not simply because there is an increase in student learning. Noddings (1984) and Gilligan (1982) recognized caring as a powerful motivator of morality and a practical approach to ethical decision-making— when we care, we are motivated to act morally. The concept of care is of significant importance in the field of education since many regard education as primarily a moral endeavor (Campbell, 2003; Fenstermacher, 1990; Goodlad, 1984, 1990; Goodlad, Soder, & Sirotnik, 1990; Hansen, 2001; Noddings, 1988; Oser, Dick, & Patry, 1992). A care-centered approach to moral education is worthy of examination because caring enhances both the teacher and the student on moral grounds—teacher competence increases as a teacher strives to make the best choices that lead to enhancing the character, or "ethical ideal" of the student (Noddings, 1984). Although there exists much research related to moral aspects in education, much less is known about the moral work of online learning and teaching, particularly as they relate to care theory. Therefore we are qualitatively examining one aspect of that moral work: how caring is experienced in the technology-mediated context of an online high school.

Methodology

The current research focus on considering the meaning of participant experience by using Interpretative Phenomenological Analysis (IPA) (Smith, 1996) to develop themes relevant to caring in this context. The principal aims of IPA are to allow researchers to (a) understand and describe the participants' experiences and (b) interpret those descriptions "in relation to a wider social, cultural, and perhaps even theoretical context" (Larkin, Watts, & Clifton, 2006, p. 104). IPA is well suited for this study because it emphasizes an idiographic approach—examining the participants' lived experience—as opposed to an abstract approach making meaning solely based on theory (Reid, Flowers, & Larking, 2005). This methodology also permits the use of Noddings' (1984) requirements of care—engrossment, motivational displacement, and reciprocity—in the interpretation of data.

Data Collection

Data consisted of two teacher cases and four student cases. The two teachers selected as cases for this study (Teacher 1 and Teacher 2) were a purposive sample of teachers who demonstrated exceptional caring attitudes in their practice as teachers in the online context during the past year at the Open High School of Utah (OHSU). The teacher cases were selected based on recommendations by the OHSU administration, the best available source for judging the quality of teachers at the school.

Student participants were recruited for this study based on recommendations by both of the teachers selected. More specifically, each teacher created two lists of four to five high school students, one list for males and one for female students, with whom they considered they have had a quality relationship. Teachers ranked the students from best quality relationship to least quality relationship. One male and one female student from the top of each teacher's list were

contacted to participate in the study. Student 1 (female) and Student 2 (male) correspond to Teacher 1; Student 3 (female) and 4 (male) correspond to Teacher 2.

A case study approach provided an in-depth understanding of the teacher and students' particular experience, generating rich, thick descriptions, allowing the teacher-student relationship to be the unit of study. Teachers with an exceptional caring approach and students who had participated in the caring teacher-student relationship were selected because this study aims to describe the construct of care when effectively achieved online.

Participants were interviewed on experiences they had in previous classes. All participants in the study were Caucasian—an important distinction to make since care has been determined to be a phenomenon influenced by culture (Thompson, 1998). Student participants' ages ranged from 12-18 and the sample represented both genders (male and female). Teacher participants were female.

All interviews were conducted from January to September 2011. Interviews were conducted using video conferencing technologies. Each participant was interviewed three times, following a three-stage thematic interview series initially proposed by Dolbeare & Schuman (Schuman, 1982). Teacher interviews lasted between 45-60 minutes. Student interviews lasted between 30-45 minutes. Each participant was interviewed using a semi-structured protocol that facilitated dialogue. The protocol was piloted and consisted of questions that were open-ended and designed to help participants express their views and experiences (See Table 1 and Table 2).

Data Analysis

Data were recorded and transcribed verbatim directly after each interview session. Transcripts were analyzed using the principles of IPA (Smith, Flowers, & Larkin, 2009). The first author read through each transcript without making annotations, and a second time making

initial annotations in the margins. During the third in-depth reading, the researcher began to thoroughly code each transcript independently, creating new themes as they appeared in the transcript. Once each transcript had been coded, the first author read through the list of all the themes and created a table with clusters of themes per interview. Once themes for each interview had been determined, a master-list with an organization of all interview themes was created, arranging themes in related clusters. Overarching themes were then identified that linked these clusters according to shared meaning. A final reading of each transcript suggested that the themes fairly represented the interview data.

Researchers sought to increase trustworthiness by satisfying four criteria—credibility, transferability, dependability, and confirmability (Guba, 1981). The current research began with a detailed research plan that was peer reviewed and refined to ensure adequate methods and a detailed description. Field notes and a reflexive journal were utilized to record descriptive and reflective notes throughout the research process, including progressive subjectivity checks that documented the development of assumptions and inquiry strategies. Member checks were conducted before and after data analysis to ensure accuracy in quotes and interpretations of participants' experiences. Peer debriefings served to refine the interview protocol, data collection methods, and analysis procedures. Two teacher-student cases were examined to provide triangulation of participant experience. Artifact data also served to triangulate interview data. A negative case analysis demonstrated that the identified themes were appropriate and an accurate reflection of participant experiences.

Limitations of the study include the small sample size and the lack of observation data, which were not practical to collect because of the online context of this study. Additionally, care theories have been criticized for promoting oppression and hindering women's autonomy

(Hassan, 2008; Hoagland, 1990). Although we acknowledge these perspectives, this study examined the female teacher experience in caring online because the teachers identified as caring were female. Further research may be conducted to examine similarities and differences in caring experienced in technology-mediated settings by male educators.

Findings

This data was analyzed using Noddings' (1984) care theory as a lens. In particular, the components of engrossment, motivational displacement, and reciprocity were useful in the interpretation of participant experiences in caring online. The themes that emerged from the analysis include shared perspective, continuous dialogue, vigilant observation, structuring learning environment, attending to students' individual academic needs, attending to students' wellbeing, and student reaction.

Shared Perspective between Teachers and Students

Both teachers expressed the importance of students knowing that the teacher is there— not in a general sense, but that the teacher is present at the time the student is working on the assignments. Furthermore, the teacher's presence was distinguished by the ability to "see" the student's project and synchronously work with the student. Shared experience enabled mutuality, or shared understanding between teacher and student.

One teacher explained how a shared experience can be achieved online:

[If] she's having trouble with something rather than just trying to explain it to her when she doesn't understand it, I can show her my computer screen and I can highlight things on it and point things out to her and draw things to explain it to her differently, that without that technology unless she was sitting in a room right with me I never would have been able to . . . teach her half the stuff that I have so far. (Teacher 1)

All participants stated the importance of the teacher working together with the student to complete difficult assignments. One student stated:

I kind of felt that, you know, really good because she's taking her time and kind of putting her attention towards my work and what I'm doing . . . . It's really nice to be able to talk to my teachers during a class, to do it during while you're doing a class. (Student 4)

According to the teachers, some of the most critical actions a caring teacher can take happen at the moment learning takes place. Through technology use both teachers achieved a shared experience in which the teacher is not only present but fully receptive, collaborative, and empathetic.

Continuous Dialogue between Teachers and Students

Teacher participants expressed that caring pedagogy at OHSU involved staying continually connected to students through dialogue using a variety of technology tools. During these exchanges teachers gathered information about the student and students sensed teachers' non-judgmental receptivity. Elements of dialogue included how often the faculty initiated dialogue, the clarity of the exchange, the promptness of the exchange, teacher accessibility, and teacher-student disclosure.

Initiation of dialogue. For students, one important indicator of caring seemed to be when their teacher initiated dialogue. One student said:

Her and some of the other teachers, like they call a lot and they email a lot and they always check in to see what's going on and those kind of things so you get to know them as more than just teachers . . . . I don't think they would be just calling and email just

because of their job unless they actually kind of cared if I got stuff done . . . . See, I

would say they care about me and the other students. (Student 2)

Both teachers described how the act of initiating dialogue is the first step in demonstrating that

they are ready and willing to receive students. Teacher participants explained that teachers at

OHSU set aside a minimum of four hours each day to initiate and maintain continuous dialogue

with students. During this time teachers refrain from engaging in design or assessment tasks

outside of direct dialogue, such as instructional design or grading. Teacher participants used

phones, email, twitter, chat/video technologies, and screen sharing tools to initiate and maintain

dialogue. Teacher 1 said:

If I'm not busy and I find nobody is contacting me I . . . start seeking out students whose

grades either need some help . . . . I Skype them or call them or email them . . . . So if I'm

not hearing from students I actively seek them out. (Teacher 1)

Teacher 2 agreed:

I'll check up on the kids all the time all day. Even if they don't have a question, I go

through my contact list and I'll just write them a quick note, "Hey, just want to check in

on you to see how you're doing today." (Teacher 2)

Teachers actively sought opportunities to connect with students rather than waiting for the

students to make the first attempt to connect.

Clarity. Other factors that improved the quality of the dialogue between student and

teacher were the clarity with which the teacher communicated and the level of attention the

teacher paid during these exchanges. One teacher explained how she was receptive to her

student:

I have one girl, . . . when we do an assignment we do it over the phone or on Skype and

I'll ask her a simple question, nothing complicated, . . . just a really simple open ended

question and then listen to what she has to say . . . and then reform, other follow-up

questions based on what she's told me . . . if [my phone conversation with her] goes three

hours over my office hours, I don't really care, because I want her to know I'm there to

listen to her . . . . And then our next conversation after that, I usually start by reviewing

some things that we talked about, making sure that she remembered everything that we

talked about. (Teacher 1)

This teacher was receptive to her student by listening and formulating questions to gain a more

complete understanding of the student's reality. Teacher 2 explained that she repeats the same

message using various mediums to ensure that students receive messages and understand them.

She explained the importance of being detailed and clear when sending messages in the online

context to avoid misunderstandings. Clarity in conveying and receiving messages with students

was of utmost importance to both teacher participants in order to gain an accurate understanding

between student and teacher.

The level of clarity achieved during dialogue with the student can also be informed by the

student's body language, tone of voice, and other expressions such as sarcasm and humor to

which the teacher needs to pay close attention. For this reason teachers expressed the importance

of using technologies with higher fidelity affordances. For example, one teacher preferred using

Skype over email. She said:

But if you're talking to them and they say "No. I don't have any questions." But their

body language is telling you something totally different then I can follow up and sort of

get it out of them what they really need help with . . . it's a lot more effective to do those

kinds of conversations over video conferencing than just email. (Teacher 1)

The affordances of specific technological tools used can contribute or detract from the clarity

that the teacher can achieve during an interaction. Generally, teachers expressed a desire to use

tools with higher levels of affordance to gain a more complete picture of the student and the

students' projects. For example, video and chat technologies were more useful to teachers when

they were trying to understand a student. Screensharing tools and tools that enabled collaboration

were more useful when they were seeking understanding of the students' projects.

Promptness. Teacher-student dialogue is also characterized by the rapid speed with

which teachers reply and provide support. Both teachers expressed that they try to get back to

students within 24 hours at most. Students highly valued the short amount of time they had to

wait to get help. All students mentioned the importance of promptness in teacher replies.

Students frequently mentioned that they felt like their teacher was not in a hurry and had time for

them individually. One student said:

I like the communication because I thought it was really convenient how I can just

instantly message my teachers or use the voice chat . . . . if you like had a question in the

real school you had to call your teacher knowing that they might not be there or you

would have to go all the way to the school to talk . . . . in my old schools I would ask my

teacher after class a question about an assignment and they wouldn't really give me any

detailed information because they didn't have much time to do that. (Student 4)

Students explained that the immediate support helped them feel like their teacher was readily

available and receptive to their individual concerns and needs, which made them feel like their

teacher cared for them.

Teacher 1 explained that it was important to promptly reply to students because they may forget their question or they may lose interest if they are not promptly supported in learning. Teacher 2 also explained that it was important to reply promptly when a student was in a state of anxiety to alleviate the burden of stress, and facilitate learning. The promptness of the interaction between teacher and student in the online context facilitated receptivity to students because it helped teachers capture an up-to-date reality of each student at a distance. It also communicated to students that the teacher had time to understand the student and the specific project he was working on.

Access to teacher. Teacher accessibility is another element of dialogue that increases teachers' ability to be receptive to students. Teachers at OHSU were readily accessible to the students and constantly communicated their accessibility. Teacher 1 stated:

> If you have any questions while you're taking it . . . before you take the test, while you're studying, you can call me anytime. You can email me anytime. You can send me a message over Skype. I'll be happy to review anything with you. (Teacher 1)

Student participants recognized this access to teachers as caring. When asked what she meant by stating that her teacher is nice, one student explained:

> When we were on the phone working with assignments I didn't really feel like she had to go right now. I felt like she had time to help me with the assignments. (Student 1)

Another student said:

> Oh. I love my teachers. They're always just there. And I always feel safe just calling them up on Skype . . . or sending them an email . . . . I wouldn't feel like that with other teachers really. It's just a different environment with the teachers here. (Student 2)

When teachers communicated that they were accessible to students, students felt respected and acknowledged. Communicating accessibility demonstrated to students that the teacher was willing to be receptive to them. Accessibility was also communicated through the teachers' attitudes. Students explained that their teachers were non-judgmental, willing to give them the benefit of the doubt, polite with their words, and eager to connect. This attitude communicated accessibility to students and a willingness of the teacher to receive them.

Teacher-student disclosure. Teacher-student disclosure helped teachers receive students by allowing teachers to become familiar with each student on a personal level. One student explained that during conversations her teacher asks her about her life before getting into the subject matter:

When we talk on the phone she'd ask me how my week was and if I had any plans for the week before we started doing our subject of working on our earth systems. (Student 1)

She explained that this helps her feel that her teacher cares more about her than the assignment. Both teachers explained the importance of engaging in dialogue on aspects of students' personal lives with the purpose of learning about each student's personality, culture, family, interests, and personal needs. Teacher 1 stated, "the more aware I am of the situation the easier it is for me to assess the overall picture."

Students also found it helpful to learn about their teacher. Student 2 explained:

I think I've gotten to know my teachers a lot better than at other places . . . at other schools . . . you're just another face in a classroom but here . . . you get to know your teachers more . . . and because of that I get like other types of experiences where I feel more comfortable asking my teacher for help on an assignment . . . (Student 2)

One student explained that his teacher (Teacher 2) created a get-to-know-you assignment in which students were asked to tell about themselves to others through online interactive presentations. Teacher 2 participated in this project by creating her own VoiceThread telling about herself. This student expressed that this type of disclosure on behalf of the teacher helped him feel like she cared about him.

Teacher 1 explained that when she engaged in personal dialogue, students seemed more willing to learn and engage in technology-mediated academic tasks. In the online medium, taking the time to become familiar with students without mentioning academics allowed her to lay a foundation for a relationship that facilitated learning. She recounted an experience with a student who struggled academically and refused any contact with her. Through engaging with him in conversations unrelated to school at a distance, he began to allow her to contact him and later teach him.

> We talked about what he did during his Thanksgiving holiday. We talked about what he likes to do in his free time. I just let him know basically that I wanted to get to know more about him as a person . . . just showing an interest in him. Not that, hey I'm just you're teacher and I need to bug you about failing my class but that I actually want to help you and that I care about you and making a personal connection. (Teacher 1)

This preliminary receptivity allowed teachers to connect with students to more effectively meet their academic needs.

Through dialogue, teachers in this study frequently initiated discussions, sought clarity in conveying and receiving messages, promptly responded to students, and communicated attentiveness and accessibility. Teachers also achieved a sense of familiarity and receptivity to

students through teacher-student disclosure. These elements of dialogue were indicators to students that teachers cared for them.

Vigilant Observation of Students

Both teachers demonstrated receptivity to students by observing online student activity. Part of being a caring teacher in the online context involved observing students' online activity to care for students' academic and personal needs. Observation included being aware of students' online status, staying informed of student reactions and indirect feedback through tools like Twitter and Facebook, and observing student interactions.

Teacher 1 stated that she looked at patterns of how many assignments a student had completed and how well he had completed them to decide how to respond to students who needed extensions on deadlines or special accommodations. Teacher 2 explained that she was always attentive to social networking tools, a source of indirect feedback, where students freely post opinions and comments useful for improving her strategies and instruction. Both teachers also explained that they were observant during direct instruction when using collaborative tools such as Google Docs and screensharing technologies.

Observations also helped teachers receive students more holistically—beyond academics to include personal wellbeing. Students agreed that a caring teacher is observant, beyond the immediate course content:

> I think a caring teacher knows whether something's bugging you and they ask about it or they see status updates and want to know what's going on from what you're doing to help yourself get out of a situation or they're just there to talk if you need somebody to talk to. Like kind of like um . . . a really good friend. (Student 3)

According to teacher and students participants, caring at OHSU involved teachers observing student activity online to meet student's academic and personal wellbeing needs. Through observation teachers were able to experience receptivity to their students' implicit needs.

Needs that Must be Addressed

The need to structure the learning environment. Often during interviews participants were asked direct questions about care but their responses led to dialogue related to the design of the learning environment. Researchers discovered in an indirect way that the design efforts a teacher puts into developing a course to address specific student needs is a way teachers show care and students experience care. Both teachers' caring actions began well before the course began, during the design of the learning environment. Related to caring pedagogy, participants mentioned instructional designs characterized by flexibility and multiple options. Participants also mentioned the use of resources created by the teacher were relevant and simplified to the students' level of understanding.

When asked how they knew their teacher cared about them, all student participants indirectly mentioned the courses' flexibility and student options. One student mentioned how he highly valued the flexibility of working at his own rate and planning his schoolwork around his personal schedule. Other students mentioned the flexibility in choosing how to complete an assignment. Most of the students mentioned the flexibility in deadlines and the ability to retake quizzes and resubmit assignments multiple times in an effort to improve their grade.

Teacher 1 explained:

I give them a lot of choice. If you want to do a simple Powerpoint presentation- great. If you're really creative and you want to write me a story about it, that's fine too. So, I give

them choice on how they can present what they learned as well. So not only are they

reading and learning about it in different ways, they also have choices about how they

want me to assess what they learn from that information too. (Teacher 1)

When designing assignments and courses, teachers provided students with options related to the

content of the assignment and the technology used to complete the assignment. Both teachers

mentioned the importance of giving their students choices as a way of encouraging creativity and

communicating care.

Students also valued the effort teachers made to create or select resources that were

relevant and simplified to their level of understanding. When asked how they knew their teachers

were caring, all four students interviewed explained that their teacher simplified the content and

presented it in a simplified and engaging manner. One student said, " . . . she would give me the

information in a way that makes more sense to me, which I found was really nice . . . (Student 4)

Both teachers explained how important it was to them to simplify the material and

present it in a way that would engage the students. Teacher 1 explained that the teacher who

occupied the position before her would simply copy and paste textbook text that was beyond the

student's level into the course. One of the most important parts of caring for her students

included rewriting all of the content in her own words to make it easier for students to

understand. This teacher explained that her courses were designed to accommodate students who

learn using a variety of learning styles. She stated:

I present content in a lot of different ways, so students can look it over and learn about it

and listen to it and read it however they need to until it finally sinks in for them and then

for assignments I also try to match those to students' learning styles. (Teacher 1)

She tried to infuse her design with visual and auditory components that offer students alternatives to the conventional text approach. Students explained that this teacher often created supplementary screencasts that accompany reading materials in the course and provided explanations that students found helpful.

Teacher 2 explained that using online open educational resources (OER), materials available online for use and reuse free of charge, enabled her to offer students simplified and relevant content. She explained that instead of spending time recreating every resource for her course, she prefers to use relevant resources that have previously been created by others and shared online. Once she had found the resources, she selected the best ones for her course by determining which resources aligned with state standards and were most engaging and relevant for her students. Using OER allowed her to engage students while using her time and resources more effectively. Overall, teacher participants demonstrated they cared through instructional designs that offered students options and incorporated resources that were simplified and relevant.

The need to attend to students' individual academic needs. Other caring actions that both teachers took at OHSU concerned students' individual academic needs. Teachers implemented caring actions during direct instruction by providing support that was tailored to individual student needs. Teachers explained that caring actions also involved learning to say no to students and giving students constructive feedback to help them improve their work.

All of the participants mentioned the importance of the teacher using technology to customize the instruction to meet the needs of each individual student. Teachers explained that the technology-mediated environment facilitates tailoring instruction to target varying levels of academic performance. One teacher shared one of the most rewarding experiences:

This one time where a student didn't really get something so I started drawing it out.

Rather than writing anything, just drawing on my pen tablet, on a word document, and

making arrows, doing all this crazy stuff. And the greatest moment was when the kid was

finally like "Oh, I get it. I finally get it. Like seeing that picture and how you did that

while explaining it really helped me." So . . . those kinds of things are great. (Teacher 1)

She explained that due to access to a variety of technology tools and the time she is allotted in

this context to teach students one-on-one, she is able to tailor instruction to students' individual

needs. One student explained that she struggled with math and her teacher provided support

tailored specifically to her needs that helped her succeed. She said:

I've always kind of struggled with math and when I got into the school I was in geometry

and I was scared . . . every time I had trouble . . . she took me through step by step until I

understood it so it was amazing . . . . It's an awesome school. By the time school here was

over, I felt like all my teachers were my best friends. (Student 3)

Teachers used their knowledge of students' technology preference and individual

learning needs to select the most effective tools for implementation during direct instruction.

According to the two teachers, these choices varied from student-to-student and required that

teachers posses a knowledge of each students' personal and academic needs.

The need to attend to students' wellbeing. Academic performance was not the only

indicator that concerned teacher participants. All of the participants mentioned the importance of

caring for the student beyond academic needs, to include general wellbeing. Particularly,

teachers mentioned interest in improving students' general wellbeing and quality of life by

learning about each student's personal interests and circumstance. Teacher 1 said:

I think it really is about that personal connection. Letting them know you're not just their teacher but you actually care about them and want to help them with whatever you can . . . . I try to find something that stands out about each kid . . . and then I'll use that each time I talk to them . . . so it's more than just school . . . their overall health, and wellbeing and attitude about themselves is more important than what they can tell me about ecosystems. (Teacher 1)

One student described his teacher's "non-teacher traits" help him feel cared-for:

She's definitely one of those teachers that has those, kind of non-teacher traits in a good way. She's a teacher but at the same time you don't have to think of her as one . . . . Like normally teachers you think of as the people who get paid to tell you stuff . . . but the teachers . . . especially her . . . they're going to kind of be there to talk to you about other things . . . . I feel comfortable talking to my teachers about stuff that doesn't have to do with school sometimes. (Student 2)

All of the students mentioned talking with teachers about non-academic topics as an indicator of caring. Some students mentioned that talking about non-academic topics helped them feel like their teachers were more familiar with them individually, which helped them feel like the teacher cared. Others mentioned that they felt cared-for because they sensed that they were a priority to the teacher over the assignment.

Both teachers participated in the school-wide Shepherding Program in which teachers are assigned a group of students—independent from their classes—that they are instructed to maintain continual non-academic dialogue with throughout the school year. One teacher explained that this program helps reach students who are performing extraordinarily well

academically and those who are performing poorly—populations that may easily go unnoticed in online settings. Teacher 1 explained:

> When we talk to our sheep we're not supposed to talk about school. We're just supposed to talk to them, get to know them a little bit, let them know that we care . . . every kid in this school has one teacher that's consistently making an effort to show them they care. (Teacher 1)

It is important to note that none of the student participants in this study were in the teacher participants' shepherding group. The student comments found in this article are coming from student experiences in the academic setting, not the shepherding program setting.

Teachers manifested a deep inclination to confirm students' self-confidence and wellbeing at all times and especially when the student has done something wrong. Teacher 1 explained that giving students the benefit of the doubt in communicating with them may be even more important online than in face-to-face settings because it is easier for students to refuse to connect in the online context. In regards to a student who had plagiarized an assignment, Teacher 1 stated:

> I've found that the second . . . you sound harsh about it or you're accusing them of being a cheater, they take it really personally and all level of communication essentially stops with them. (Teacher 1)

Instead, she engaged in dialogue with the student through emails that allowed the student to explain his actions. When relaying less favorable messages, teachers explained they used email over other mediums of communication. Email enabled them to proofread email messages before sending them to ensure a constructive approach to the problem and positive confirmation of the student. Students valued this constructive approach. One student said:

I've had tons of teachers that have done that to me or they've said, "you should do this. You should do that." She never did that. She would never accuse me. She would always just handle it really well. (Student 4)

Teachers' rationales for their academic and non-academic caring actions were frequently rooted in a desire to improve students' lifestyle, ensure a successful future, and increase student confidence and wellbeing. Students acknowledged these efforts. To meet students' needs teachers communicated confidence in students' capacity to perform well in school and in their personal life and maintained continual non-academic dialogue with students.

Student Reaction

One way that students reacted to teachers is through providing feedback through dialogue. According to teachers and students, direct feedback came in the form of survey responses, answers to questions, and interaction during dialogue. When in dialogue, students responded to teachers by expressing frustration, excitement, passion, disappointment, and satisfaction. Both teachers recognized the importance of students' reactions by explaining that this information helped them decide what changes to make and how to improve their capacity to meet student needs.

Teacher 1 explained:

I ask them very open-ended questions and just kind of see where they take it . . . . I really just want them to know that their opinions and what they have to say are just as valid as mine. In my classes, I want each kid to know that they have a voice and just because they're kids and I'm the adult, it doesn't mean that what I have to say is more important than them. (Teacher 1)

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During the interviews students expressed that they experienced an increased desire and motivation to reply and respond to teachers after the teacher had initiated a caring interaction. Students explained that when teachers initiated contact or engaged in non-academic dialogue, it demonstrated to students that they were a priority to the teacher, which made them more willing to respond. Both teachers also explained that they observed an increase in students' willingness to connect at a distance after they had made an initial effort to connect and demonstrate that they cared for the student.

Other ways in which students reacted to teachers' caring actions were more indirect—improving their academic performance, demonstrating increased self-confidence and trust, expressing satisfaction in their successes, interacting positively with peers, and making a variety of choices based on the options provided by the teachers.

Throughout the interviews teachers recounted a variety of experiences when their caring actions brought about an improvement in students that demonstrated to the teacher that her caring actions had been well received. For example, one teacher explained that her caring actions helped increase her student's self-confidence—an indicator that her caring had not been misdirected. Teachers also expressed a desire to receive unfavorable reactions from students. Teacher 1 said:

> I love the challenge of it too that you try something and it's not working for a kid so you have to think of something else that you can do for them. It's like I actually have the time to think about these kids as an individual student rather than as my first period class and all those kids are lumped together. Like I can really see each kid as their own person and what they need and help them and change the way I teach and my teaching methods with kids to reach them the best that I can. (Teacher 1)

Teachers explained that when students were not progressing they always tried alternative methods to reach that student and achieve success.

During the interviews, students repeatedly acknowledged their teachers' caring efforts and attributes. Students mentioned specific teacher actions and attributes that were evidence of caring. Students explained the reasoning that brought them to the conclusion that their teacher genuinely cared. For example, one student said:

That shows me that a teacher cares when they contact me and remind me about things instead of just going, "oh, he'll figure it out" and just leaving me alone. (Student 2)

Students expressed that specific caring actions from their teachers indicated to them the teacher genuinely acknowledged, knew them, and cared for them. All of the student participants explicitly acknowledged that their teacher cared about them.

Student reactions and participation was valuable and meaningful to teachers in regards to caring. Both teachers expressed a sense of joy and satisfaction when students reacted favorably to their caring actions. Referring to an experience when a student and her parents acknowledged caring, one teacher explained:

That was one of those moments you go, "I know I'm in the right profession doing the right thing. Because that was an incredible experience for me." So, that was . . . that's the one that off the top of my head just touched my heart . . . (Teacher 2)

Overall, students reacted to teachers' caring actions in a variety of ways that were meaningful to teachers. Both teachers expressed a need to receive student reaction for their caring acts.

Discussion

Empirical research indicates that the teacher-student relationship is of particular significance to adolescent students impacting student motivation, values, and perceived ability to learn (Goodenow, 1993; Murdock, 1999; Pomeroy, 1999). Adolescent learners may require a greater sense of teacher care to feel motivated to learn (Eccles, et al., 1993). Thus, the importance of the teacher-student relationship is significant to consider for online K-12 education, which is growing at a fast rate. This study examined the phenomenon of care in online secondary education.

Strong themes of caring in a technology-mediated context emerged from the data that pertained to Noddings' (1984) theory of the ethic of care. For this reason, we use Noddings' components of care—engrossment, motivational displacement, and reciprocity—as a useful tool for interpreting findings. It may be noted that some themes from this study may be applied to more than one of Noddings' components.

Engrossment has been defined as a receptive state in which the teacher strives to understand the student by experiencing the world through the students' point of view (Noddings, 1984). Participants acknowledged that gaining an understanding of the student was critical to creating a caring relationship that fostered student growth. In this study, themes that incorporated elements of engrossment included: shared perspective, continuous dialogue, and vigilant observation. First, in accordance with Noddings' definition of engrossment, this study demonstrated that caring requires that the teacher experience a shared perspective with her students. Technology-mediated caring requires more than communicating empathy or establishing teacher presence, but an understanding achieved through teacher-student shared experiences. Second, student participants highly valued teacher attempts to initiate and maintain

continuous dialogue characterized by clarity, promptness, access, and disclosure. This finding is in agreement with the theory of transactional distance, which states that increased dialogue decreases psychological distance between the student and teacher (Moore, 1993). Other researchers and theorists have also established dialogue as a component of the caring approach to education (Noddings, 1998; Pomeroy, 1999; Rogers, & Webb, 1991). Moreover, student participants identified clarity in dialogue, prompt teacher responses, teacher accessibility, and teacher-student disclosure as indicators of caring—all of which are similar to findings on presence and immediacy (Anderson, Rourke, Archer, & Garrison, 2001; Arbaugh, 2001; Garrison, Anderson, & Archer, 2000). More recently in online education, attempts to reduce costs and increase scaling have made learner-to-content instruction increasingly predominant. Findings related to the importance of dialogue in this study suggest that K-12 online education should place greater priority on learner-to-instructor instruction, rather than learner-to-content instruction. Third, vigilant observation is an imperative in achieving technology-mediated caring because students' needs are not always communicated in a direct and explicit manner online. In regards to Noddings' (1984) theory, vigilant observation supports engrossment because it helps teachers gain an understanding of students needs.

According to Noddings (1984), understanding gained during engrossment must be turned into an energy, or motivational displacement, that drives the one caring to execute actions in behalf of the cared for. In this study teachers' caring actions were directed towards structuring students' learning environments, and attending to students' individual academic needs and personal wellbeing needs. Of importance, structuring a caring environment was significant but not sufficient. Teachers used the environment to execute actions customized to meet individual needs.

At times, caring also involved providing constructive feedback, repudiating student requests, and reminding students of boundaries and norms. This is congruent with other research that caring does not presume permissiveness and entails much "more than gentle smiles and warm hugs" (Goldstein, 1998, p. 259).

One of the most salient themes of this study concerned the importance of teacher caring for non-academic aspects of student life. All participants recognized the importance of caring for the student beyond the academic sphere. This is in agreement with Noddings' theory (1988), which posits that the central focus of the care-centered approach to education is students' academic and moral growth. According to this study, caring for students' wellbeing increased student trust in the caring relationship and subsequently, facilitated learning. This finding suggests that there is a need to create technology-mediated instructional environments where the teacher feels empowered to create a relationship with the student. Such an environment should create opportunities for educators to connect with students beyond the academic domain.

Furthermore, students indirectly acknowledged that the design of the learning environment served as evidence of caring. In the online context of OHSU, students valued instructional designs that provided flexibility regarding deadlines, choices on assignment completion, and opportunities to retake quizzes and resubmit assignments. Conversely, researchers in the face-to-face context have reported (Midgley & Feldlaufer, 1987; Ward, et al., 1982) that students entering junior high experienced a decrease in opportunities to engage in autonomous behavior (i.e., self-management, choice, student decision-making) from elementary education to secondary education classrooms. Eccles et al. (1993), conclude that this may be one of the factors contributing to the decrease in student motivation during the transition between elementary and secondary education. Findings from the current study suggest that online

education may be a positive force in increasing motivation for secondary education students when courses are designed in a flexible manner that allows students to make their own choices.

Noddings' (1984) relational ethics framework states that caring is not complete without a response or reaction from the cared-for. This response can but does not necessitate a direct acknowledgement of the caring acts or an equal reciprocal caring action. Rather, it is "the freedom, creativity, and spontaneous disclosure of the cared-for that manifest themselves under the nurture of the one-caring (p. 74)." This study suggested that Noddings' requirement of reciprocity (1984) is significant in the teacher-student relationship. Students reacted to and acknowledged both teachers' caring actions. Teachers used feedback to improve their courses and pedagogy. Despite differences in teachers' caring approaches, students also explicitly acknowledged that both teachers cared for them. Teachers expressed a desire and need to receive student reactions—positive and negative. This component of caring completed the caring interaction and served to reenergize the teacher in her caring endeavors.

While many of the ideas mentioned in this study may not be novel, one of the major contributions this study makes, also mentioned in Noddings' (1984) work, is the acknowledgment that these factors of caring are interrelated and serve to create a cycle that repeats over time in which the teacher gains an understanding, executes caring actions, the student exhibits growth, and the teacher is reenergized to continue caring.

Future research may examine the relationship between technology-mediated caring and current research in presence and immediacy. Specifically, examining how cared-centered approaches may improve the quality of teacher-student interactions during critical inquiry and dialogue.

Given that caring pedagogy is concerned with student academic performance just as much as student's moral development, future research could look at how technology-mediated caring impacts students' academic performance online and students' moral development.

Regarding course design, future research may examine if students continue to feel caring through online course designs that provide flexibility and decision-making, but do not provide student-teacher interaction. The relationship between the synchronous and asynchronous affordances of technology and student perceptions of teacher caring may also be examined. The examination of a variety of tools, as well as their specific affordances may be useful to practitioners and researchers as we turn our focus from establishing presence to establishing relationships.

Technology-mediated caring research may also examine how student reactions to caring impact teachers' motivation. While understanding the limitations of caring in the technology-mediated context was beyond the scope of this study, examining such limitations may also serve to increase our understanding of factors that contribute to teacher motivation and capacity to care online.

This study suggests that the technology-mediated context is sufficiently robust to facilitate caring interactions. We demonstrate how caring may be experienced online, including considerations that may differ from face-to-face settings. This research in technology-mediated caring supplements current research examining the learning experience in technology-mediated settings (Anderson, Rourke, Archer, & Garrison, 2001; Arbaugh, 2001; Garrison, Anderson, & Archer, 2000).

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Appendix

Table 1

Teacher Interview Protocol

Session One- Teachers

---

1. Start by trying to get a sense of the instructor's background.

    ▪   How long have you taught at OHSU?

    ▪   Why did you decide to teach at OHSU?

    ▪   How does teaching at OHSU differ from teaching in a traditional setting?

    ▪   How long have you taught at OHSU?

    ▪   What other setting have you been employed as an educator?

---

2. Then try to understand the context they teach in.

    ▪   Can you describe a typical workday as an instructor of OHSU?

        (Possible prompts: What do you do? How do you contact your students? What

        tools do you use? What do you teach? What methods do you use to teach?)

---

3. Ask about more specific teaching experiences.

    ▪   What are some good experiences you've had with students? What are some less

        favorable experience you've had?

    ▪   Can you tell me of a time in which a student was not behaving, or not

        participating, or not completing assignments and you were successful at getting

        him or her to complete the task.

        (Possible prompts: How did you approach the student? How did the student react?

In what ways did technology enhance or hinder the communication?)

- Can you tell me of a time in which a student was not behaving, or not participating, or not completing assignments and you were not successful at getting him or her to complete the task.

(Possible prompts: How did you approach the student? How did the student react? What role did technology play in this experience?)

Session Two- Teachers

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1. Follow up on Session One

- Last time we talked about [xyz]. I would like to elaborate a bit on this…

(Possible prompts: can you tell me a little more about [xyz]? How does this happen?)

---

2. How caring is manifested in the class from the teachers' perspective.

- Can you describe your actions to show your students that you know them?

(Possible prompts: Can you relate an experience when you acted in the best interest of a student in need?)

- Can you describe how you get to know your students?

(Possible prompt: How do you use this knowledge?)

- Can you describe how you "listen" to your students?

(Possible prompts: Can you relate an experience? How do you show them that you are present?)

- Can you describe what caring means to you, in regard to teacher-student interactions in this setting?

(Possible prompts: what experiences that have led you to this view?)

3. What modes of communication have you used during caring encounters that you've

    had with your students and why?

    ▪ What modes of communication do you use to communicate to your students that

      you know them and are interested in their success in online settings?

      (Possible prompt: what reasons do you have for using those modes?)

    ▪ In your experience, what mediums are most useful in receiving, listening and

      getting to know your student?

      (Possible prompt: less useful?)

    ▪ In your experience, what mediums work best when the students are trying to

      contact you? Why?

    ▪ In what ways does technology allow or not allow you to see your students as

      individuals as opposed to a group?

      (Possible prompt: ask for other technologies they mentioned throughout the

      interview)

Session Three- Teachers

1. Follow-up questions

Table 2

Student Interview Protocol

Session One- Students

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1. Start by trying to get a sense of the student's background.

   ▪ How long have you been a student at OHSU?

   ▪ Why did you decide to enroll at OHSU?

   ▪ How does school at OHSU differ from learning at a traditional school?

   ▪ Have you been a student at other online high schools?

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2. Then try to understand the context they learn in.

   ▪ Tell me about your participation/experience so far in the Open High School.

   ▪ Can you describe a typical school day as a student at OHSU?

   (Possible prompts: What do you do? How do you contact your teachers? What

   tools do you use? What subjects are you enrolled in? What methods do you use to

   learn?)

---

3. Ask about teacher involvement in the learning experience.

   ▪ How is your teacher involved (generally) in the learning process?

   (Possible prompts: what does she do? how does she get in contact with you? what

   technologies does she use? what is she like?)

Session Two- Students

---

1. Follow up on Session One

- Last time we talked about [xyz]. I would like to elaborate a bit on this…

  (Possible prompts: can you tell me a little more about [xyz]? How does this happen?)

2. Try to connect the students' experience with how caring is experienced in the classroom.

   - Is your teacher helpful to you?

     (Possible prompts: How so? How does this make you feel?)

   - Can your recount an experience when your teacher was attentive to you? or you felt like she was beginning to understand you?

     (Possible prompts: How did you respond? What did she do? What mediums did she use?)

   - Have you experienced times when your teacher has not been helpful?

     (Possible prompts: How so? How does this make you feel?)

   - Have you ever thought about whether or not your teacher at OHSU cares about you?

     (Possible prompt: How does this make you feel? How does she get to know you?)

   - How would you describe a caring teacher in this setting?

3. What modes of communication are used during interactions and why.

   - Can you describe ways or tools your teachers to communicate in online settings?

     (Possible prompt: what reasons do they have for using those modes?)

   - In your experience, what ways or tools do you think help your teacher get to know you better?

- In your experience, what ways or tools do you think work best to allow your teachers to communicate with you?

- In your experience, what ways or tools do you think work best for you to respond to your teachers? Why?

Session Three- Students

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1. Follow up questions

ARTICLE 3

Beyond Presence and Immediacy: Towards Technology-Mediated Caring
in Online Teaching and Learning

Abstract

The ethic of care has been an important part of the dialogue related to learning in traditional K-12 learning environments. However, the study of caring interactions has largely been absent in the online learning research despite its importance in the development of adolescent learners. There is a need to study this because of the perceived impersonal nature of the online medium. While a few concepts in the literature such as instructor immediacy and social presence have some overlap with the study of caring pedagogies, they do not provide the depth needed to understand technology-mediated caring. The purpose of this study was to examine technology choices when experiencing caring interactions in the virtual schooling context of Open High School of Utah. The caring experience of two teacher participants and four of their students was examined through Interpretative Phenomenological Analysis. Results suggest that teacher choices regarding technology use are an integral part of creating caring relationships with students online. The ethics of caring is an essential model in understanding the communication of caring interactions in the online setting.

Keywords**:** presence, immediacy, transactional distance, caring pedagogy, technology-mediated caring

Introduction

Caring has been recognized as an increasingly important concept in the K-12 context (Banks, 2009; Ferreira, Bosworth, & Smith, 2002; Goldstein, 1998, 2002; Lewis, et al., in press; Tosolt, 2010). Researchers and practitioners have acknowledged that teacher caring is imperative because education is predominantly a moral endeavor (Goodlad, 1984, 1990; Goodlad, Soder, & Sirotnik, 1990; Noddings, 1984). In experimental studies, caring has been found to increase student motivation and retention (Frymier & Thompson, 1992; McArthur, 2005), and student affect for the course and for the course instructor (Teven, 2007; Wilson, 2006). Caring has also been found to decrease disruptive behavior (Hasenauer & Herrmann, 1996; Lindmark, Marshall, Riley, & Strey, 1996) and increase learning outcomes (Baker, et al., 1997; Lewis, et al., in press; Shann, 1999; Valenzuela, 1999). Furthermore, in studies that have examined the student perspective, factors related to the teacher-student relationship rank of higher importance to students than teacher proficiency (Baker, et al. 1997; Pomeroy, 1999; Wallace, 1996).

Researchers have identified caring as an integral component of child development (Baker, Terry, Bridger, & Winsor, 1997). In particular, studies investigating early-adolescence have found that students experience cognitive changes that lead to an increased need for caring student-teacher relationships (Goodenow, 1993). One study revealed that in educational settings adolescents have a need to be cared for in a way that is different from the parent-child caring relationship. In particular, students recognized dialogue as a central factor leading to perceived teacher caring (Pomeroy, 1999). Notwithstanding, students have reported a perceived decrease in the quality of the teacher-student relationship upon entrance to junior high school (Feldlaufer, Midgley, & Eccles, 1988; Hirsch & Rapkin, 1987).

The importance of caring is particularly significant in the online context as the demand for online K-12 education has dramatically increased over the last several years (Picciano & Seaman, 2007). Conceptually, a need to examine caring in the information and communication technologies literature has been acknowledged (Damarin, 1994; Delacruz, 2009; Gleaves & Walker, 2006). Nevertheless, empirical studies related to caring in the online context have been relatively few (Bulmer & Rodd, 2005; Donovan, 2009; Garrot, 2005; Goldstein & Freedman, 2003). Perhaps this is because much of the early distance education research focused on understanding learner-content interaction and issues of autonomy rather than the nature of the learner-instructor relationship. Additionally, more recent literature has characterized learner-instructor interactions as "teacher presence" in the Community of Inquiry framework (Anderson, Rourke, Archer, & Garrison, 2001), and "instructor immediacy" (Arbaugh, 2001) rather than building on the literature of caring (Velasquez, unpublished).

Literature Review

A review of the most prominent information and communication technology theories situates care theory as an essential framework to consider in research related to online interactions. First, we review the most prominent theories used in the information and communication technologies literature to understand the contribution each has made to our understanding of the teacher-student relationship in a technology-mediated setting. We propose that the theory of care be considered in addition to other theories, as a framework for understanding the interactions that take place online.

Early Distance Education Research

Early distance education research was influenced heavily by the practice of correspondence teaching or independent study approaches to learning (Wedemeyer, 1971).

Initially, the independent study approach emphasized learner-content interactions, largely due to the limitations of the communications technologies available. Correspondence facilitated learner independence in space and time, while also allowing the learner to self-direct the learning process (Wedemeyer, 1971). This concept of independence later became known as "learner autonomy" (Moore, 1993). Despite this initial focus on autonomy, researchers soon developed theories emphasizing interaction.

Transactional distance theory. Transactional distance theory has been a highly influential model in examining teacher-student technology-mediated interactions (Moore, 1973). Transactional distance refers to "a psychological and communication space to be crossed, a space of potential misunderstanding between the inputs of instructor and those of the learner" (Moore, 1993, p. 22). Moore (1989) introduced the concept of learner-learner, learner-instructor, and learner-content interactions, acknowledging differences between each type of interaction. The focus of much distance education research built upon Moore's work as scholars began looking at the "transactions" occurring in learning environments. His theory of transactional distance states that transactional distance decreases when dialogue (communications between student and teacher) increases and course structure (learning objectives, activities, and evaluations) decreases (Moore, 1993). However, contradicting findings about the correlation between structure and transactional distance has led researchers to conclude that structure can be interpreted differently by different learners, making it important for teachers to understand learners' individual needs (Stein, Wanstreet, Calvin, Overtoom, & Wheaton, 2005).

Moore's theory also states that learner autonomy, or the degree to which the learner is self-directed in learning, increases with greater transactional distance (Moore & Kearsley, 1996). Therefore, teachers have the responsibility of determining the appropriate structure and degree of

dialogue in a course based on learners' needs and autonomy (Moore, 1993; Moore & Kearsley, 1996).

Holmberg's theory of empathy. Despite the emphasis on learner autonomy by early researchers, Holmberg (2007) advocated for the important role of empathy and personal relationships between instructor and student in distance education. His theory postulates that such teacher-student relationships may be supported not only by direct teacher-student interaction, but also by the use of instructional materials that simulate relationships when presented in a conversational and personal manner. The use of such materials should then be followed by teacher-student interactions that reinforce the material and maintain the dialogue.

Presence and Immediacy

More recently, with the birth of the Internet and proliferation of information and communication technologies, presence and immediacy are concepts that have become popular ways of describing teacher/student interactions, both online and first in face-to-face contexts (Anderson, et al., 2001; Mehrabian, 1971).

The Community of Inquiry (CoI), a theoretical framework that represents the process of learning in technology-mediated settings, distinguishes between three interdependent elements—social, cognitive, and teaching presence (Garrison, Anderson, & Archer, 2000). Social presence is related to interpersonal interactions and communication and acknowledges the teacher and student role in creating a social environment. Cognitive presence refers to the dialogue that makes the construction of meaning possible, while teacher presence refers to how an instructor facilitates learning outcomes. Moreover, teacher presence has been divided into three categories: design and organization, facilitating discourse, and direct instruction (Anderson, et al., 2001). Research indicates a correlation between teacher presence and student satisfaction and

performance (Bangert, 2008; Picciano, 2002; Shea, Pickett, & Pelz, 2003). These elements of presence have been identified as indicators of the quality of online instruction (Shea, Vickers, & Hayes, 2010).

The element of social presence in the CoI framework includes teacher immediacy—verbal and non-verbal behaviors that reduce psychological and physical distance between individuals (Mehrabian, 1971; Andersen, 1979). The online context has largely focused on examining verbally immediate behaviors such as using self-disclosure, using humor, initiating discussion, offering praise, communicating attentiveness, and addressing students in a personal manner (O'Sullivan, Hunt, & Lippert, 2004). Research indicates that teacher immediacy is more easily afforded through synchronous online interactions (Pelowski, Frissell, Cabral, & Yu, 2005; Schweier and Balbar, 2002) and that increased teacher immediacy is related to increased student outcomes and affect (Arbaugh, 2001; Baker, 2004; McAlister, 2001).

A Care-Centered Approach

While distance education research has focused largely on a model that analyzes transactions or interactions, research in the area of "caring" has focused on the relational aspect of the teacher-student interaction. In this section we summarize Noddings' ethic of care theory and explain how this theory may increase our understanding of teacher-student relationships in the online medium. We also explain how this theory may be situated among the prominent theories formerly discussed.

Description of Noddings' ethic of care theory. In the field of philosophy, Gilligan and Noddings introduced a care-centered approach to ethics that revolutionized the discourse on moral theories and development (Gilligan, 1982; Noddings, 1984). Noddings (1982) established three requirements for caring: (1) engrossment, (2) motivational displacement, and (3)

reciprocity. By definition, caring is not simply a sentiment, but an action that occurs after carefully observing and understanding the cared-for (in education, the student). Noddings (1984) established that caring requires that the one-caring (the teacher) become *engrossed*, or receptive to the cared-for with the purpose of understanding him. The one-caring then experiences *motivational displacement,* or an energy that leads to the execution of actions that improve the cared-for and ensure their progress. The cared-for also contributes to caring through reciprocity—acknowledging the caring acts by reacting to them (Noddings, 1984).

Contributions of the ethic of care to the discourse. Research on online teaching has predominantly focused on presence and immediacy. Although these theories are useful in understanding the process of learning, the caring model has the potential to enrich research on teacher-student interactions because its focus is not on prescriptive behaviors to increase presence or immediacy, but understanding and strengthening the teacher-student relationship. Although theories of presence and immediacy may implicitly address the teacher-student relationship, they could be improved by situating these constructs and related findings within the broader context of caring.

Inasmuch as the nature of caring is less prescriptive and largely contextual, it has the capacity to account for the diversity of students' needs. In the caring model, caring warrants more than presence, requiring teacher actions that are a product of teachers' receptivity to students' needs. Actions and behaviors are not the primary concern, and caring cannot be operationalized into a prescriptive list of actions or behaviors (Noddings, 1984). Rather, engrossment in the student characterized by receptivity—coming to a knowledge of the student—is of primary importance. The engrossment stage provides the necessary rationale and direction for the action that follows. In the ethic of care theory, actions are a byproduct of

receptive dialogue and observation that lead a teacher to deeply understand a student. Thus, caring accounts for a complete interaction between student and teacher, including considerations of students' reactions to teacher actions (reciprocity). These considerations related to the teacher's receptivity to the student prior to taking action, and receiving student reaction after executing action are largely absent in the literature of presence and immediacy, in which actions alone serve as evidence of these constructs.

In agreement with the conclusions of research regarding the importance of understanding student needs (Moore & Kearsley, 1996), this student-centered model begins with acknowledging and privileging the student's academic and personal needs. The caring approach accounts for interaction between student and teacher beyond direct instruction, to the inclusion of personal wellbeing. In regards to academic performance, the caring model has the capacity to increase the quality of critical inquiry and knowledge construction in direct instruction. The caring model has many similarities with research related to CoI regarding design and administration, facilitating discourse, social presence, and direct instruction (Garrison, Anderson, & Archer, 2000; Velasquez, unpublished).

The purpose of the current study is to understand participants' technology choices when experiencing effective caring interactions. The research reported used Interpretative Phenomenological Analysis (IPA) to answer these questions: What modes of communication do students and teachers use to communicate caring in the technology-mediated context of OHSU, and what reasons do they have for using those modes? Are some ways better than others for these participants, and if so, why? IPA is suitable for this study because it examines the phenomenon of care through the examination of participants' experience rather than abstractions or theories (Reid, Flowers, & Larking, 2005). This paper will illustrate how the caring approach

may be instrumental in directing teachers' technology choices to teach effectively in technology-mediated settings.

Methodology

Context

This study was conducted in the Open High School of Utah because it is an online high school in which teachers have shown an exceptional desire and ability to connect with students in meaningful ways. This high school differs from other virtual high schools in that teachers strive to maximize the time they employ working one-on-one with each student. For example, rather than lecturing, teachers disseminate content online and alternately use the time saved to attend to student's individual needs. OHSU's data-driven learning management system enables one-on-one connections to develop by providing real time information that allows teachers to instantaneously track student performance. This provides a good context in which the teacher and student relationship can be nurtured in the process of helping students learn online. Another unique quality of this online setting is its aim to implement open educational resources and to encourage collaboration between teachers, students, and parents.

Data Collection

Participants consisted of two female teachers at OHSU, two female students, and two male students. Both teachers were selected by the OHSU administration as teachers who demonstrated a high level of caring. After conducting the teacher interviews, each teacher created a list of five female and male OHSU students they shared the most quality caring relationships with. All participants were Caucasian with ages ranging from 12 to 18.

I employed a three-stage semi-structured thematic interview series (Schuman, 1982) to allow participants to share in-depth accounts of their experience. In the first interview, I inquired

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about the participant's background and prior experience in the online setting while also aiming to understand how teachers were involved in students' learning experiences in general. The second interview focused on understanding the caring experience and technology choices made to support caring interactions. The third interview followed up on any topics needing additional depth. Questions were open-ended and designed to encourage participants to share experiences openly.

Data Analysis

Interview transcripts were analyzed using the principles of Interpretive Phenomenological Analysis (IPA, Smith, Flowers, & Larkin, 2009). Each transcript was thoroughly read and reviewed multiple times. The lead author first read the transcripts making no annotations and then a second time including annotations in the margins. After making initial annotations, the lead author coded each transcript, independent of other interviews, identifying new themes as they emerged. After reading over the list of emergent themes for all interviews, a table was created with clusters of themes organized separately for each interview. After carefully examining the themes from each interview, connections across interviews were determined, and another table was created with a list of superordinate and subordinate themes across interviews with direct quotes. Each interview was then reviewed one last time to confirm that the experiences shared remained fairly accurate in the selection of quotes and interpretations of the data.

Field notes and a reflexive journal documented subjectivity checks and other research activities. Member checks were conducted before and after data analysis to preserve the accuracy of participant responses. Peer debriefings were useful in developing the interview protocol as well as in revising data collection and analysis methods. Triangulation between sources was

sought to strengthen evidence of the themes. A negative case analysis indicated that the themes

that emerged were an accurate reflection of the data collected (Lincoln & Guba, 1985).

Findings

This study describes how teachers and students at a virtual high school experienced and

facilitated caring. We refer to the caring that occurs in the online context as *technology-mediated*

caring (TMC). Because caring begins with a receptive state of understanding and coming to

know the cared-for, a concept largely absent in previous prominent distance education theories,

this article will focus on findings related to how instructors used technology to get to know the

students.

Getting to Know the Student

In this study, teachers began caring interactions by first trying to understand students and

their needs. Teacher participants explained that the process of "knowing" goes beyond just

"being there." Teachers came to know students online through engaging in continuous dialogue,

facilitating shared experiences, and maintaining vigilant observation to gain an understanding of

the student's perspective.

Continuous dialogue. At OHSU, teachers engaged in dialogue to better know students

and their needs. Technology facilitated dialogue by promoting teacher-student accessibility,

enabling teachers to initiate dialogue, and facilitating promptness and clarity in communications.

In addition, this theme revealed patterns related to teacher and student preferences. Teachers

explained the importance of knowing and using the tools that students preferred in order to

support the development of a caring relationship.

Teacher-student accessibility. Both OHSU teachers preferred technologies that increased

teacher and student accessibility. Teacher 2 explained the process she underwent each day to let

her students know she was available and receptive. When she began work at her computer, she turned on all of her technology tools and set her status to "online" or "available," which she then communicated to the students in a class-wide email. Then, she began contacting students individually through Skype, Google Chat, email, or phone. During these interactions she remained attentive to Twitter and other tools that gave her information about students' status and needs.

Teacher 1 acknowledged the essential role of technology in providing students access to the teacher:

I couldn't even imagine going back to teaching in a bricks and mortar classroom without having all this technology to reach out to my students. The fact that they can get a hold of me 24/7 is amazing. (Teacher 1)

In regards to student access, teachers mentioned that technologies that indicate student online access status (i.e., online, away, busy)—while not always accurate—were useful in facilitating dialogue. In general, participants valued technologies such as Skype and Google Chat that provided them this access while displaying users' online status.

Promptness. Participants also mentioned that caring involved prompt feedback and replies, something technology assisted with. Teacher 2 explained, "I do have kids that will text me quite a bit. Say, 'hey, just had a question on number 15', and . . . it takes me two seconds to text them back and they're good." Teachers explained that students used mobile technologies (i.e., texting and email) to receive prompt replies. For example, one student said, "I can pull out my phone and . . . send them an email right there, and then normally I can expect within minutes to get another email back" (Student 2).

Teachers and students also favored synchronous technologies such as chat and video that facilitated just-in-time help. While students acknowledged the role of the teacher in providing prompt feedback, they also acknowledged the role of technology in providing a fast speed connection to support the caring interaction.

Initiation of dialogue. Teachers at OHSU gained access to students by proactively initiating dialogue with them through the use of automated messages. Although automated messages are usually regarded as uncaring and impersonal, teachers used automated messages as conversation starters to create opportunities to enter into dialogue with students, as well as an opportunity to balance their workload while ensuring a connection with each student individually. One teacher said:

> That's been a lifesaver . . . that program has really made it easy to make sure those kids are contacted . . . . A lot of times they'll respond to me and they'll say, "hey, thanks for the email; I needed that encouragement." And then that starts up another conversation with them. I'll be, "okay, great. How are you doing? Can I help you with anything? It's another way of opening up that communication door." (Teacher 2)

When using automated messages, teachers at OHSU made them personal by ensuring the student's name was on each email and that each message accurately targeted the student's needs according to their academic progress. Teacher 1 explained that automated messages aided teachers in caring for populations of students who may easily become forgotten online— including high achieving students.

Shared experience. At OHSU, teachers demonstrated receptivity to students by achieving a shared student-teacher perspective. Teachers made technology choices that allowed the teacher and student to work together, share a workspace, and reach a joint understanding of

the problem. One teacher explained that the online context allowed her to provide prompt feedback that felt like teacher-student collaboration. She explained:

> I bring it up and we work on it together within a Google doc, and so it's like instantaneous. And so I think the kids, because of instantaneous feedback, know that you care . . . it can be more of a joint collaboration. (Teacher 2)

The teachers valued the affordance of technology to provide instantaneous delivery because it allowed them to sustain shared synchronous teacher-student interactions that facilitated an in-depth understanding of student needs. Teacher 1 explained:

> Sometimes we'll have Google Docs open and we'll be working on the same assignment, but we'll also be calling each other back and forth on Skype so we can talk and we can hear each other's voices . . . technology in terms of collaboration between me and students has been a great experience. You're able to do things in real time with students. That has really been beneficial and [would be] hard without all that great technology.

For direct instruction, participants favored technologies that afforded a shared workspace (i.e., Google tools and Oneeko). Screensharing tools such as Oneeko and collaboration tools such as Google tools allowed students to share their experience with teachers. Teachers used screensharing tools to share a workspace with students and mutually work on solutions to academic tasks. Oneeko features that facilitated a shared experience include annotation and file transfer capabilities, a whiteboard, webcam integration, and multiple user access. Teachers also used Google tools because they offer the affordance of a shared workspace in addition to built-in features such as chat and video capabilities for communication. These tools provided a synchronous-like experience between teacher and student. The choice of technology varied according to student preferences and the nature of the task. Problems that were more urgent, such

as those clarifying content during direct instruction, were better addressed through synchronous, while less urgent problems related to grading and assignment criteria were addressed through asynchronous technologies.

Students acknowledged and valued the role of technology in achieving a sense of shared experience with teachers. One student said:

I think it's pretty cool I can work on an assignment and send it to my teachers by email or I can put it in Moodle and download it as a pdf . . . and it will send me emails [if] they viewed it. So, it's been pretty helpful . . . . It's also helpful when I can work on an assignment together with my teacher on Google docs. (Student 1)

For this student, technological affordances that indicated that the teacher had viewed or edited his project helped him feel cared-for. Such indicators of teachers' attentiveness fostered a sense of accountability in teachers and helped students perceive feedback as collaborative work between teacher and student.

Vigilant observation. Teachers also learned about their students through observing students' performance and online activity through various technology tools. Teacher 1 explained how important it is to observe each student's online activity to understand where to go to connect with students (Skype or Google Chat, for example).

Teacher 2 explained that observing student status updates on Skype and Twitter posts enabled her to detect when a student was struggling. She said:

I think through online learning . . . it's easy to identify problems very easily . . . . Just the other day in a Skype handle [status field], the kid wrote something to the effect that . . . today he was feeling blue . . . . Right then when I saw his [status] I just Skyped him really fast and said, "hey, I just saw your [status]. Are you doing okay?" . . . You know, and so

it's almost like it's just so available and the problems are so easily identifiable . . . . And

so he knew that somebody cared. (Teacher 2)

This type of attentiveness to cues related to student wellbeing was made possible through

the different technological tools and programs used at OHSU. Programs such as Skype and

Twitter that provided students the freedom to post non-academic updates of a more personal

nature were useful sources of information for teachers. The succinct and up-to-date nature of

status updates afforded by these tools allowed teachers to remain informed of students' needs.

Both teachers agreed that technologies allowing students to communicate openly on a personal

level provided a rich source of data that can help teachers come to know students and their non-

academic needs.

Other helpful technologies were found within the school's infrastructure. OHSU is

unique in the integration of Highrise, a customer relationship management tool that allows

teachers to post updated notes on each student regarding every interaction they have. These notes

are accessible to all teachers at OHSU and are useful in creating a sense of continuity in getting

to know students. Teacher 1 explained that she checked Highrise before interacting with students

to read updated notes by other teachers about the student's needs. This allowed her to interact

with the student with the most updated information. Teachers explained that Highrise facilitated

caring interactions by creating transparency between teachers regarding the interactions they

have with students.

 Teachers were also observant with regards to grades and performance patterns. The

school's learning management systems, Moodle and Genius, were instrumental in providing

teachers with updated grade reports. Teacher 2 explained:

Online you can . . . know exactly which kids are failing . . . . It's like you can target them

and . . . it's like they've got an extra eye on them all the time. Whereas in a bricks and

mortar school, they tend to slide through. You're busy teaching, you know? And after

you're done teaching, you've got another class, another class, another class. And then by

the time 3:30 comes in your day, you don't want to go sit at your grade book . . . whereas

here, they're easily identifiable. You can see them. (Teacher 2)

Teachers also used learning management systems to tag problems and schedule

reminders to follow-up with students. This affordance was highly valuable because it helped

maintain continual dialogue with students.

Choosing Technology Based on Preferences

Teachers and students expressed distinct preferences in communication technologies for

participating in caring interactions. Teachers utilized their knowledge of student technology

preferences to support the teacher-student relationship and to attend to students needs.

Teacher technology preferences. Both teachers expressed that they got to know students

best when they could see them with video technologies. Teacher 1 said:

I do like the face-to-face on Skype . . . . The more they actually see me, the better, I think

they relate to me. The video is really helpful in showing students that you care and that

you know them.

The teachers believed video conferencing tools allowed them to be more observant and

receptive of student verbal and non-verbal cues. Teacher 1 explained:

If you're talking to them and they say, "No. I don't have any questions" but their body

language is telling you something totally different, then I can follow up and sort of get it

out of them what they really need help with, and I find that it's a lot more effective to do

those kinds of conversations over video conferencing.

Teacher 2 mentioned, "I do try to, you know, to see my students face-to-face as much as I possibly can."

Although teachers agreed in their preference of video technologies, they acknowledged that the majority of students preferred using chat and texting technologies over video technologies, phone, or email.

> The kids hate it at first . . . I definitely have kids this year that they only want to chat, and I kind of wonder if I had started by calling them rather than sending them a message that that would have been the method of communication they would have gotten used to. (Teacher 1)

Teacher 1 also indicated that she preferred phone calls to emails and chat because it was more personable and synchronous. Teacher 2 listed Twitter as another tool of choice due to the visibility the Twitter feed affords to everyone in the school, reliability of the medium, and instantaneous speed with which it distributes information. She recognized email as her least favorite medium due to its asynchronous nature. In regards to the phone, she explained that students have a hard time initially connecting on the phone but agreed with Teacher 1 that they tend to warm up with time.

Student technology preferences. All student participants indicated that the promptness and reliability supported by chat technologies was essential in helping them feel cared for. Students said they would rather use chat over video technologies due to of speed and reliability issues. One student said about text chat technologies:

> Because you just type in your question and then you just press enter and then it will instantly be sent . . . even if you're working on an assignment, you can just quickly type in a question to one of your teachers and they'll instantly get back to you. (Student 4)

In addition students preferred chatting because, as one student explained, "I can just type out something to them really fast . . . so I can still kind of work on my stuff while I'm waiting for them to type me back." Another student stated, "[Google chat] helps if they're also working with another student, I can just send a little chat so they can still communicate with the student and look at it when they're done." (Student 1)

Some students preferred chat because they did not feel comfortable connecting with teachers through non-text based tools such as phone or video conferencing. One teacher explained:

He's still really shy to talk to me. He doesn't even like talking on the phone, so . . . I know he's definitely more comfortable with (Skype chat) and that makes the communication between us a little bit easier. (Teacher 1)

One student said:

I don't always like video chat, and I don't want people to see my face all the time. Depends on the day [laughter] . . . like if I'm just right out of bed then I don't like using the video. (Student 4)

Another student explained how her lack of confidence and self-esteem kept her from using Skype by saying, "Um . . . well, I was really shy last year and talking face to face with my teacher. It was a lot easier just to talk to a phone . . . . I'm a lot less shy [now]" (Student 1).

Teachers agreed that most students found it difficult to use video technologies "until they get to know us and until we kind of create that bond", as Teacher 2 explained.

Teacher 1 added that students often found it easier to express themselves online using chat technologies:

He's just one of those kids that he will say what's on his mind on his computer that he

would never really say to your face, I think. So, the fact that I could get him to open up to me and ask me questions about his essay assignment and what he needed to do and all of that and have an actual conversation with him over chatting—I don't think it would ever happen in a classroom face to face. (Teacher 1)

Students and teachers also recognized the use of email as one of their favorite mediums when conveying less urgent messages (i.e., questions about grades or upcoming deadlines). Various students also explained that they avoided using technologies that provided poor low-speed connections. One student admitted:

The video on Skype, it kind of makes me laugh because . . . you can hear the words coming out of the other person's mouth but the lips aren't moving at the same time as the words are coming out. (Student 3)

Students seemed to prefer chat and texting technologies that provided synchronous, text-based interaction over technologies, such as video, that provided increased fidelity.

Overall, participants' suggested that to achieve a caring interaction, the mediums mattered less than the content and quality of the interaction. For example, students recognized teachers' attributes, clarity of communication, accessibility, and affective attitudes as caring more often than the use of specific mediums of communication. Students highly valued text-based technologies with higher speeds of connectivity and accessibility, while teachers valued technologies that allowed them to connect with students at higher degrees of fidelity.

Technology choices that support caring. According to teachers, using tools that students preferred ensured a better dialogue and willingness of students to remain connected with the teacher. Teacher 2 explained, "On (Skype) even if I get a smart aleck answer sometimes at least he's reciprocating to me." For this teacher, getting the student to interact was more

important than the specific technology used to mediate the interaction. Both teachers explained that they were willing to use any technology, even when it wasn't their preference, to support the development of a student relationship. When asked about the role of technology in caring for students, both teachers explained that one of their top priorities at OHSU was to investigate what tools each individual student preferred. Teacher 1 explained, "I think that giving them the choice to use the technology that they feel comfortable with shows them that I care." Teacher 2 explained that she kept a spreadsheet documenting each student's individual communication technology preference (i.e., video, chat, email, phone).

Both teachers explained that first, they established a relationship of trust in which the student felt confident and willing to open up to the teacher through a technology-mediated context. Then, they helped students progress to using more complex technologies with greater affordances. Teacher 1 shared an experience with a student who resisted connecting online. She explained that she began calling the student on the phone to create a relationship with the student by asking about her general interests. Once the student felt comfortable on the phone, the teacher suggested they begin using Skype. The teacher explained:

> On one of the phone calls, I specifically said "well, next time why don't we just chat on Skype and see how it goes?" Because with all the screen sharing things we can do online, it's a lot easier to tutor a student on Skype or on Google Chat than it is over the telephone. So, I sort of pushed her in that direction and that's when we started having conversations on Skype.

This student explained that the teacher's actions helped her feel more confident in herself, the technology, and her ability to connect with the teacher and other students. While the teachers understood that it was their responsibility to help students gain confidence in the use of

technology through first establishing a caring relationship, they indicated that in coercing a

student to use a technology the student was not comfortable with, they ran the risk of harming

the relationship. Thus teachers' believed their priority was in maintaining the caring relationship.

The role of technology in online learning was essential in continuously providing

teachers with prompt and accurate information about students' perspectives and circumstances.

By getting to know students through shared experience, observation, and dialogue, teacher

participants were prepared to execute caring actions to adequately meet student needs.

Technology tools and features played a role in promoting continuous dialogue, facilitating a

shared teacher-student experience, and enabling vigilant teacher observation. Based on this

study, Table 1 provides some consideration in selecting tools to enable teachers to gain deep

knowledge of their students.

Table 1
Technology Choices for Understanding & Knowing the Student

Elements of Caring		Considerations Regarding Tools
Knowing the Student	▪ Get to know students/ students get to know teacher through continuous dialogue ▪ Achieve shared teacher-student experience ▪ Observe student online activity ▪ Observe student performance and interaction patterns	***How well does this tool facilitate . . .*** ▪ dialogue? ▪ teachers coming to know students' personal/academic interests? ▪ students communicating their feelings and ideas openly? ▪ a shared experience? ▪ a shared workspace? ▪ teachers seeing the project from the students' perspective? ▪ teachers observing student interactions and performance patterns? ▪ teachers knowing students on a personal non-academic level? ▪ teachers demonstrating to students that they see them as individuals with personal needs? ▪ teachers helping students feel comfortable?

Discussion

This paper describes three themes related to understanding and coming to know a student—continuous dialogue, shared experience, vigilant observation. Perhaps the most salient theme, continuous dialogue, provided a way for teachers to come to a deep knowledge of each student. This theme is congruent with empirical research that has established dialogue as a critical element of the online learning process (Rovai, 2007; Stein, et al., 2005; Vrasidas & McIsaac, 1999). Teacher and student participants preferred technologies that increased teacher-student accessibility by displaying users' online statuses. Synchronous and mobile technologies that were more instantaneous, such as chat, video conferencing, texting, and mobile phone emails, were mostly favored over asynchronous technologies. Teachers used an automated message system to create opportunities to initiate dialogue with each student individually.

This theme is closely related to literature that has established affective responses (i.e., expression of emotions, use of humor, self-disclosure) among online users as an element constituting social presence. In particular, self-disclosure has been recognized as an important element increasing social presence and supporting the construction of knowledge (Shamp, 1991). The present study suggests that continuous dialogue is critical in achieving self-disclosure. The continuous quality inherent in caring dialogue makes synchronous technologies most suitable for communicating TMC. However, continuous caring dialogue may also be achieved with asynchronous technologies when teachers make an effort to provide prompt and responsive replies. In regards to dialogue, students favored affordances that enabled promptness and mobility over affordances that communicated non-verbal cues (i.e., video).

Students felt understood and cared-for when they perceived that teachers jointly experienced the learning process with them by working together with the student towards a

specific project. This concept is similar to Noddings' (1984) concept of "duality" in which the teacher and student "see" and "feel" together (p. 30). Although students usually preferred synchronous technologies that enabled workspace sharing and instantaneous feedback, asynchronous technologies such as email were also effective in communicating care when they indicated to students that the teacher had paid significant attention to their specific project or need. This theme suggests that along with knowing the student, knowing the students' projects and experiencing it from the students' perspectives is critical in communicating care in the online context. This finding agrees with literature related to teacher presence that rejects the idea of the teacher as "the guide on the side" indicating that teaching is most effective with "the active participation of a subject matter expert in the critical discourse" (Anderson, et al., 2001, p. 9). We propose that this may be done most effectively through technologies (i.e., Google Docs, Oneeko) that enable a shared teacher-student experience.

Another way teachers came to know students was through observation. Observing students' online activity gave teachers relevant knowledge about where to communicate with each individual student as well as knowledge related to personal aspects of their lives. Technologies such as Skype or Twitter that enabled students to openly communicate emotional or personal aspects of their lives were helpful. Technologies found within the schools' learning management system and customer relationship management tool allowed teachers to observe patterns and learn of interactions students may have had with other teachers. Although the role of attentive teacher observation may be implied in research related to teacher presence and immediacy, it is important to acknowledge that observations of student online activity and interactions provide a wealth of knowledge that is useful in attending to students' personal and academic needs.

This study provides evidence that caring begins with achieving a deep understanding and knowledge of the one cared for and his needs. These findings are congruent with Noddings' theory of care, which states that caring begins with engrossment, or receptivity to the cared-for. To achieve receptivity, a teacher must feel what the student feels, and see what the student sees. Thus, engrossment requires presence, but more so, an attempt by the teacher to come to know the student (Noddings, 1984). To "know" the student means to have knowledge of the students' realities in terms of their academic and personal lives, and to understand the project or task from their point of view (Noddings, 1984). This study suggests that in technology-mediated contexts, this also involves knowing the students' positions in regards to their knowledge and preference of technological tools.

Although teachers acknowledged that the best technology tools to use were those the students preferred, teachers largely favored synchronous video technologies. Students preferred chat technologies for the following three reasons: (1) chat technologies enabled students to communicate with multiple people and work on academic tasks simultaneously, (2) they perceived chat technologies to be more reliable than video technologies, (3) when a relationship of trust had not been established with the teacher, chat technologies provided a safe distance for students with less self-confidence or desire to connect. However, teacher caring also involved helping students transition to using technologies with greater affordances, while taking care not to damage the relationship. This transition enabled teachers to more effectively connect with students during direct instruction.

While some researchers have agreed that asynchronous technologies are less capable than synchronous technologies for facilitating immediacy (Rice, 1992; Short, Williams, & Christie, 1976), others disagree stating that it is not the affordances of the medium that determines the

degree of perceived immediacy but the perceptions of the interactions that take place within the mediums (Gunawardena & Zittle, 1997; Richardson & Swan, 2001; Walther, 1996). This study suggests that although synchronous affordances were considered helpful in facilitating caring interactions, it is the attentive intentions behind teacher actions that help students perceive caring.

Future research may examine the degree to which establishing a caring relationship in the face-to-face context, prior to entering the online medium, may affect students' willingness to connect with teachers online using technologies with increased affordances (i.e., video technologies). In general, the introduction of the ethic of care theory to the technology-mediated context generates the need for much research that acknowledges the role of teacher observations, teacher intentions and rationales for actions that increase presence and immediacy, and student reactions to TMC. Beyond considering specific teacher actions and behaviors, these concepts account for the broader context of relationship. Ultimately, it may be student perceptions of teacher caring that serve to decrease the psychological distance between teacher and student.

Conclusion

This study primarily examined female teachers' experiences with caring online. Further research examining male teacher perspectives in the online setting may be useful in identifying gender differences related to technology-mediated caring (TMC). A small sample size and the lack of observation data may also be considered limitations of the study. Despite these limitations, this study suggests that arriving at a knowledge of the student through the use of technology is possible and necessary in communicating caring to students. While a variety of technologies may be used to achieve TMC, the content of the interactions and the attentiveness

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communicated to students acknowledging their preferences and needs may be of greater

importance.

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APPENDIX A: Detailed Methods for Articles Two and Three

To better understand how the phenomenon of caring is manifested in technology-mediated settings the researcher created a three-series interview protocol that aimed at exploring the participants' experience with the phenomenon of care. A pilot study was conducted in which the researcher tested the teacher and student interview protocol to refine the questions and interview procedure. The pilot study helped improve the interview protocol and the sampling criteria. In this qualitative study, interviews were used to "[gain] a deeper understanding of the nature or meaning of [participant's] everyday experiences" with the phenomenon of care (van Manen, 1990, p. 9).

Approach to Inquiry

This study aimed to gain an in-depth understanding into participants' experiences and actions regarding the phenomenon of care in technology mediated education. In specific, the principal questions in this study aimed to examine the lived experience of caring online educators and their students. For this reason, a qualitative approach was a better option because it allowed the phenomenon to be studied in the context in which it was experienced and helped produce a rich, in-depth understanding of those meaningful experiences.

A hermeneutic phenomenological approach was applied to this study. Phenomenology, the study of the lived experience, was useful in this study to examine the phenomenon of care from the subjective "lived experience" of the participants (van Manen, 1990, p. 36). The methodology for this study originated from hermeneutics—understanding through interpretation or the interpretations of "the 'texts' of life" (van Manen, 1990, p.4). The human science of hermeneutic phenomenology is a study of people in their every day life with an emphasis on creating meaning through interpretation (Wilson & Hutchinson, 1991).

One approach that has evolved from hermeneutics and phenomenology is interpretive phenomenological analysis (IPA), which acknowledges the past experience, values and beliefs of the researcher as an essential part of understanding the participants' experience (Shaw, 2001). This approach originated from three philosophical areas: phenomenology, hermeneutics, and idiography (Smith, Flowers, & Larkin, 2009). IPA is grounded in the phenomenological ideology that people are immersed in the world and that they are constantly in relation with objects and others in the world. Each person's experience can only be grasped through an interpretative hermeneutical process. IPA is idiographic as it is concerned with describing in detail the particular experience of each participant (Smith, Flowers, & Larkin, 2009).

The principal aims of IPA are to allow researchers to a) understand and describe the participants' experiences and b) to interpret those descriptions "in relation to a wider social, cultural, and perhaps even theoretical context" (Larkin, Watts, & Clifton, 2006, p. 104). The interpretation of participants' experiences in relation to theory was particularly useful in this study since Noddings' (1984) theory of care was instrumental in the analysis of this study. IPA aims for a detailed, rich analysis by encouraging the researcher to empathize with participants while at the same time "trying to make sense" of their experience (Smith & Osborn, 2003, p. 52).

IPA has been deemed particularly useful in research that aims "to explore in detail how participants are making sense of their personal and social world" (Smith & Osborn, 2003, p. 51). In this approach, there exists a "double hermeneutic", or a process that involves two stages of meaning making- one in which the participants attempt to "make sense of their world" and another in which "the researcher is trying to make sense of the participants trying to make sense of their world" (Smith and Osborn, 2003, p. 53). IPA acknowledges that this hermeneutic

approach has the potential of offering "meaningful insights which exceed and subsume the explicit claims of [the] participants" (Smith, Flowers, & Larkin, 2009, p. 23).

A distinguishing quality of the IPA approach to research is the active and interpretative role of the researcher in the research process (Smith & Osborn, 2003). The IPA approach allows and encourages the researcher to interpret the participant's speech patterns, word choice, affective condition, and other subtleties as part of the research analysis. IPA is specifically useful in making sense of participants' meaningful experiences in an idiographic interpretative manner (Smith, Flowers, & Larkin, 2009).

Acknowledging the researcher's past experience and values in the collection and analysis of data ensured increased trustworthiness in this particular study given that the researcher had had prior experience with the phenomenon and context under study. Moreover, IPA was also a particularly useful approach in this study given that the principal aim of IPA is idiographic—to examine and interpret in detail the particular participant's experience (Smith, Flowers, & Larkin, 2009). The idiographic approach of IPA is of particular advantage in examining the phenomenon of care as care has been described as a complex, subjective, and context dependent construct (Noddings, 1984).

The interview methods involved relatively ethnographic techniques since the interview protocol required that the researcher begin broadly, asking "grand-tour" questions, and then gradually became more focused on the phenomenon of interest (Spradley, 1979). The use of artifacts was another element in the study that complemented interview data (Spradley, 1979, p. 8).

The current study yielded overarching themes for each of the particular cases examined. The themes were presented using verbatim quotes from each interview reflecting data collected

based on a specific account. The claims of this analysis pertain to the particular experiences examined within the Open High School of Utah (OHSU). Thick detailed descriptions will allow practitioners and researchers the ability to make naturalistic generalizations based on the analysis of the particular case to apply to other settings as they see fit.

Context

The literature of nurturing pedagogy and care has been grounded primarily in the K-12 education context. One of the reasons the researcher chose to conduct this study in the Open High School of Utah is because it is an online high school in which the teachers have shown an exceptional desire and ability to connect with students in meaningful ways. Furthermore, teachers emphasize the importance of creating quality teacher-student relationships that facilitate learning.

This high school differs from other electronic high schools in that the teaching model provides students with one-on-one tutoring that is available based on the student's needs while still allowing for great flexibility. The learning management system employed by OHSU is data-driven and enables one-on-one connections to develop by providing real time information that allows teachers to instantaneously track student performance. This provides a good context in which the teacher and student relationship can be nurtured in the process of helping students learn online. Another unique quality of this online setting is its aim to provide an open education and to encourage collaboration between teachers, students, and parents.

Participants

The data collected to answer these questions was qualitative data from the Open High School of Utah. Consistent with IPA, data consisted of a purposeful sample of participants who had prior experience with the phenomenon under study (Smith & Osborn, 2003). Due to the

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nature of this study, it was important to examine the experience of the teacher and the student to understand the phenomenon of care.

Data consisted of two teacher cases and four student cases. The two teachers selected as cases for this study were a purposive sample of teachers who had demonstrated exceptional caring attitudes in their practice as teachers in the online context during the past year at OHSU. This criterion was important in selecting teacher participants because the study aimed to describe how caring can be experienced online most effectively. Caring teacher participants were essential in providing exemplary descriptions of interactions and technology choices in creating and supporting caring teacher-student relationships. The two teacher cases were selected based on recommendations by the OHSU administration, the best available source for judging the quality of teachers at the school.

To supplement the teacher cases, two students—one male, one female—studying under each of the instructors previously interviewed were selected to provide the perspective of the cared-for in the phenomenon of care. To ensure a representative sample, students were selected based on the quality of their relationship with the teacher and in their experience in caring encounters with the teacher. Selecting student participants that had experienced a high quality caring teacher-student relationship was a requirement for this study because this study aimed to describe how caring is experienced online and the student perspective is essential in describing an effective care-centered learning experience. The information necessary for the selection of this sample was provided by the two OHSU instructors selected for this study. Instructors were deemed the most reliable source for gauging the quality of relationship they established with each student and accessing student progress information. It was not requisite that students selected possess a caring attribute since the role of the cared-for is not to care but to

acknowledge the caring acts of the one-caring (Noddings, 1984). However, it was important that students selected had experienced a caring relationship with their instructor.

Students were recruited for this study based on recommendations by both of the teachers selected. More specifically, teachers created two lists of 4-5 students, one list for males and one for female students, with whom they considered they had a quality relationship. Teachers ranked the students from best quality relationship to least quality relationship. One male and one female student from the top of the lists (for each teacher) was contacted to participate in the study. Four students total were recruited for the study. Students and their parents were invited via email to participate in the study. The email included the study synopsis as well as a link to the consent form. By digitally signing the consent form students and parents allowed researchers to use students' interview responses and have access to teachers' notes recorded previously regarding their interactions with the instructor. The consent form was digitally signed before interview participation. Participation was completely voluntary and students were not included in the study without providing their consent and without the consent of their parents.

Based on recommendations made by OHSU, the first instructor/student case was selected based on experiences for a class taught during the last school year. Interview questions were based on experiences participants had during the last school year. Archival data also consisted of data recorded during the last school year. The second instructor/student case was based on experiences for a class that was taught during the course of the interviews. Interviews were conducted towards the end of the course to allow participants enough time to establish relationships and experiences. Interview questions and archival data were based on experiences students and teacher had during the current school year.

All participants in the study were Caucasian—an important distinction to make since care has been determined to be a phenomenon dependent on culture (Thompson, 1998). Student participants' ages ranged from 12-18 and the sample represented both genders (male and female). Teacher participants were Caucasian female adults. All of the participants in this study were provided with an informed consent and their names were changed to protect confidentiality.

Assumptions

IPA is grounded in the Heideggerian belief that the reality of human existence is embedded in the world and our experiences in the world. This implies that researchers are also "an inclusive part of the world they are describing" (Larkin, Watts, & Clifton, 2006, p. 107). For this reason, IPA takes into account the researcher's experience and values, which become an increasingly important aspect to consider due to the focus on interpretation of the data in this approach.

In contrast to other phenomenological approaches (Husserl, 1963), which promote "bracketing" as a way of separating the researcher's beliefs and assumptions with the phenomenon under study, IPA acknowledges that the researcher's beliefs and assumptions are part of the interpretative process of its methodology (Smith, Flowers, & Larkin, 2009). An awareness of one's own beliefs and experience of a phenomenon provides the researcher "with clues for orienting oneself to the phenomenon and thus to all the other stages of phenomenological research" (van Manen, 1990, p. 57).

IPA recognizes that a researcher may identify some preconceptions before engaging in the research, but that some preconceptions will emerge in the process of conducting the research (Smith, Flowers, & Larkin, 2009). This process has been described as a "cyclical process" in which the researcher may begin with some preconceptions, but should not allow those

preconceptions to impede the ability to interpret the phenomenon under study (Smith, Flowers, & Larkin, 2009, p. 25). In addition, this process should cause the researcher's preconceptions to evolve and change as he comes to better understand the "new projection" of the phenomenon under study (Gadamer, Weinsheimer, & Marshall, 2004, p. 269).

Inasmuch as a preconception cannot be completely suspended, or bracketed (Patton, 2002; Smith, Flowers, & Larkin, 2009), the following is a list of the most relevant preconceptions the researcher held based on personal life experiences and past experiences teaching online:

- all men and women are moral agents with the ability to discern good from evil and to choose accordingly;

- morality is crucial to the health and survival of any person and institution;

- all men and women have the capacity to care in deep and meaningful ways;

- all men and women have a fundamental human need to be cared for;

- Noddings' theories and definitions of care (Noddings, 1984; Noddings, 1992) are valid and present a cogent argument in favor of caring in the philosophical and practical domain;

- care is much "more than gentle smiles and warm hugs" (Goldstein, 1998);

- the construct of care can be operationalized and examined rigorously;

- learning is a social activity and the quality of caring interactions within the zone of proximal development (Vygotsky, 1978) can increase the likelihood of meeting students' cognitive, social and affective needs (Fenstermacher, 1999);

- practicing nurturing pedagogies makes teachers increasingly competent in their role as teachers and human beings; and

- caring is a practice that restores energy and happiness (Noddings, 1992).

Data Gathering Procedures

Data collected in IPA usually consists of verbatim accounts in the form of semi-structured interviews (Smith & Osborn, 2003). Although less frequently used, the use of focus groups and diaries has also been utilized (Larkin, Watts, & Clifton, 2006). This study consisted mainly of semi-structured interviews with instructors and students, but also included artifact analysis. Focus groups were not employed in this study because they tend to "make it more difficult to infer and develop the phenomenological aspects of IPA" which are of particular importance in this study (Smith, Flowers, & Larkin, 2009, p. 71).

Observations

Observations were conducted with only one of the instructors, Teacher 1, to attempt to understand the context and "culture" of the study from the participant's point of view. An in situ observation allowed the researcher to experience the process of teaching and learning in the specific context first-hand and to gain an understanding of the day-to-day activities and behaviors teachers engage in while teaching in this specific context. To do this, the researcher went to the location where the teacher was working and sat next to the teacher, observing the online teaching process. It was not necessary to observe the second teacher because both teachers engage in a similar process while teaching online and any relevant differences could be discussed through interview conversations.

It was not necessary to observe students in this study. The purpose of the observations was to gain a better understanding of the program and participants' inside perspective. Therefore, one instructor observation was sufficient and was conducted before other forms of data collection were begun.

Interviews

The interviews for this study conformed to the IPA method of interviewing in which semi-structured interviews are used to allow researchers and participants "to engage in a dialogue whereby initial questions are modified in the light of the participants' responses and the investigator is able to probe interesting and important areas which arise" (Smith & Osborn, 2003, p. 55). Questions were open-ended to enable participants to share their experience openly. The interview guide served as a flexible framework to encourage dialogue between researcher and participants.

In accordance with phenomenology, context was an important criterion to establish when exploring the meaning of experience (Patton, 1989). To allow the investigator and participants enough time and opportunities to examine interesting topics and to establish the context of the experience, a three-stage thematic interview series initially proposed by Dolbeare & Schuman was employed (Schuman, 1982). The first stage began with broad and general topics, leading to later stages that allowed both the researcher and participant to explore more in-depth and detailed topics of interest.

The semi-structured interview was guided by the interview protocol, which was iteratively refined throughout the research process. The process of refinement included changes made by the researcher based on the pilot study and changes suggested by members of the dissertation committee who peer-reviewed the protocol before it was utilized. Interviews in IPA are meant to be open and flexible (Smith, Flowers, & Larkin, 2009). Thus, the interview protocol was used in a flexible manner. Each participant was interviewed three times for one hour—each visit taking place on different days. Interviews were conducted through Skype video conferencing at a distance to allow participants flexibility and privacy protection for minors.

Teacher interviews lasted approximately 45-60 minutes. Student interviews lasted approximately 30-45 minutes. All interviews were audio recorded and transcribed verbatim.

To encourage a more in depth and rich description of participants' experiences, participants were told that there were no right or wrong answer and that the aim of the study was to grasp their personal experience in the technology-mediated context. Questions were worded to avoid leading and to encourage rich, full, and open answers. The researcher made a conscious effort to listen thoroughly and to make the participant the focus of the interview.

Instructors. The researcher conducted interviews with two female OHSU instructors. The purpose of these interviews was to understand how instructors practice care in the online context. This included how instructors made choices about students learning through fostering care in their teaching practice. The second aim of this study was to understand the choices instructors make in regards to selecting mediums and tools to communicate their caring actions.

Students. The researcher conducted interviews with four OHSU students—two males, two females. The purpose of these interviews was to understand the phenomenon of care as students experience it in the online context. This included understanding what students recognize as care in the online context and what mediums help communicate caring acts best.

Collection and Review of Artifacts

In this study the researcher reviewed the instructors' course notes or CRM (customer relations management) data that contain a detailed report of each teacher-student interaction. Relevant CRM data was collected and analyzed for both instructors. CRM data provided an in-depth contextual view of student-teacher caring interactions and provided a source of triangulation for data collected during the interviews.

Instruments

An interview guide was created to guide the three-stage interview process (Seidman, 1998). The first stage aimed to help the researcher establish rapport with the participant, get a sense of the participant's background, and understand the context in which the study took place. This initial stage also consisted of asking general questions to participants about experiences they had in learning and in their student-teacher relationship in the online context. The aim of the first stage was to help participants feel at ease, to establish rapport between the researcher and the participant, and understand the context of the study.

The second stage of the interview process aimed to gain a clearer perspective of how caring is manifested and experienced in the online classroom from both the students' and the instructors' perspective. These questions implicitly addressed caring and some of the elements of care (engrossment, motivational displacement, reciprocity, modeling, practice, dialogue, and confirmation) to better understand how these were experienced in the online context. The second aim of this stage of the interview process was to understand the choices and experiences of teachers and students in selecting mediums used to communicate care.

The third and final stage of the interview process was useful by allowing the researcher to follow-up on any of the themes that had evolved in prior interviews, or to probe deeper on subjects of interest. At this final stage, follow-up questions about artifacts previously examined were asked. At the end of the third interview, the researcher summarized the participant's answers and verified the accuracy of data collected with the participant as a way of member checking the data collected to ensure an accurate interpretation.

Data Analysis

IPA has been described as less of a prescriptive methodology and more as a flexible approach in which the researcher is responsible for approaching and interpreting the subject matter in a responsive and sensitive manner (Larkin, Watts, & Clifton, 2006). This focus in interpretation makes meaning, not frequency, the central aim in IPA. In order for the researcher to grasp the meaning of the data collected, he must have "sustained engagement with the text and a process of interpretation" (Smith & Osborn, 2003, p. 64). This process has been described as an "iterative and inductive cycle", or the hermeneutic circle, which involves understanding parts of the text in relation to the whole and the whole text in relation to the parts (Smith, Flowers, & Larkin, 2009, p. 79).

Dilthey's (1900/1976) explanation of the hermeneutic circle is central to the analysis process in IPA:

Here we encounter the general difficulty of all interpretation. The whole of a work must be understood from individual words and their combination, but full understanding of an individual part presupposes understanding of the whole . . . . [Thus] the whole must be understood in terms of its individual parts, individual parts in terms of the whole . . . . Such a comparative procedure allows one to understand every individual work, indeed, every individual sentence, more profoundly than we did before. So understand of the whole, and of the parts, are interdependent. (Dilthey, 1900/1976, pp. 259-262)

Smith & Osborn (2003) propose a step-by step approach to analysis, but assert that each researcher should modify the approach to ensure the best interpretation possible by:

1) reading and re-reading;

2) initial noting;

3) developing emergent themes;

4) finding connections across emergent themes;

5) moving to the next case; and

6) looking for patterns across cases.

Reading and Re-reading

The purpose of reading and re-reading the text is to ensure that the participant and their experience is the focus of the analysis (Smith, Flowers, & Larkin, 2009). To ensure that this is the case, the researcher recorded some of her impressions about the interview before beginning the analysis phase to ensure that the focus of the study becomes the text and the data collected through the interview.

Each interview was transcribed verbatim. Following transcription, each case was read and analyzed in detail one case at a time. Reading and re-reading the text initiated "active engagement" on the part of the researcher. It also allowed the researcher to understand the overall structure of the text and to facilitate the identification of themes later in the analysis process (Smith, Flowers, & Larkin, 2009, p. 82).

Initial Noting

According to Smith, Flowers, & Larkin (2009) this level of analysis consumes the most time and demands the most detail. At this stage of the research process the researcher is expected to maintain an open mind and to identify any interesting topics that arise from reading the transcript, described as "reflexive engagement" (p. 90). There is no prescribed rule, initial noting can consist of the following types of annotations: summarizing or paraphrasing, connections, preliminary interpretations, use of language, similarities/differences, contradictions, and clarifications (Smith & Osborn, 2003). The aim of this stage of analysis was to "produce a

comprehensive and detailed set of notes and comments on the data" (Smith, Flowers, & Larkin, 2009, p. 83). To do this, the researcher highlighted important text and used the left hand margin of the page to make initial annotations and interpretations.

According to Smith, Flowers, & Larkin (2009), there are three types of processes that can be used to identify comments: descriptive, linguistic and conceptual. The descriptive process of analysis is used to highlight "face value" comments the participant has made that involve explanations and descriptions of the participants' events or thoughts (p. 84). The linguistic process allows the researcher to seek out parts of the text that reflect "the ways in which the content and meaning were presented" (p. 88). This includes language use such as metaphors or pronoun use and other expressions such as laughter, pauses, and hesitation. The conceptual process of analysis allows the researcher to question the data collected and annotate interpretations based on the data. Conceptual annotations can be thought of as exploratory comments. This last step is unique to IPA and draws upon the researcher's preconceptions and assumptions in relation to the phenomenon. Reading the text backwards is a method of "de-contextualization" that can help the researcher focus in on what the participant is really saying (Smith, Flowers, & Larkin, 2009, p. 90).

In this specific study, these three processes were employed to ensure that the data was analyzed and interpreted at various levels beyond the descriptive domain and to ensure a more "fluid process of engaging with the text in detail" (p. 91).

Developing Emergent Themes

At this stage the researcher focused on documenting emerging themes based on initial annotations of the participants' reactions in the interview and the researcher's interpretations in the initial noting stage. In accordance to the principles of IPA, themes should be phrases that

summarize initial annotations concisely and should "reflect not only the participant's original words and thoughts but also the analyst's interpretation" (Smith, Flowers, & Larkin, 2009, p. 92). The criteria for establishing a theme dictates that themes should be abstract enough to allow the researcher to make connections at a theoretical level within and across cases, but also specific enough that they are still rooted in particular experiences found in the text (Smith & Osborn, 2003).

Interpretation is one of the unique and significant elements of an IPA study. In IPA, a researcher can engage in interpretation at various different levels of depth, but ultimately, there must be an interpretation and it must be substantiated by the words found in the text (Smith, Flowers, & Larkin, 2009). For this study, themes were annotated on the right hand margin of the text. Themes included researcher's interpretations and participants' experiences.

Finding Connections Across Emergent Themes

At this stage the researcher removed all the names from the transcripts and replaced them with pseudonyms. Each transcript was imported to a qualitative analysis software tool. Here the researcher began thoroughly coding each transcript independently, creating new themes as they emerged.

Moving to the Next Case

This analysis continued with the rest of the cases. It was important to consider each case separately and individually from each other. This included letting new themes emerge with every case or transcript analyzed without letting previous analyses influence themes that emerge from the new case (Smith, Flowers, & Larkin, 2009). Once each transcript had been coded, the researcher read over the list of all the themes and created a table for each interview in which themes with similar meanings were organized into clusters, according to the order in which they

emerged in the interview. The final list of themes and super-ordinate themes represented all the cases in the study.

Looking for Patterns Across Cases

Once the final list of themes for all cases had been compiled, case themes were compared to find patterns across cases. The final result of this stage was a table with themes that are covered across cases. This table displayed connections and patterns between interviews and organized the most relevant themes at subordinate and super-ordinate levels. Connections made were checked with the primary source text to ensure that the themes were grounded in the data and were representative of the participants' accounts. This was an iterative process and not all themes were used. Themes that were beyond the scope of the project, that did not apply well to the questions the study aims to answer, or that seemed less relevant to the emerging structure were dropped from the analysis (Smith, Flowers, & Larkin, 2009).

The principal aim of this stage in the analysis was the organization of themes. The following are some methods that have been offered to achieve the organization and recognition of patterns between themes: abstraction, subsumption, polarization, contextualization, numeration and function (Smith, Flowers, & Larkin, 2009). In abstraction, themes that were similar were clustered together and assigned super-ordinate titles. Subsumption is similar to abstraction but involves directly making one of the themes the super-ordinate title and clustering other themes under it. Polarization involved finding themes that were opposites or that are different from each other. Contextualization involved finding themes that are grounded in a particular event, or narrative. Numeration involved the frequency with which a theme appeared in the transcript. Although numeration is not the only indicator of importance, it is one way in which researchers can distinguish the importance of a particular theme to the participant (Smith,

Flowers, & Larkin, 2009). Finally, function is a way to categorize themes according to their "specific function within the transcript" (i.e. positive and negative themes) (Smith, Flowers, & Larkin, 2009, p. 98).

To confirm the categorization of themes and the selection of passages from the interviews as evidence of the themes, a final reading of each interview was conducted. This final review of the each interview helped the researcher verify that no relevant themes were excluded from the study and to determine the best possible passages to be used as evidence.

Interpreting the Findings

Once the themes had been organized into subordinate and super-ordinate levels, it became apparent to the researcher that Noddings' (1984) ethics of care framework, specifically the requirements of care—engrossment, motivational displacement, and reciprocity—would be useful overarching themes to use in presenting the super-ordinate themes determined during analysis. All super-ordinate themes determined during analysis fit well into Noddings' framework, with the exception of themes related to limitations in caring. For this reason, Noddings' requirements of care were used as overarching themes to present the findings of this study. Thus, Noddings' framework was a useful tool for interpreting data only after the analysis had taken place. In using Noddings' framework, the researcher took care to use the model primarily to assist in interpreting the data and not as a predetermined theory to constrain the emergence of themes.

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Disciplined Inquiry

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To improve the trustworthiness of this inquiry, the researcher employed various strategies to increase the credibility, transferability, dependability and confirmability of this study (Lincoln & Guba, 1985; Patton, 2002; Williams, n.d.). Credibility has been defined as the internal validity

of the study from the participants' perspective and "the most crucial technique for establishing credibility" (Lincoln & Guba, 1985, p. 314). In order to increase the credibility of this study the researcher conducted member checks after each interview and once the analysis had been completed. After each interview the researcher summarized what she heard and understood from each participant's answers to ensure that she captured the correct meaning of their account. As part of this process, the researcher will also provide participants, at the end of the analysis stage with a data record including her interpretations to be reviewed by participants to ensure a credible account of their experiences.

To increase the dependability and confirmability of this study, an audit trail was documented throughout the research process. The audit trail includes a reflexive journal that accounts for the context of the research and provides a summary of the process and actions the researcher took to arrive at conclusions and findings. Progressive subjectivity checks, in which the researcher disclosed biases or assumptions on her part to make interpretations more transparent were also recorded in the audit trail. The researcher used a reflexive journal to record interview dates, participant contact information, notes about communications, and study procedures. This record documented the emergence of themes, the evolution of researcher's assumptions, and inquiry strategies throughout the research process.

Peer debriefings, in which the dissertation committee and committee chair questioned and probed the study's methods, conclusions, and biases also increase credibility. Peer debriefings were useful in developing and improving the interview protocol, determining adequate methodology procedures, and overlooking the emergence and organization of themes.

Triangulation for this study consists of using multiple methods of data collection and investigating multiple participants' views. Data collected from interviews was supplemented

with data collected from the CRM artifact analysis to increase credibility. Two teacher participants' experiences were examined, as opposed to one, with the purpose of triangulation. Student participation also served to triangulate findings and claims made by teachers.

Negative case analysis allowed the researcher to look for any examples or cases that may contradict the themes that emerged. The absence of any contradicting examples indicated that the themes collected were an adequate representation of the data. Additionally, a thorough examination of the themes revealed a few topics that were less relevant to Noddings' (1984) requirements of caring—diverse approaches to caring and limitations of caring. These themes were not included in the findings because they were beyond the scope of this study.

The researcher attempted to increase the transferability, or external validity of this study by doing a thorough job of describing the research context and the researcher assumptions that are central to this study. The thick descriptions will allow an auditor or other readers to draw their own conclusions and generalizations based on their judgment of how the study, the participants, and the context relates to their own circumstances. This included providing ample extracts from the participant's transcripts to substantiate claims.

In addition to the criteria described above, Smith, Flowers, & Larkin (2009) have proposed the use of Yardley's (2000) four principles to increase and assess the validity of IPA studies: sensitivity to context, commitment and rigor, transparency and coherence, and impact and importance. Sensitivity to context was employed from the very beginning of the research study by focusing on the idiographic aspects of the study—making the participant and the participant's experience a central focus of the study. Sensitivity to establish rapport with participants early in the research process also increased the credibility of findings. In the analysis stage, the researcher was careful to create themes based on the text itself and on interpretations

the researcher made based on the text. This is evident in the final report, which demonstrates sensitivity to the raw material by presenting a "considerable number of verbatim extracts" from participant's responses (Smith, Flowers, & Larkin, 2009, p. 180). Finally, sensitivity to context was also demonstrated in the final report through relating the findings from the study to relevant existing theoretical and empirical research on the topic of care in education.

Commitment and rigor will also increase the validity of this study. To demonstrate commitment the researcher was attentive to the participants and ensured that each participant was comfortable during each interview. To demonstrate rigor the researcher purposefully selected an appropriate sample of participants, conducted quality interviews, and delivered thorough analysis.

Clearly describing each stage of the research process and providing an audit trail also demonstrates transparency. Coherence will be demonstrated through the coherence of the argument in the final report and the ability to adhere to "the underlying theoretical assumptions of the approach being implemented" (Smith, Flowers, & Larkin, 2009, p. 182). Impact and importance will be assessed by the reader of the final report based on the report's relevance on topics that are of interest and importance to the reader (Smith, Flowers, & Larkin, 2009).

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