Double Infusion: Toward a Process of Articulation Between Critical Multicultural Education and Technology Education in a Teacher Preparation Program

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Abstract

This paper describes the goals of critical multicultural education in the USA and identifies current challenges working to impede its infusion within technology teacher education programs. It offers both technology and multicultural teacher educators a model for infusion of both critical multicultural perspectives and technology into their respective curricula. This model is illustrated with an example that integrated video and Web technologies into a multicultural education course for preservice teachers. This paper calls for faculty members within technology education and critical multicultural education to engage actively in helping prepare students to become culturally responsive and technologically proficient teachers by modeling good practice in critical multicultural education and technology education.

Multicultural education is a relatively young reform movement that has sought to create a national discourse about deeply rooted cultural issues related to fairness, equality, justice, and freedom and the implications for schooling in the United States (US). Part of this discourse has centered on how teacher preparation programs can prepare competent culturally sensitive teachers for US schools. Recent changes in the ethnic composition of the US school population and a global movement toward an interdependent market economy has brought scholars in the field of multicultural teacher education to reconceptualize, retheorize, and reform its approaches to achieve its unchanging mission. This mission is to help prospective teachers develop attitudes, knowledge bases, and dispositions that will enable them to function sensitively and responsibly in schools and society (Banks & Banks, 2002; Nieto, 2000).

Within this reformation, new questions have emerged about how digital learning technologies can be harnessed effectively to support the production of multicultural learning outcomes for prospective teachers. An increasing amount of scholarly literature has highlighted collaborative efforts occurring between these two areas within teacher
education (Damarin, 1998; Gorski, 2002; Marshall, 2001; McCormick & Allen-Sommerville, 2000; Munoz, 2002). More specifically, the literature documents growing interest in how digital learning technologies can support both the pedagogical and programmatic goals of multicultural teacher education (Donaldson & Carter, 2000; McShay & Leigh, in press; Sleeter & Tettegah, 2002).

These larger discussions explore the question about whether teacher preparation programs can work toward preparing preservice teachers to become culturally responsive teachers through the use of technology. However, less attention has been directed to exploring how recent conceptions of multicultural education, namely critical multicultural education, can be supported by Web-based learning environments and, as a result, produce a different range of multicultural learning outcomes for preservice teachers. This possibility holds great importance for teacher preparation programs.

Two key issues attributed to the lack of scholarly research in this area include the views that the goals of instructional technology and multicultural education are perceived by some to be more divergent than shared (Damarin, 1998; Munoz, 2002). Second, on a national level, there is little to no consensus about which type of multicultural conceptual framework should be used to support the learning goals of teacher preparation programs. This issue within teacher education undoubtedly stems from what Grant and Sachs (2000) referred to as the lack of academic solidarity within the field of multicultural education. Grant and Sachs (and others’) concern raise important questions for the technology teacher educator. These questions include the following: Due to the evolving nature of both multicultural education and instructional technology, how can the educational leaders in these areas work together to re-articulate the changing aspects with regard to innovative technologies, conceptual approaches, shifting trends, and emerging problems in their respective fields? What steps should be taken to develop a process of articulation that would bridge the growing gap between these two areas? How can teacher educators support the growing movement to use critical multicultural frameworks in multicultural teacher education through the use of technology?

The first section of this paper describes the goals of critical multicultural education and current challenges that work to impede its integration within teacher education programs and, more specifically, technology in teacher education. The second section introduces a new infusion model that offers both technology and multicultural teacher educators a process for simultaneously infusing critical multicultural perspectives into their respective curricula through the use of technology. The third section identifies digital technologies that support critical multicultural pedagogical practices and provides a brief review and preliminary evaluation of a case project exploring how meaningful learning connections between critical approaches to multicultural education and technology in teacher education courses can be established. Finally, the author calls for technology and multicultural teacher educators to work toward strengthening the process of articulation between their respective fields.

Critical Multicultural Education

Early Conceptions of Multicultural Education

The exploration of possibilities and opportunities for technology use within critical multicultural education in teacher education begins with an articulation of the goals of critical multicultural education. However, it is important to provide background information on the historical development of multicultural education in an effort to clarify distinctions between it and the later critical approaches, which is described in this paper.
Early conceptions of multicultural education grew out of the civil rights era of the 1950s and 60s. Impassioned early supporters of this movement were driven by the realization that a majority of the organizational practices within schools were limiting learning opportunities for students of color, particularly, African American children. Proponents of this movement charged that schools’ failure to provide equitable learning environments for students of color would have damning implications for their academic, social, and psychological development. Over time, multiculturalists’ called for schools to be deliberate in their efforts to serve the needs of all students regardless of their social identity group membership.

Even though calls for greater inclusion and the utilization of human relations and compensatory approaches to address inequalities in schools received some degree of acceptance, emerging multicultural critics maintained that the purpose and scope of this conception of multicultural education was limited and, as a result, unable to reach its overarching goal (Giroux, 1992; Sleeter & Grant, 2003). Moreover, these critics claimed that traditional conceptions of multicultural education did not do enough to challenge the ways in which monocultural power structures upon which school institutions were based produce and perpetuate school inequalities. Nevertheless, calls for a reconceptualization of multicultural education were slow to take root in a majority of teacher education programs across the US.

Critical multicultural scholars within teacher education programs made a central part of their work analyzing the conceptual framework supporting the development of multicultural education programs. This effort was an attempt to determine the underlying causes of the lack of success in institutionalizing approaches seeking to ensure that equitable education is provided to all students in K-12 schools. The periodical literature on critical multicultural education revealed that multicultural education had an underdeveloped theoretical base, which rendered it incapable of challenging dominant organizational structures within schools (Dolby, 2000; Giroux, 1992). Critical multiculturalists charged that, as schools embraced mainly assimilationist approaches to combat inequalities in schooling, discourse about the educational needs, home culture, and social status of the learner would always take center stage. However, discussions about the role that schools play as institutions in shaping students’ learning experiences would simultaneously be pushed to the periphery. Calls for multicultural education to bare its conceptual inadequacies and retheorize its approaches that seek to move schools toward providing equitable education for all students, therefore, became louder and more prevalent.

**Organizational Challenges Impeding Curriculum Reform**

Multicultural teacher educators have attempted to answer the call to help preservice teachers more fully understand the goals of critical multicultural education and its implications for K-12 schools by calling for teacher education curriculum reform. Similarly, instructional technology faculty members have been charged to reform the curriculum in an effort to improve school learning by helping preservice teachers develop technology-based competencies that aid them in the process of infusing technology into the K-12 curriculum. These concurrent movements toward curriculum reform within teacher education have created a new collaborative opportunity for technology and multicultural teacher educators. Seizing this opportunity requires that both program areas go beyond independent attempts to infuse technology concepts and multicultural concepts into the teacher education curriculum by simultaneously integrating the themes, concepts, issues, and perspectives from both fields into the curricular experiences of the preservice teacher.
Leavell, Cowart, and Wilhelm (1999) commented on how the organizational structure of teacher education programs can inadvertently affect preservice teacher learning. They maintained that if prospective teachers are offered learning experiences that are either consciously or unconsciously disconnected from other curricular content their perspectives about the value of interdisciplinary learning will be limited. Dewey (cited in Noddings, 1998) stated that “students should experience a personally unified curriculum and the lines between disciplines should be less rigid” (p. 38). An interpolation from Dewey’s remark would suggest that offering prospective teachers opportunities to learn how the course content within their program of study is connected to other areas would strengthen their preparation as teachers.

Instructional technology and critical multicultural teacher education agendas (uncommon with other program areas) are rarely pursued collectively to achieve educational goals. Because of this, it is a challenge for prospective teachers to envision how technology can be used to support the learning goals of critical multicultural education and, conversely, how critical multicultural education can be used to support learning within a technology context.

Ziechner and Gore (1989) reported another organizational concern within teacher education. They maintained that prospective teachers are prone to developing objectivist views about education because they tend to be trained in learning environments where the actual theories they are being taught to use in their future classrooms are not modeled. For example, within instructional technology classroom settings, preservice teachers are taught ways that technology could be integrated into the K-12 curricula to produce meaningful learning. Similarly, in a multicultural education course, students learn that critical multicultural education is pervasive in nature, which means that it should be infused across all levels and aspects of the school curricula and social system. The organizational structure of most teacher education programs should work to increase opportunities for preservice teachers to observe these key elements of these program areas in practice, subsequently, expanding their views about the scope of learning opportunities available to students within the area of study.

The Double Infusion Model

However, the question remains, what are ways in which educational leaders in these areas can work together to articulate changing technologies and conceptual approaches in their respective fields? And subsequently, what steps should be taken to develop a process of articulation that will seek to strengthen the connections between these two areas?

In an effort to respond to these questions, this paper describes a model that uses a critical multicultural conceptual framework to support the infusion of simultaneous technology and multicultural-based learning experiences across the teacher education curriculum (McShay & Leigh, in press). Specifically, this double infusion model offers technology and multicultural teacher educators a systematic process for helping preservice teachers become proficient in using technology to enhance student learning in K-12, while they work toward strengthening their conceptions of critical multicultural education.

The double infusion model is based upon a critical multicultural conceptual framework used widely within multicultural teacher education. Aspects of this framework have its roots in the work of Gay (2002), who contended that prospective teachers should critically examine four areas within their multicultural teacher education program: (a) self knowledge, (b) cultural differences, (c) knowledge of pedagogical skills for diverse learners, and (d) community involvement practices. Other conceptual areas providing the basis for the double infusion model come from the research of Sleeter (2000), Boyle-
Baise and Sleeter (1998) and Nieto (2000). These researchers all support the view that prospective teachers can learn to embrace critical multicultural perspectives on K-12 schooling and society by investigating the historical roots of racism in the US to gain an understanding the nature and impact of oppression based upon race, social class, gender on academic achievement, and broaden their conceptions about the nature of culture. This double infusion model was developed to help prospective teachers systematically examine these conceptual areas through both the technology and multicultural teacher education curriculum.

Double Infusion at the Program Level

**Figure 1.** double infusion at the program level, depicts a teacher preparation program committed to incorporating critical multicultural perspectives throughout its curriculum. The separate effort to infuse multicultural concepts into the curriculum is depicted in Figure 1 by the blue boxes and circles on the left. Critical multicultural themes and perspectives inform a foundational, required multicultural course, which in turn, influences perceptions and experiences of both faculty and students in the remainder of the curriculum. In addition to the influence of the required foundational course, the remaining core and elective courses are also directly informed by multicultural literature and research. The preservice teachers are, thus, exposed to critical perspectives on multicultural education, depicted by small blue circles that contribute to their total curricular experiences.

**Figure 1.** Double Infusion Model — Program Level
Similarly, there is a separate effort and commitment to model and provide technology experiences for the preservice teachers. The yellow circles and boxes at the right of the figure represent these concepts and their infusion into the curriculum. There is a foundational technology course that is a part of the required core curriculum. This course, which is informed by technology literature and research, also influences the remaining courses in the teacher education program. Ultimately, students are exposed to technology concepts, depicted by the yellow circles, also adding to their total curricular experiences. The green circles in the diagram portray curricular experiences after this double infusion. The callout diagram, double infusion at the course level, at the upper right hand corner of Figure 1, depicts in more detail the multicultural concepts or layers of knowledge incorporated into the students’ courses and experiences.

The double infusion model calls for prospective teachers to explore how cultural identity, values, and behaviors are related to three overlapping domains of knowledge: knowledge of self, knowledge of other, and knowledge of community/society (for an expanded discussion on these knowledge domains refer to McShay & Leigh, in press). The goal for the teacher educator would be to provide learning experiences for preservice teachers that will enable them to explore each knowledge domain as they learn about technology use or critical multicultural education within their courses.

Table 1 provides a description of the primary learning goals with respect to each layer of knowledge. The technology teacher educator’s role would be to help prospective teachers develop proficiency in achieving a broad range of technology-based learning objectives, such as creating multimedia projects, spreadsheets, and Web pages, while simultaneously working toward the learning goals represented in each domain (see Table 1). Specific projects and activities that might embody double infusion approaches may include using computer mediated communication technologies to participate in an online intercultural exchange, developing a Web site for a community-based organization (i.e., Boys and Girls Club or Big Brother Big Sister’s program), or using video production software to complete a relevant oral history presentation.

Table 1
Double Infusion Model: Domains of Knowledge

<table>
<thead>
<tr>
<th>Knowledge of Self</th>
<th>Knowledge of Other</th>
<th>Knowledge of Community/Society</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prospective teachers understand how their own cultural identities and world views are produced by various historical, ideological, and institutional sites.</td>
<td>2. Prospective teachers are provided learning experiences that enable them to construct new critical knowledge about diverse cultural groups and develop critical multicultural pedagogies that enhance student learning.</td>
<td>3. Prospective teachers should develop an understanding of the structural inequalities that exist in society and develop approaches for challenging ways in which institutions help to maintain the status quo through social action.</td>
</tr>
</tbody>
</table>
Double Infusion at the Course Level

Figure 2 is a microscopic view of the callout diagram in Figure 1, which provides a one-dimensional view of doubly infused courses/experiences, revealing the technology-based activities that enhance the acquisition or creation of the overlapping layers of knowledge. The various technologies supporting these activities run through the model and are not specific or exclusive to any one-knowledge layer.

![Double Infusion Model — Course Level](image)

This paper has suggested a model that rigorously facilitates cross-curricular collaborations in the areas of technology and multicultural education or any teacher education course that has technology-based learning objectives for its students. “Real world” examples for the teacher educator exploring how the double infusion model can shape classroom practices that produce multicultural and technologically proficient learning outcomes for preservice teachers are critical in helping to reveal actual instructional possibilities. The next section provides such an example by sharing how Web-based technology can support critical multicultural learning goals and strengthen opportunities for prospective teachers to become more proficient in using technology in a multicultural education course.

Web-Based Learning Technologies and Critical Multiculturalism

As mentioned earlier in this paper, the literature documents growing interest in how digital learning technologies can support the both the pedagogical and programmatic goals of multicultural teacher education (Donaldson & Carter, 2000; McShay & Leigh, in press; Sleeter & Tettegah 2002). However, ways in which Web-based technologies can be used to support critical multicultural education are not as well documented, although scholars in technology education have through research delved into ways technology can be used to promote meaningful learning in teacher education (Kim, Sharp, & Thompson,
Similar to many of these scholars, Kahn and Friedman (1998) were guided by the belief that constructivist-learning approaches can be supported by technology in ways that promote meaningful learning. Whereas constructivist approaches have been documented to give some understanding as to how to create technology-based learning experiences for prospective teachers enrolled in technology and multicultural education courses, new uses of technology must be developed that support critical multiculturalist frameworks. Giroux (1992) asserted that critical multiculturalist frameworks enable students to examine educational issues within the context of the social justice and economic inequalities that exists in K-12 schooling.

**An Example of Double Infusion**

With the emergence of Web-based learning in technology in teacher education programs new opportunities have surfaced in the area of multicultural pedagogy in teacher education. This project briefly explores one such opportunity and seeks to ascertain whether a web-based learning environment designed to support cognitive flexibility in a multicultural education course can assist preservice teachers' development of critical perspectives on multicultural learning and practice in schooling.

Furthermore, this project seeks to help prospective teachers to become proficient in using technology and provide what Spiro, Collins, Thota, and Feltovich (2003) referred to as a real world context that allows the learner to transfer basic concepts and theories to dynamic situations. Jacobson and Spiro (1995) referred to this process as cognitive flexibility. They defined it as the ability to restructure information derived from external stimuli and successfully apply the newly restructured information or knowledge to other contexts. Furthermore, Jacobson and Spiro contended that computer technology is an effective tool in supporting cognitive flexibility because of its ability "to create multidimensional and nonlinear hypertext systems." Anderson (2001) and Gorski (2001), also asserted that Web-based learning systems can be powerful tools that support collaborative teaching and learning, student mastery of skills, and acquisition of knowledge, all of which are key components of effective multicultural pedagogy.

**Background and Description of Project**

This project grew out of a PT3 (Preparing Tomorrows Teachers to Use Technology) federal grant that was funded to provide technology infused learning experiences throughout a teacher education program for prospective teachers at a major Midwestern university. Additional resources (both monetary and personnel) were provided by a mini instructional development grant that was awarded by Iowa State University’s (ISU) Center for Technology in Learning and Teaching and the Instructional Technology Center. Other contributors included teacher education alumni, teacher education faculty, and a graduate course in technology mentoring that provided a graduate student to assist with technology support (for a description on the synergy between ISU graduate and undergraduate programs see Thompson, Schmidt, & Davis, 2003).

In an effort to carry out the technology learning initiatives of the PT3 grant for this particular project, a technology module was integrated into one section of a multicultural education course. One component of this module was the development and implementation of a CD-ROM titled, *Multicultural Teacher Role Model Resource CD* (MTR CD; McShay & Toy, 2003). The MTR CD was designed as an instructional tool to be
used throughout the 6-week multicultural curriculum development component of the course. The instructional goals of the MTR CD were twofold:

1. To enable students to critique various teaching methods modeled by classroom (in-service) teachers.
2. To enable students to increase understanding of critical multicultural perspectives, critical incidents, and pedagogical practices through multiple modes of learning.

In order to achieve the instructional goals of the MTR CD, preservice teachers were given the opportunity to identify and make meaning of multicultural themes and perspectives that emerged from three Web-based video cases situated in early childhood, elementary, and middle school settings. Ultimately, this CD was designed to assist preservice teachers in thinking critically about the curriculum as a process that helps students grow and learn. Infusing critical multicultural education themes and perspectives into curricula requires knowledge of specific skills and approaches. Skills are needed in identifying multicultural education concepts, writing instructional objectives, developing understanding generalizations or theses, developing appropriate student activities, utilizing resources, assessing student learning, and bringing closure to lessons. The MTR CD seeks to provide a virtual multicultural field experience for preservice teachers through the use of digital technology. Through this medium, students are given opportunities to analyze and make meaning of Posner’s (1993) framework, which focuses on four common features of teaching (teacher, learner, subject matter, and context) with respect to multicultural education in schooling. According to Posner, field experiences for preservice teachers should work toward bridging the gap between theory and practice.

This pilot project also sought to ascertain whether or not using cognitive flexible hypertext environments can provide virtual field experiences for preservice teachers and help them make connections between critical multicultural theory and practice within the context of a technology-based multicultural education course. The three overlapping domains of knowledge (self, other, and community/society) mentioned earlier in this paper were used to gauge students’ understandings about critical multicultural theory and its ties to schooling.

**Project Methodology**

In 2003, the MTR CD was introduced to 26 students who were enrolled in one section of an undergraduate multicultural education course. The students who were enrolled in this course were working toward licensure to become classroom teachers; most of them with a minor in instructional technology. Along with the support of a doctoral graduate assistant, the course instructor piloted the MTR CD using one of the completed video cases that showcased clips of a preschool teacher teaching a lesson. Through her instruction the classroom teacher helped the young learners explore age appropriate concepts of “alike and different” by creating learning experiences that included discussions about diverse families, communities, physical characteristics, and body image. The multicultural objective of the lesson was to impact positively the young learner’s self-esteem and self-concept.

For the pilot, two learning activities were tied to the MTR CD during the multicultural curriculum development component of the course. The first learning activity required the preservice teachers to view and critique the preschool video case collectively. Drawing from a critical multicultural framework to scaffold his questions, the course instructor facilitated a Web-based class discussion after viewing the video case to help the preservice teachers identify and make meaning of the multicultural concepts emerging from the
clips. Additionally, preservice teachers were prompted to reflect upon the teacher, learner, subject matter, and setting within the context of the preschool classroom showcased on the MTR CD. The second learning activity required preservice teachers to view independently instructor selected clips from the video case and reflect upon seven different perspectives that were represented in online articles focusing on issues related to the concepts of self-esteem development and self-concept.

The preservice teachers were assigned security passwords and asked to log on to the project’s Web site. The home page of the MTR CD environment provided the information shown in Appendix A to the preservice teachers (see Figure 3 for screen capture of the home page).

**Figure 3.** Multicultural Teacher Role Model Hypertext learning environment (see Appendix A for full text of this page).

The use of these technologies, such as electronic journaling, video clips, and online articles, modeled the infusion of technology to enhance student learning. The use of a questionnaire on Web design provided the preservice teachers an opportunity to reflect upon the design of the learning environment, as well as evaluate its organization and structure.

**Preliminary Evaluation of the MTR Project**

The evaluation plan for the MTR project was comprised of both formative and summative assessments, which are described in Table 2.
Table 2
MTR Evaluation Plan

<table>
<thead>
<tr>
<th>Evaluation Method</th>
<th>Assessment</th>
<th>Knowledge Domain (McShay &amp; Leigh)</th>
<th>Feature of Teaching (Posner, 1993)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formative</td>
<td>Online journal submissions</td>
<td>Self, other, and community</td>
<td>Teacher, learner, subject matter, context</td>
</tr>
<tr>
<td></td>
<td>Large &amp; small group discussions</td>
<td>Self, other, and community</td>
<td>Teacher, learner, subject matter, context</td>
</tr>
<tr>
<td>Summative</td>
<td>Unit examination</td>
<td>Self, other, and community</td>
<td>Teacher, learner, subject matter, context</td>
</tr>
<tr>
<td></td>
<td>Curriculum Unit</td>
<td>Self, other, and community</td>
<td>Teacher, learner, subject matter, context</td>
</tr>
</tbody>
</table>

The course instructor used online submissions, class discussion, a written examination, and a curriculum unit as assessments to evaluate his preservice teachers’ ability to critique classroom-teaching methods using Posner’s four features of teaching. A multicultural conceptual framework described earlier, which utilized three overlapping domains of knowledge (McShay & Leigh, in press), were used to gauge students’ understanding about critical multicultural themes and perspectives introduced to them through the MTR learning environment.

After careful analysis of the preservice teacher responses to music lyrics, video documentaries, expert testimonies, and online research articles, the course instructor observed how the perspectives of some students were either reinforced or broadened as a result of the activity. Examples of student responses are provided in Appendix B. According to Posner (1993), field experiences often reinforce previously held views of the student teacher or help them enhance their understanding of an educational issue. The course instructor also observed how this learning environment allowed for cognitive flexibility. Student online journal responses provide evidence that they began transferring their understanding of concepts related to self-esteem development to areas outside of the preschool classroom video case, yet pertinent to other critical multicultural issues. This transfer is a learning goal of cognitive flexibility theory. The three students’ responses in Appendix B help elucidate these observations. Students’ online responses have been colorcoded to indicate an emerging knowledge domain.

As part of the analysis of students’ work that related directly to the learning activity, the instructor found that the student online journal responses, in particular, reflected some growth in understanding within the three overlapping layers of knowledge. In order to make this determination the following questions listed were used within each of the three themes:

**Knowledge of self**

- What was your initial view of self-esteem?
- How do you feel it is formed?
- What importance does it have for teaching and learning?
Knowledge of other

- How did the teacher help to strengthen children’s’ self-esteem?
- What methods of teaching were used?
- Were these methods effective?

Knowledge of community/society

- What are societal factors that might help to produce low self-esteem among children based upon race, gender, social class, religion, ability, and language?

The instructor also used participant and passive observation methods to better ascertain how students were responding to use of the MTR CD as a platform for learning about critical multiculturalism. Through discussion, students explored questions about the process of embedding audio and video files, linking the cases to pertinent Web sites, and copyright regulations. An 11-item electronic questionnaire housed within the learning environment solicited feedback from students about the structure, organization, navigability, and functionality of the MTR CD (although it was not directly related to the project learning goals).

In summary, this project explored whether or not a hypertext-learning environment could support cognitive flexibility with respect to critical multicultural education, provide virtual multicultural-based field experiences and simultaneously create opportunities to help preservice teachers become more proficient in using technology. Both formative and summative evaluations revealed that this medium helped to enhance preservice teachers’ understandings about critical approaches to multicultural teaching and learning. However, further research is needed to provide more data on the instructional benefits as well as drawbacks hypertext learning environments have on student learning in multicultural education courses.

Conclusion

This paper described the goals of critical multicultural education and identified current challenges that impede its infusion within technology teacher education programs. In an effort to develop a process for articulation, a double infusion model was introduced that offers both technology and multicultural teacher educators a process for simultaneously infusing critical multicultural perspectives into their respective curricula through the use of technology. An example of a technology-based multicultural education course was provided that successfully made appropriate learning connections between multicultural education and technology.

This paper makes the case that a deliberate focus of those involved in teacher education reform should be to enable preservice teachers to make connections between various program areas within teacher preparation. Both technology education and critical multicultural education faculty must be actively engaged in this effort to prepare students to become culturally responsive technologically proficient teachers and to have their leadership serve as a model for other program areas that may have divergent educational agendas. Without such collaboration these areas may weaken programs and fail to address the needs of K-12 students equitably.
Acknowledgments

I am grateful to the TechCo project team, which was funded by the Preparing Tomorrow’s Teachers to Use Technology Federal Grant (PT3), and Iowa State University’s Center for Technology in Learning and Teaching for supporting our efforts to develop the MTR CD. Additionally, I would like to give a word of thanks to Ms. Audra Watson, Mr. Aiddy Phomvisay, and Ms. Mindy Phomvisay, for sharing their students and opening their classrooms to us. And finally, I would like to express my deep appreciation to Mr. Serkan Toy and Ms. Cristy Rojas, who through their technical expertise made significant contributions to development of the MTR CD.

References


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**Appendix A**

**MTR CD Home Page Information**

The purpose of this website is to help you link critical multicultural theory with practice through viewing and critiquing video cases that house examples of multicultural teaching methods and practices modeled by Midwestern classroom teachers. Additionally, this website is designed to enable you to explore varied critical perspectives on issues related to multicultural learning and teaching.

Preview the video case titled: “Preschool Case.”

After you have finished previewing the video case, reflect on the concepts related to self-concept, self-esteem, and self-image. Do you feel that the teacher helps her students to explore these concepts through the lesson? If so, how?
Reflect on your own perspective as it relates to the concepts of self-concept, self-esteem, and self-image. Discuss the multicultural implications of creating learning experiences for your students. Also write about how these concepts can be explored through various topics in the standard curriculum?

After you have completed this task, review the perspectives (located at the bottom of the web page) of scholars who have done research in the area of young children and self-esteem development. Were there additional ideas, concerns, or issues that emerged from these perspectives? Did your perspective change in any way? Please explain.

After you have finished the reflection and writing component of your assignment, please take a few moments to evaluate the overall structure, organization, and content of the website by responding to the questions at the online "QUESTIONNAIRE." (Please click on the "questionnaire" and then take the survey.)

Appendix B
Sample of Three Preservice Teachers’ Online Journal Submission

<table>
<thead>
<tr>
<th>Student</th>
<th>Online Submission Response</th>
<th>Knowledge Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>After reading the perspectives of this people, I never really thought about how children of other cultures would look at us, the “white girls” and what to be like us. It is so true. A lot of the magazines and TV shows when I was growing up focused on whites. They constantly showed these skinny perfect looking white females that we all wanted to be, even me. When I was young, and even at times now, as a college student, just like the little girl in one of the first perspectives, wanted straight, shiny hair. I have always had really thick dark hair just like some of my friends. I hated my hair! I would have done anything to trade with my friends. Now that I am older, I can highlight my hair blonde! Actually coming to college was one of the best things for me because I had never really dealt with diversity in a crowd, I went to a small rural school where the only diversity we had was our foreign exchange students. My perspective did change slightly after reading these perspectives, I still believe that self-image/esteem is a very important issue with students. In my preschool that I went to we didn’t really learn about diversity, we learned about finger painting, and silly songs. As a future child care provider, I really plan to focus on teaching the children about how we are all different in where we come from, but that doesn’t mean we should be treated differently, we are all capable of accomplishing the same things, we just might have different ideas of how to go about things.</td>
<td>Community/Society</td>
</tr>
<tr>
<td>2</td>
<td>After reading the different perspectives, there was one</td>
<td>Self Knowledge</td>
</tr>
</tbody>
</table>
that really stood out for me. Perspective 7 had a lot of psychological ideas in it and I always find those very interesting and informative. There was something in the way that the author worded this short discussion, but it really got me to put myself in someone else’s shoes. How would I feel if everyday when I went to school, there was a black teacher, teaching about all of the contributions of the black leaders and other famous black people? I would probably begin to feel like my skin color was insignificant. I would also begin to feel like no matter how hard I tried, I would never be able to be a contributor to the world around me. I have known that it is important to integrate multicultural content into the curriculum. However, I never put myself in someone else’s shoes to actually understand all of the reasons why. Perspective 7 was very powerful.

<table>
<thead>
<tr>
<th>3</th>
<th>The first perspective on hair differences helped me realize how important it is to help students develop a positive self-concept and help them see that even if they are a little different, that this is okay. It is important for all students to see positive role models that are in some ways similar to themselves. It is not fair to a student to always feel different and never see anyone like him/herself.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Overall, these perspectives helped me to become more aware of things that my students will be facing. I need to help all my students develop a positive self-concept, self-image, and self-esteem and need to constantly be thinking about how I can do this.</td>
</tr>
</tbody>
</table>