



Interdisciplinary Journal of Teaching and Learning

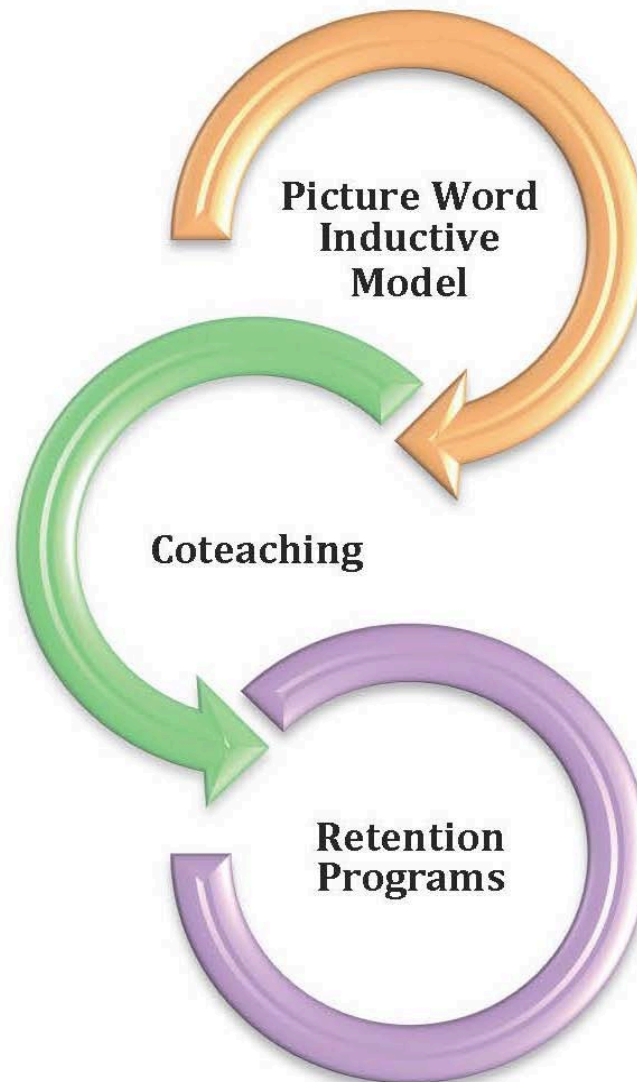
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Purpose

The Interdisciplinary Journal of Teaching and Learning (IJTL) - formerly the E-Journal of Teaching and Learning in Diverse Settings, is a scholarly, triple-blind, peer reviewed, open access electronic refereed journal that is published three times each year by the College of Education at Southern University - Baton Rouge. Publication occurs in the Spring, Summer, and Fall.

The IJTL is designed to provide opportunities for divergent ideas, views, and opinions on various topics and issues from professionals in diverse disciplines and professional arenas. It strives to be highly interdisciplinary in content that is likely to be of interest to teachers, principals, other school administrators, policymakers, graduate and undergraduate students, researchers, and academicians.

Manuscripts that focus on special education, general education (including subject content areas), bilingual education, cultural and linguistic diversity, innovative methods in teaching, assessment, exemplary programs, technology (assistive and instructional), educational leadership and reform, public policy, current issues and practices, and research relevant to education are encouraged.

Manuscripts submitted to the IJTL should be interesting, thorough, innovative, informative, well-documented, and have practical value that embraces and contributes to effective teaching and learning.

Call for Manuscripts

The Interdisciplinary Journal of Teaching and Learning (IJTL) welcomes submissions that contribute to effective teaching and learning. It provides a forum for the dissemination of articles focused on a wide variety of topics and content subject areas.

The IJTL is comprised of four departments -- Feature Articles, Educational Tweets, Online Resources, and the Event Zone.

Feature Articles provide scholarly articles on important topics, theoretical perspectives, current issues, practices, strategies, and research related to teaching and learning in PK-12 and higher education settings. All manuscripts submitted to this department undergo a triple-blind peer review.

Manuscripts for feature articles may be submitted by faculty, graduate students (whose work is co-authored by faculty), school administrators, policymakers, researchers, classroom teachers, and other practicing educators on current and compelling educational topics, issues, practices, and concerns at all levels (PK-12 and higher education) from a wide range of disciplines.

Manuscripts that focus on special education, general education, bilingual education, cultural and linguistic diversity, innovative methods in teaching, assessment, exemplary programs, technology (assistive and instructional), educational leadership and reform, public policy, current practices and issues, and research relevant to education are encouraged. The manuscripts should

be interesting, informative, well documented, appeal to the IJTL diverse audience, and have practical value that embrace and contribute to effective teaching and learning.

Additionally, the manuscripts should be original, well written, and offer new knowledge or a new and insightful synthesis of existing knowledge that has significance or importance to education. They should also have a solid theoretical base and offer an appropriate blend of teaching and practice. The conclusion, summary, final thoughts, or implications should be supported by the evidence presented.

The complete review process for manuscripts submitted to this department may take up to three months. The author guidelines provide additional information on what you should know about the submission process.

Educational Tweets features brief informative tidbits, views, and opinions on hot topics, current events/issues, educational policies, interesting readings, and other areas that impact education or inform teaching and learning. The information, views, and opinions tweeted in this department reflect those of the author.

Papers submitted to Educational Tweets are limited to 350 words and are generally solicited by the section editors. Persons interested in submitting a paper should make an inquiry. Include in the subject line "Educational Tweets".

Online Resources highlight Internet Websites that provide information on instructional resources for PK-12 classroom and preservice teachers as well as resources that may be of interest to school administrators and teacher education faculty in higher education. Resources featured in this department are generated by the section editors.

The Event Zone features educational events such as conferences, meetings, workshops, forums, professional development opportunities, and webinars sponsored by various agencies and organizations that embrace effective teaching and learning. Events featured in this department are generated by the section editors.

Submission Deadlines		
Spring 2014 (March/April)	Summer 2014 (July/August)	Fall 2014 (October/November)
Manuscript Deadline November 15, 2013	Manuscript Deadline February 15, 2014	Manuscript Deadline May 15, 2014

Author Guidelines

The Interdisciplinary Journal of Teaching and Learning (IJTL) is a scholarly, triple-blind, peer reviewed, open access electronic refereed journal that welcomes manuscripts from scholars, academicians, teachers, researchers, graduate students (whose work is co-authored by faculty), administrators, practitioners, and policymakers on a variety of topics and content areas as well as educational issues, evidence-based practices, and topics of educational significance.

Manuscripts submitted must be an original contribution that has not been previously published (in whole or substantial part), or is being concurrently considered for publication by another publisher. A cover letter stating these conditions should accompany the submission.

Manuscripts must be submitted electronically using word processing software. Acceptable formats include Microsoft Word (doc /docx) and Rich Text format (rtf).

Manuscripts should be formatted for printing on standard 8 x 11 inch paper with 1-inch margins, double spaced (including quotations and references), and prepared in Times New Roman 12-point font size. Titles, headings, and subheadings should be in upper and lower case fonts.

Manuscripts should not exceed 25 pages in length, including the title page, abstract, references, and tables or figures.

A separate cover sheet should provide the author's full name, organization or institutional affiliation, mailing address, phone number, and e-mail address; and the corresponding author should be identified. The author's name should not appear on any other pages of the manuscript. It is the responsibility of the corresponding author to notify the corresponding editor of the IJTL of changes in address, organization, or institutional affiliation occurring during the review process.

An abstract (100 - 150 words) should be included that summarizes the content of the manuscript. Five or six key words should be placed below the abstract.

Tables and figures should be placed in a separate file, and need not be double-spaced. Tables should only be used when appropriate and should include only essential data. Figures should be camera ready. Indicate the location for tables and figures in the text in boldface, enclosed in brackets, on a separate line.

The author is responsible for the accuracy and completeness of all references. References should be double-spaced and follow the specifications of the 6th edition of the *Publication Manual of the American Psychological Association*. The author is also responsible for obtaining permission to use copyrighted material, if required.

Photos or artwork must be camera ready. The acceptable electronic format is jpeg of at least 300 dpi. Authors should never assume that material downloaded or extracted from the Internet may be used without obtaining permission. It is the responsibility of the author to obtain permission, which should accompany the manuscript submission.

Submit completed manuscripts or inquiries to the editor at coejtl@subr.edu. The IJTL is published by the College of Education under the auspices of the Executive Editor, Vera I. Daniels, Joseph Kermit Haynes-Casino Rouge Endowed Professor, Special Education Programs, Southern University and A & M College, P. O. Box 11298, Baton Rouge, Louisiana 70813. Telephone/Fax (225) 771-5810.

Review Process

Manuscripts submitted to the IJTL undergo a triple-blind peer review. All identifying information about the author is removed to ensure that the author's identity is not revealed.

Manuscripts received will be screened by the journal editors for conformity to the editorial guidelines, appropriateness of topic, and appropriateness for the journal readership. Manuscripts will also be assessed for content, relevance, accuracy, and usefulness to those in educational settings and stakeholders with an interest in educational policies and issues.

Appropriate manuscripts will be sent to peer reviewers. Poorly written or incorrectly formatted manuscripts will not be sent out for peer review.

All manuscripts received by the IJTL are assigned an identification number that is used to track the manuscript during the review process.

Within two weeks of receipt of the manuscript, an e-mail acknowledging receipt of the manuscript with notification of the assigned identification number will be sent to the author. The author may contact the journal corresponding editor at any time during the review process to obtain information about the status of their manuscript. Include in the subject line "Request for Manuscript Status Update (Manuscript #___)."

The manuscript review process is generally completed within three months. This process may be slightly longer during major academic breaks or holidays.

Peer reviewers make one of the following decisions concerning a manuscript: (a) accept for publication (b) accept for publication and request minor revisions, (c) consider for publication after major revisions with the stipulation for a second peer review, (d) reject with resubmission invited, or (e) reject and decline the opportunity to publish.

Authors of manuscripts that have been accepted for publication will be notified by e-mail through the corresponding author. In some instances, authors may be asked to make revisions and provide a final copy of the manuscript before it is forwarded for publication.

Manuscripts accepted for publication may be susceptible to further editing to improve the quality and readability of the manuscript without materially changing the meaning of the text. Before publication, the corresponding author will receive an edited copy of the manuscript to approve its content and answer any questions that may arise from the editing process.

The IJTL is always looking for peer reviewers to serve on its Board of Reviewers. If you are interested in being considered as a peer reviewer, click on the link [Peer Reviewer](#) to obtain an application. Please return the application by e-mail (coejtl@subr.edu) or fax (225-771-5810).

A Conceptual Paper on the Application of the Picture Word Inductive Model Using Bruner's Constructivist View of Learning and the Cognitive Load Theory

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Bruner's constructs of learning, specifically the structure of learning, spiral curriculum, and discovery learning, in conjunction with the Cognitive Load Theory, are used to evaluate the Picture Word Inductive Model (PWIM), an inquiry-oriented inductive language arts strategy designed to teach K-6 children phonics and spelling. The PWIM reflects Bruner's constructs of learning and it encompasses the presentation of new information, both novel vocabulary and pictures, which could pose a cognitive overload for students who are unfamiliar with the words and pictures from the viewpoint of Cognitive Load Theory. This paper provides suggestions for attenuating the intrinsic, extraneous, and germane cognitive loads by presenting both novel words and pictures. It concludes with a conceptual model for conducting a systematic experimental study of the PWIM.

Key Words: Picture Word Inductive Model, structure of learning, spiral curriculum, discovery learning, Cognitive Load Theory

This paper presents an analysis of the Picture Word Inductive Model (PWIM) through the lenses of Bruner's (1960, 1967) structure of learning, spiral curriculum, and discovery learning and Sweller's (1988) Cognitive Load Theory. Readers who are not familiar with the PWIM may know and use the Linking Language strategy (Herrera, 2007; Herrera, Perez, & Escamilla, 2010), a well-received English Language Learner (ELL) approach for generating student discussion and introducing new words by linking them to background knowledge and prior experience. Both the PWIM and Linking Language strategy use pictures to illustrate the concepts being introduced and students are asked to identify what they see in the pictures.

ELL teachers who are not familiar with the PWIM may want to consider using this model in their classrooms. Although the PWIM exemplifies Bruner's constructs of learning, its use in the classroom could lead to a cognitive overload, which is explained by the Cognitive Load Theory. Because there are only a few published studies on the effectiveness of the PWIM (e.g., Feng, 2011; Swartzendruber 2007), we offer some suggestions on how a researcher can conduct a randomized control trial study of its effectiveness.

PWIM

The PWIM is an inquiry-oriented inductive language arts strategy, which focuses on early literacy. It is based on Calhoun's (1999) research and is designed to teach K-6 children phonics and spelling, explicitly and inductively. The intent of the PWIM is to capitalize on children's ability to think inductively and generalize the basis of structural and phonetic analysis. The purpose of the strategy is to develop vocabulary word concepts and paragraph and sentence structures in the general education areas of mathematics, reading, science, and social science. A picture word chart is the principal component of the curriculum content and it contains a picture and the words that the students will identify or "shake out" of the picture. The instructional sequence of the PWIM strategy (see Figure 1) calls for the cycling and recycling of pictures and words through various instructional activities.

Figure 1. PWIM Instructional Sequence

1. Select a picture.
2. Ask students to identify what they see in the picture.
3. Label the picture parts identified. (Draw a line from the identified object or areas, say the word, write the word; ask students to spell the word aloud and then to pronounce it).
4. Read and review the picture word chart aloud.
5. Ask students to read the words using the lines on the chart if necessary and to classify the words into a variety of groups. Identify common concepts, for instance, beginning consonants, rhyming words, etc. to emphasize with the whole class.
6. Read and review the picture word chart (say the word, spell it, and say it again).
7. Add words, if desired, to the picture word chart and to the word banks.
8. Lead students into creating a title for the picture word chart. Ask students to think about the information on the chart and what they want to say about it.
9. Ask students to generate a sentence, sentences, or a paragraph about the picture word chart. Ask students to classify sentences; model putting the sentences into a good paragraph.
10. Read and review the sentences and paragraphs. (Calhoun, 1999, p. 23)

According to Calhoun (1999), one of the advantages of the PWIM strategy is that it assists students in seeing and inferring patterns and relationships in the language, which should enable

them to apply and transfer this learning to novel words. Another principle of the strategy is that students are given numerous opportunities to make generalizations that will assist them in mastering the rule-governed behavior principles of the language (e.g., draw generalizations).

Relationship of the PWIM to Bruner's Constructs of Learning

Jerome S. Bruner, an American psychologist, made significant discoveries in cognitive psychology and cognitive learning theory. Our inquiry into Bruner's work revealed that the PWIM has positive attributes that are strongly related to three of Bruner's tenets—the role of structure in learning, the spiral curriculum, and discovery learning.

The role of structure in learning. When looking at the role of structure in learning, Bruner (1960) noted that:

The teaching and learning of structure, rather than simply the mastery of facts and techniques, is at the center of the classic problem of transfer.... If earlier learning is to render later learning easier, it must do so by providing a general picture in terms of which the relations between things encountered earlier and later are made as clear as possible. (p. 12)

The PWIM embodies Bruner's role of structure in learning. This model helps learners bridge a transition between old and new knowledge by first identifying what they see in a picture, which activates existing schema (old knowledge) and then by adding words to the picture word chart and to the word banks. In addition, as learners engage in inductive thinking and review the picture word chart, they bridge knowledge "encountered earlier and later" (Bruner, 1960, p. 12).

The spiral curriculum. Based on Bruner's (1960) constructivist theory, the curriculum has a direct impact on learning. Bruner postulated that as a curriculum develops, it "should revisit the basic ideas repeatedly, building upon them until the student has grasped the full formal apparatus that goes with them" (p. 8). This cycling and recycling process is an example of what Bruner refers to as the spiral curriculum, and within the PWIM, there is a process that involves cycling and recycling through the various instructional activities.

Discovery learning. Bruner (1967) developed the construct of discovery learning and described it as an inquiry-based, constructivist learning theory, which holds that learners use existing knowledge and past experiences to discover facts and relationships. As a result, learners are thought to be more likely to remember concepts and knowledge created or discovered on their own. Because the PWIM is an inquiry-oriented strategy that is captioned under the rubric of discovery learning, it is closely related to Bruner's (1976) construct of discovery learning.

The PWIM and Cognitive Load Theory

It is well established that one's working memory is limited in its capacity to process information. Because the PWIM involves presenting both pictures and words in an instructional sequence, new information (including both words and pictures) could pose a cognitive overload for students who are unfamiliar with the words and the pictures. We use the Cognitive Load Theory

to explain this cognitive overload. However, before we expound on this theory, we must first introduce some concepts from what is known as the modal memory model.

Atkinson and Shiffrin (1968) developed a multi-store model of memory. This model has several structural components including a sensory store or register, a short-term store (i.e., short-term memory or working memory), and a long-term store (i.e., long-term memory). Incoming information, which comes from all the senses, is stored in the sensory store before being lost. The short-term store receives input from the sensory store and the long-term store. This information is retained for approximately 30 seconds. Information which is not rehearsed (or is no longer needed) is lost. Information that is retained is transferred from the short-term store to the long-term store for permanent or long-term storage.

The importance of the short-term, working memory capacity should neither be ignored nor underestimated in the reading comprehension process. Research has shown that a strong relationship exists between measures of reading comprehension and short-term or working memory (Gathercole, Pickering, Ambridge, & Wearing, 2004). In an analysis of 77 studies of memory and cognition, Daneman and Merikle (1996) reported a correlation coefficient of 0.41 between comprehension and reading. In addition, Adams and Gathercole (2000) suggested that impairment in working memory may underlie problems in reading comprehension.

The notion that a person could hold from five to nine pieces of unrelated information in short-term memory for processing was originally advanced by Miller (1956), but more recent research (Cowan, 2001; Feldon, 2010; Janssen, Kirschner, Erkens, Kirschner & Pass, 2010) indicates that this estimate should be lowered to as few as four. Thus, when cognitive load or the information to be processed exceeds the working memory's capacity to process it, students will experience difficulties in learning the material. In other words, cognitive load is experienced as mental effort; and according to Feldon (2010, p. 18), cognitive load is "conceptualized as the number of separate chunks" or schemas "processed concurrently in working memory" while performing a task, plus "the resources necessary to process the interactions between them" (see de Jong (2010) and Torcasio and Sweller (2010) for additional information on the role of cognitive load in learning). Feldon also posits that there are three different types of cognitive load—intrinsic load, extraneous load, and germane load.

. . . *Intrinsic load* represents the inherent complexity of the material to be learned. The higher the number of components and the more those components interact, the greater the intrinsic load of the content. *Extraneous load* represents information in the instructional environment that occupies working memory space without contributing to comprehension or the successful solving of the problem presented. *Germane load* is the effort invested in the necessary instructional scaffolding and in learning concepts that facilitate further content learning. (p. 18)

However, it was Sweller (1988) who developed the concept of Cognitive Load Theory (CLT). CLT informs the deliberate management of opportunities for students to engage with content in order to focus their investment of mental effort on key ideas (Feldon, 2010). The central premise of CLT is that learners can only attend to a finite amount of information at a given time due to the limited capacity of the working (short-term) memory system.

Given the above, it is necessary to manage and grade the volume and flow of information carefully with which learners must grapple. Teachers using the PWIM strategy may wish to attenuate the intrinsic, extraneous, and germane loads incurred by presenting both novel words and pictures, by using graphic organizers, graphs, charts, and tables to organize the input vocabulary for learners, thereby reducing the cognitive load demand. Teachers may also elect to use only words to assess learners or perhaps even eschew the use of pictures in the initial stages of the instructional cycle.

Analysis of the PWIM

In our analysis of the PWIM, we compared the PWIM with two vocabulary development strategies—the Preview-Predict-Confirm Strategy (Yopp & Yopp, 2001) and the Focused Discussion Activity (Herrell & Jordan, 2006). We found that while both of these strategies used photographs, they differed from the PWIM in that they did not involve spiraling or an inquiry-based approach.

The Preview-Predict-Confirm Strategy

The Preview-Predict Confirm Strategy involves six steps (see Figure 2). This instructional activity “... elicits vocabulary related to the book, activates and builds background knowledge, encourages active engagement through predictions, and provides a window on the thinking strategies of peers” (Yopp & Yopp, 2001, p. 45).

Figure 2. The Preview-Predict-Confirm Strategy

1. Select a book or chapter to be read.
2. Ask students to preview the text by looking at any titles, bold print headings, or pictures for about three to five minutes.
3. Ask students to close their books.
4. List on the board all the words that the students *predict* will be found in the assigned reading. Be sure to let them explain their reasoning for their predictions.
5. Ask students to read or listen to the assigned reading.
6. Return to the list and discuss which ones were confirmed through the reading. (Govoni, 2011, p. 212)

Focused Discussion Activity

Herrell and Jordan’s (2006) focused discussion activity (see Figure 3) involves eight steps. This activity suggests that presenting new vocabulary in various ways such as visuals, seeing the written word, role plays, and oral practice should increase comprehension.

Figure 3. The Focused Discussion Activity

1. Choose a book to be read aloud or independently.
2. Collect any realia, visuals, and pictures that you can that are related to the book. For example, if students are going to be reading a book where the setting takes place on a farm, you could bring in hay and corn, as well as miniature farm animals and pictures of farms.
3. Introduce the story/concept by sharing your realia and visuals while making connections to the text and key vocabulary.
4. Ask students what they know about farms and if they have had any experiences on a farm.
5. Write their responses on the board.
6. During the discussion, take note of their level of background knowledge and experiences.
7. Read the story or begin the unit of instruction.
8. Use the information gathered during the focused discussion to assist in your instructional planning for this story or unit. (Govoni, 2011, p. 214)

Efficacy of the PWIM

Our review of the literature on the PWIM, which included a thorough search of the EbscoHost and ProQuest databases, revealed only a few published studies of its effectiveness. We identified three quantitative studies—Calhoun, Poirier, Simon, and Muller (2001), Joyce, Hrycauk, and Calhoun (2003), and Swartzendruber (2007)—which focused on vocabulary acquisition, and one qualitative study by Feng (2011), which explored the perspectives of teachers and students on both the PWIM and cooperative learning. In the three quantitative studies, the PWIM was not the only intervention used. Moreover, none of the studies focused exclusively on the pedagogical effectiveness of the PWIM in terms of its significance in increasing vocabulary acquisition.

The study by Calhoun et al. (2001) focused on the sight vocabularies of 26 first graders in a French Immersion class, an unreported number of first graders in an English language class, and an unreported number of fourth/fifth graders in a special education class. They found that the average gain for sight vocabularies of the average subgroup of students at the end of their first grade was 2.1 compared to 0.25 for the previous four or five years without the PWMI. They also found no gender differences in the results. The research of Joyce et al. (2003) also focused on the sight vocabularies of kindergarten-age students. Findings from this study (N=141) revealed that the mean percentage of recognized words for these students increased from 30% to 90% after three cycles of the PWIM. All of the participants in this study made progress, which was equivalent to that of students in an average first-grade classroom. Although Swartzendruber's

(2007) study was quasi-experimental in nature, participants (35 second grade English as a Second Language and native English speakers) using the PWIM in the experimental group outperformed those in the control group in relation to vocabulary knowledge and final assessment. Also, there were statistically significant differences in performance between the control and experimental group. However, it should be noted that the PWIM was not the only intervention used with the experimental group. Other scaffolding strategies were also used in addition to explicit connections to concepts.

In the one qualitative study (i.e., Feng, 2011), we found that both the PWIM and cooperative learning were examined. This study, conducted over an 11-month period, involved three elementary English teachers and 71 4th, 5th and 6th graders in Taiwan. Both the teachers and students highly recommended implementing this approach in a Taiwanese, English as a foreign language (EFL) context. However, only two of the teachers reported that their students' English vocabulary had increased as a result of the new approaches and that their students reported that their motivation toward learning English had improved.

A Conceptual Framework for PWIM Efficacy Research

Interestingly, none of the four studies that we found in the literature focused exclusively on the pedagogical effectiveness of the PWIM for 'significantly' increasing vocabulary acquisition. Drawing from this knowledge, we hypothesized that a researcher who conducts a randomized control trial study of its effectiveness that employs the following methodology would yield a more rigorous evaluation of the PWIM as an instructional strategy.

The research methodology we propose requires the researcher to identify two groups of study participants, an intervention group who are taught the PWIM strategy and a control (comparison) group that receives the business-as-usual curriculum. The intervention and comparison groups should be similar on observable characteristics (i.e., grade level and reading ability at the beginning of the project, with the difference between the two groups having a standard deviation of less than 0.25 based on the variation of the reading ability measure in the pooled sample (cf. Ho, Imai, King, & Stuart, 2007). The researcher should use the last digits of an identification code or other similar approach to assign classrooms randomly to form the intervention group and the comparison group. The researcher could assess the intervention's effect based on student-level *t*-tests (two-tailed test with an alpha of 0.05), assuming group equivalence on pre-intervention measures based on random assignment.

The effect size of the intervention could be estimated with the standardized mean difference between the mean outcome of the intervention group and the mean outcome of the comparison group divided by the pooled within-group standard deviation of the outcome measure. This effect size, known as Hedge's *g* (Hedges, 1981), is used to estimate the magnitude of an intervention, and is not affected by sample size. To compute an improvement index for the intervention, the researcher could convert Hedge's *g* to Cohen's (1977) *U*₃ index, which represents the percentile rank of a control group of students who performed at the level of an average treatment group of students.

Attrition bias is a potential problem for a study of this nature because research has shown that children change schools at rates as high as ten percent per year (Goldenberg, Gallimore, Reese,

& Gardiner, 2001; Lindsey, Manis, & Bailey, 2003; Manis, Lindsey, & Bailey, 2004). Differential and overall attrition can bias the effect of an intervention; therefore, the researcher will want to ascertain if the outcomes are biased due to differential and overall attrition.

There are four phases in conducting such a study as we have conceptualized above — enrollment, allocation to intervention, follow-up, and data analysis (Schulz, Altman & Moher, 2010). According to Schulz et al., enrollment involves assessment for eligibility and randomization. Allocation to intervention involves assigning those students identified as belonging to the experimental group to supplemental instruction and intervention in addition to and in alignment with core instruction. Follow-up involves ascertaining if the intervention caused a positive, significant increase in the mastery of the learning objectives. And, data analysis involves determining if the experimental/intervention group performed significantly better than the control/non-intervention group.

To analyze variance in the outcome measures at multiple hierarchical levels, we recommend Hierarchical Linear Modeling (HLM). HLM is an appropriate modeling procedure for analyzing nested data (e.g., students nested within classrooms; classrooms nested within schools). When repeated measures data are collected (pre- and post-assessment), the researcher can treat time as another level, which occurs within participants (Raudenbush & Bryk, 2002).

Conclusion

We presented a discussion of the PWIM from the perspective of Bruner’s constructs of learning and the Cognitive Load Theory. Our exploration of this model revealed that it exemplifies the tenets of Bruner’s structure of learning, spiral curriculum, and discovery learning. We also found that the model requires presenting novel words and pictures, which might lead to a cognitive overload for learners who are unfamiliar with the pictures or vocabulary being presented. Because of the language challenges faced by ELL students, instructional alternatives were suggested for ELL classroom teachers based on the Cognitive Load Theory, which we perceived would attenuate the cognitive demand imposed by the learning task. Because of our inability to uncover a substantial number of evidence-based effectiveness studies of the PWIM in the literature, we concluded our discussion with a carefully thought-out conceptualized protocol for researchers to conduct a rigorous, systematic assessment of its effectiveness.

AUTHOR NOTES

Xuan Jiang is a doctoral candidate and teaching assistant in the Department of Teaching and Learning at Florida International University. Her research interests are psycholinguistics, second language acquisition, corrective feedback, education psychology, consciousness-raising tasks, and education in Asia and Africa.

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Infusing Coteaching Into the General Education Field Experience

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With the proliferation of inclusion, teacher education programs must prepare general education candidates to work collaboratively in a coteaching environment. This study addresses a coteaching assignment introduced into the general education field experience course for secondary content majors. The candidates enrolled had no previous preparation in coteaching. The findings revealed that combining minimal reading, a focused observation assignment, and an online discussion forum that required writing and reflection enabled candidates to engage in a meaningful discussion of the challenges and benefits of coteaching. The study also revealed that these activities inspired some candidates to reframe discussions to benefit candidates observing negative models of coteaching.

Keywords: coteaching, inclusion, field experience, teacher candidates, technology

Over the past twenty years, general education classrooms have become increasingly diverse, particularly with the inclusion of students with disabilities and special learning needs (Cramer & Nevin, 2006). This national and ongoing trend is a response, in part, to the Individuals with Disabilities Education Act (IDEA, 2004) and No Child Left Behind Act (2001), both of which require that all students be included as full participants in the general curricula.

As the diversity of general education classrooms increase, coteaching, an instructional strategy which involves a general and special educator working together with the same group of students in a shared teaching space, has become one of the standard methods of classroom instruction (Conderman & Johnston-Rodriguez, 2009; Gately & Gately, 2001; Malian & McRae, 2010; McKenzie, 2009). And, according to McKenzie (2009), team teaching, cooperative teaching, and coteaching are among the most successful collaborative models (Austin, 2001; Fennick & Liddy, 2001; Friend, Reising, & Cook, 1993; Harbor et al., 2007; Idol, 2006; McKenzie, 2009; Rice & Zigmond, 2000; Salend, 2008; Scruggs, Mastropieri & McDuffie, 2007).

The literature suggests that deploying two teachers in a fully collaborative practice is effective (Austin, 2001; Gately & Gately, 2001; Mastropieri et al., 2005; Murawski & Swanson, 2001; Trent et al., 2003; Walsh, 2012). However, the practice of having two teachers working together in a classroom has many forms, with varying levels of efficacy. Models that have been found unproductive include one teach—one help and one teach—one assist (Friend et al., 1993; McKenzie, 2009; Salend, 2008; Scruggs et al., 2007).

In a metasynthesis of 32 qualitative studies of inclusive classrooms dating from 1995 to 2004, Scruggs, Mastropieri, and McDuffie (2007) found that while administrators, teachers, and students believe in the benefits of coteaching, the predominant collaborative practice is the ineffective one teach—one assist approach, where the special education teacher plays a subordinate role and is often relegated to the role of a paraprofessional or classroom aide (See also Gately & Gately, 2001; Harbort et al., 2007; McKenzie 2009; Murawski, 2006). In fact, McKenzie (2009) found that the disparity and ineffective inequity in collaborative roles was likely to be particularly severe at the secondary level where the content is complex and content expertise is at a higher level.

Several studies have concluded that teacher education is contributing to the problem. For example, some studies suggest that current and preservice teachers lack the appropriate preparation for collaboration and they are underprepared to share a classroom and work with another professional (Cramer 2010; Cramer & Nevin, 2006; McHatton & Daniel, 2008). Cramer (2010) notes that while most new teachers will be expected to work in coteaching teams, they graduate from preservice teacher education programs with “little to no training in co-teaching” (p. 562). Teacher education programs need to do more to provide candidates, particularly general education candidates, with the skills to be effective coteachers, capable of partnering with other professionals in the classroom to meet the needs of all students (Ford, Pugach, & Otis-Wilborn, 2001); Kamens, 2007; McKenzie, 2009; Swain, Nordness, & Leader-Janssen, 2012).

Many of the problems related to collaboration in public education stem from the separation and segregation of special and general education programs in higher education, thus resulting in a “vacuum” (McKenzie, 2009, p. 389) in teacher training on collaboration. Recommendations for change in teacher education programs include “structured opportunities for collaborative planning and teaching” (Cramer & Nevin, 2006, p. 272), coteaching exercises, and/or internships in which general education and special education pre-service candidates have the opportunity to coteach as part of their initial training. Some scholars, including McKenzie (2009), have argued for large-scale structural reform, such as the merger of special and general education departments and programs. Such large-scale projects, however, are time-intensive and require large-scale buy-in from faculty and administrators.

This study was designed to measure the benefits of a small-scale intervention in the undergraduate secondary teacher education program. The program had no requirements for a special education course and did little to prepare preservice general education teachers to meet the challenges of collaboration and coteaching. Unable to make immediate large-scale structural reform, we decided to initiate changes to better prepare candidates to meet the needs of all their students. Our goal was to get the candidates to begin to think and learn a basic vocabulary about collaborative teaching, to develop an ability to think critically about the different kinds of collaboration taking place in the classroom, and to affect positively their attitudes towards coteaching. As a result, we designed a coteaching unit and inserted it into an established field experience. Many of the candidates were in placements where they were observing coteaching, yet their previous coursework had done little to prepare them to understand what they were seeing in the field. We hoped some preliminary background reading along with the opportunity to write, discuss, and reflect on their field observations would serve as a meaningful introduction to collaborative teaching.

However, we were concerned that the candidates would be negatively influenced by their observations of ineffective models, such as one teach—one assist, which we knew were the norm rather than the exception in the schools (Harbort et al., 2007; McKenzie 2009). If, as the data indicate, substandard collaboration is the norm in the schools, then it follows that candidates in field placements would be observing, learning from, and potentially building on these less than ideal models of collaboration. Thus, with little background knowledge of collaboration on the part of the candidates, a small unit infused into an existing field experience, and most of the interaction involving only writing and responding to each other, could we make an effective intervention in the candidates' understanding of and attitudes toward collaborative teaching?

Method

The purpose of this study was to explore the benefits of an infused coteaching assignment in the field experience of teacher candidates pursuing undergraduate degrees in secondary mathematics, English, and health science. The research questions examined were:

1. Would candidates who have no prior knowledge about the inclusive classroom be able to engage in a meaningful discussion of collaborative teaching?
2. How would the observation of negative collaborative models affect candidates' attitudes about the potential effectiveness of coteaching?

Context

Prior to their first formal field experience, all teacher candidates must take two education foundations courses, a developmental psychology course, and pass entry requirements for admission into the College of Education. It should be noted that candidates in the secondary programs spend one full day a week for one semester observing a middle or high school classroom in their content area and reflecting on their observations through the discussion forum in Blackboard, an online learning platform. This field experience, which was comprised of 15 weeks and one full day per week of observation in the schools, is not linked with any other course and candidates had limited contact with a University-Based Teacher Educator (University Supervisor).¹ Over the course of the semester, candidates responded to focused assignments on topics related to their field observations. They also posted short essay responses and engaged in peer discussion of those responses on the discussion forum (Fisch & Bennett, 2011). The peer discussion in the online discussion forum provided candidates with an extensive opportunity to share and learn from each other's observations and reflections. The coteaching assignment was one such topic.

Participants

A total of sixteen undergraduate secondary teacher candidates provided data for this study. All of the candidates were pursuing certification in English, mathematics, or health science and

¹ Here and elsewhere, we use the terms University-Based Teacher Educator to refer to what is sometimes called the University Supervisor and Mentor Teacher to refer to what is sometimes called the Cooperating Teacher. This language helps to foster an idea of partnership and to eliminate some of the hierarchical bias of the more traditional terms.

enrolled in a field experience at an urban, public university in New Jersey. All of the field placements were within the surrounding urban public school districts, and the mentor teachers (cooperating teachers) were tenured and certified to teach in their content area.

The average age of the candidates was 29 years, and the demographics of the participants mirrored the university's diverse, non-traditional student body. Seven of the candidates were white, seven were Hispanic, one was African-American, and one candidate's racial/ethnic identify was unknown. Twelve of the candidates (75%), were women.

Procedures

To prepare the candidates with some fundamental knowledge, we asked them to read Cramer's (2010) "Coteaching" because this work offered some basics about the legal and political background underlying coteaching. Cramer explains the rationale for, elements of, and benefits of coteaching as well as the challenges it offers teachers. The candidates were also asked to review Gately and Gately's (2001) stages and definitions of the coteaching process (beginning, compromising, collaborative) and Friend and Bursuck's (as cited by Friend, Cook, Hurley-Chamberlain, & Shamberger 2010) descriptions of the different coteaching approaches (one teach—one observe, one teach—one assist, alternative teaching, parallel teaching, station teaching, and team teaching). With this information at their disposal, we asked the candidates to review the "Co-Teaching Observation Rubric" adapted from Gately and Gately's coteaching stages and use it to analyze a coteaching observation (see Appendix).

Gately and Gately (2001) characterized coteaching as a developmental process and defined three developmental stages of coteaching—the beginning stage, the compromising stage, and the collaborative stage. Broadly speaking, at the beginning stage, Gately and Gately describe the coteaching as guarded, with careful and infrequent communication between teachers who may be uncomfortable about their roles in this professional relationship. In the compromising stage, teachers exhibit a give-and-take behavior, communicating more, and being willing to sacrifice in one area to "get" something in another. At the most advanced collaborative stage, teachers work together and share all teaching responsibilities for all students so much so that it is "difficult for outsiders to discern which teacher is the special educator and which is the general educator" (Gately & Gately, 2001, p. 42).

In this study, the candidates were asked to: (1) observe a co-taught inclusion class, (2) write a brief description of the class observed, (3) identify the stage (beginning, compromising, or collaborative) in each of the eight Gately and Gately's (2001) coteaching components, and (4) discuss the behavior that led to the ratings in each component. Candidates observed a co-taught class either between their general education mentor teacher and a special education teacher or another team if their mentor teacher did not co-teach.

Data Collection

Quantitative and qualitative data were collected via the on-line Blackboard platform. Quantitative data included each candidate's ratings of the stages of coteaching based on the eight components of the coteaching relationship defined by Gately and Gately (2001) and statistics

enumerating online interactions by each candidate. Qualitative data from the on-line discussions consisted of each candidate's narrative of the coteaching class they observed, written analyses of the behavior they observed that led to the rating given to that component, and their on-line responses to each other.

Data Analysis

The data analysis included a combination of quantitative and content analysis of the qualitative data (Johnson & LaMontagne, 1993; Strauss & Corbin, 1994). Narrative analysis of the candidates' discussions was conducted through coding, categorizing, and consensus as common themes emerged. Both researchers independently read and coded the discussions and compared their results. Through critical debate and negotiation, coding was collapsed into three specific categories—negative model, reframing negative models, and learning from indirect experiences. While tracking individual candidate's ratings, narrative assessment, and subsequent discussions, the researchers recognized a data disconnect between the coteaching observational ratings and candidates' narratives of the observations. This emerged as an additional finding to address.

Findings

Participation

To measure the candidates' level of engagement in discussions on coteaching, we analyzed numerical data on their level of participation. Surprisingly, the level of participation and interaction among candidates was unexpectedly high. The discussion area reflected a total of 60 messages for 16 candidates. The 60 messages included the original posting by each candidate (one per candidate, reflecting on what was observed) and peer responses. We expected each candidate to read two messages, as they were required to read two peer messages before writing their responses. With 16 candidates reading two messages each, we expected a total of 32 read messages. Instead, we found a total of 724 messages read by the 16 candidates. An impressive number of the candidates (10 out of 16) read all 60 postings.

With candidates responding to two of their peers' messages, we also expected to see 32 peer responses from the 16 candidates. Only 30 peer responses were expected, since one candidate did not participate due to illness. The actual number of peer responses was 43, 34% more than what was expected. The extra number of peer responses was due to five candidates replying to more than two peer responses. The data suggest that the candidates were motivated to read about the experiences of their peers and learn more about others' observations of a coteaching classroom. Their interest extended well beyond just fulfilling the course requirements.

Data Disconnect

Beyond the level of interest, the data captured a strange disconnect between the numerical ratings and the accompanying narratives written by the candidates. Figures 1 and 2 illustrate the candidates' ratings using Gately and Gately (2001) stages of coteaching on each of the eight components—interpersonal communication; physical arrangement (with the subcomponents of seating, materials, and teacher movement); familiarity of content; instructional presentation;

classroom management; instructional planning; curriculum goals, modifications, and accommodations; and assessment. (The numbers of candidates range from 12-14 due to missing values.)

Figure 1. *Distribution of Candidates' Ratings on the Interpersonal Communication, Physical Arrangement (average of subcomponents, Seating, Materials, and Teacher Movement), Familiarity with Content, and Instructional Presentation Components (Gately & Gately, 2001).*

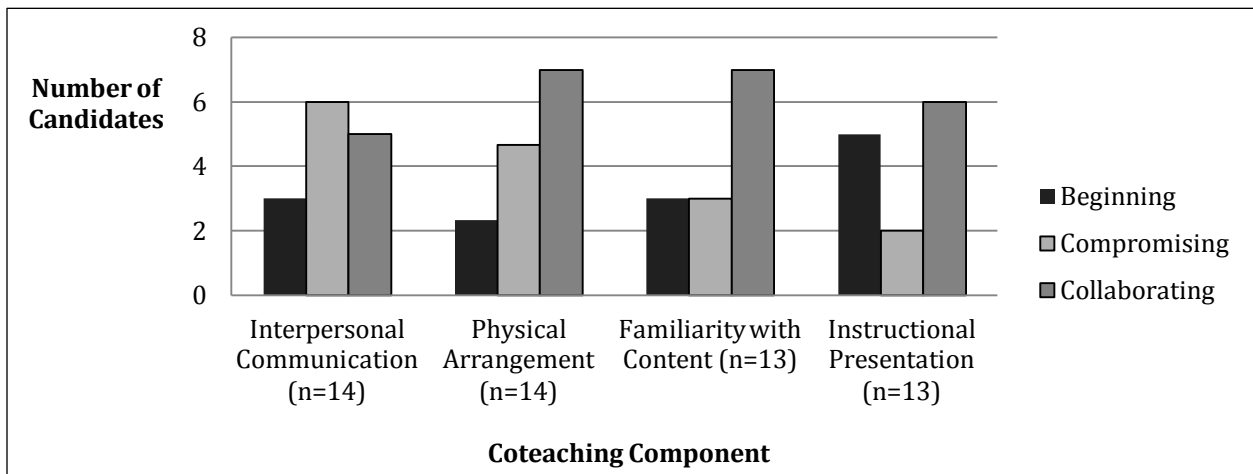
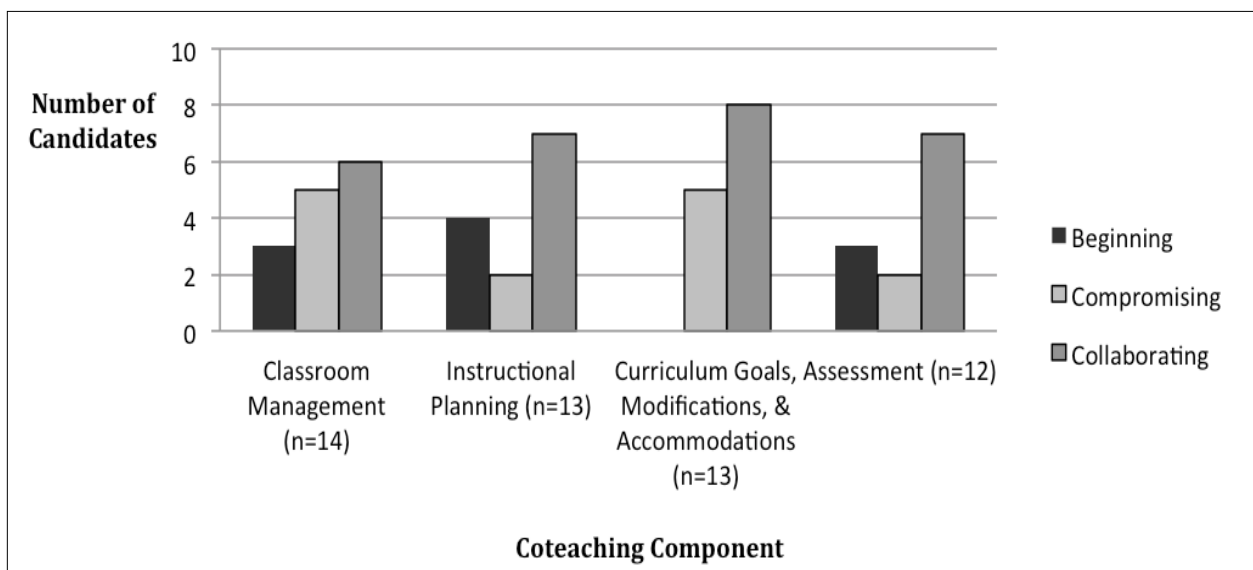


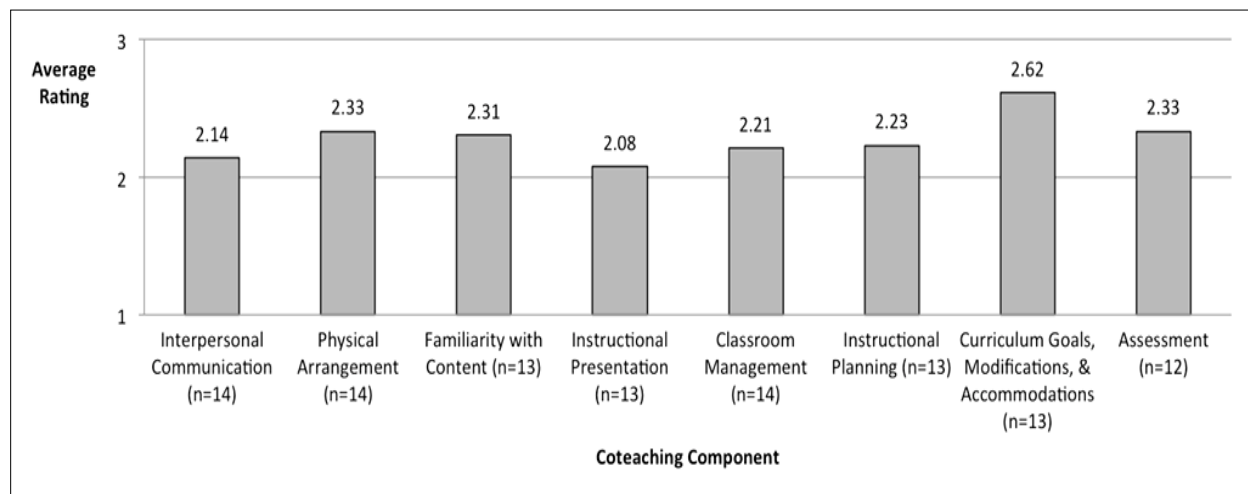
Figure 2. *Distribution of Candidates' Ratings on the Classroom Management, Instructional Planning, Curriculum Goals, Modifications and Accommodations, and Assessment Components (Gately & Gately, 2001).*



In all components but one, candidates most often selected the collaborative stage to describe what they observed. The only component where a lower stage prevailed (compromising) was in interpersonal communication. The highest incidence of beginning stage ratings (5 out of 13 candidates) occurred in the component of instructional presentation (see Figures 1 and 2).

To quantify the candidates' responses, scores were assigned (1=beginning stage, 2=compromising stage, and 3 = collaborative stage) to the candidates' ratings in each of the eight Gately and Gately (2001) coteaching components. In the physical arrangement component, subscores were assigned in each of the subcomponents mentioned by Gately and Gately (i.e., seating, materials, and teacher movement). The subscores in the three subcomponents were averaged to arrive at one score for physical arrangement, resulting in a score in all eight components for each candidate. An average score was computed in all eight components (see Figure 3)

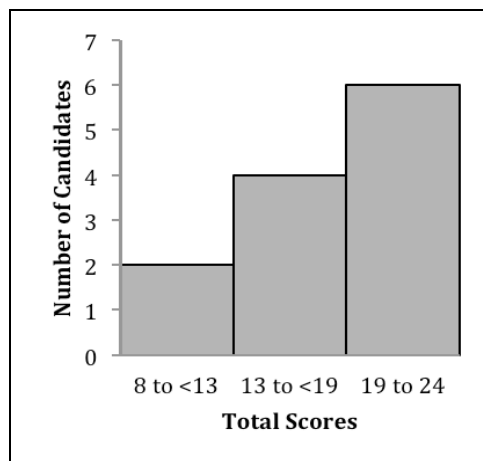
Figure 3. Average Ratings for all Coteaching Components by Candidates (1=Beginning, 2=Compromising, 3=Collaborative) (Gately & Gately, 2001).



The data suggested a number of issues for consideration. First, the ratings indicated that overall the candidates found the coteachers they observed to be in the compromising stage. The lowest ratings, indicating the weakest level of collaboration, were given to interpersonal communication and instructional presentation. The highest rating, well above the others, was in the category of curriculum goals, modifications, and accommodations.

We summed the component scores for each candidate to arrive at overall scores (see Figure 4). Half of the candidates gave a total score of 19 or above to their coteaching observation. A total score of 19 represented an average rating of 2.375 per coteaching component, while a score of 24 represented a perfect 3 (collaborative) in every component.

Figure 4. *Candidates' Overall Scores for Co-teaching Components (8 = beginning stage in every component, 16 = compromising stage in every component, and 24 = collaborating stage in every component) (n = 12) (Gately & Gately, 2001).*



Based on the overall scores, only two candidates indicated that the coteaching relationship was at the lowest developmental stage of coteaching. Given these scores, it would seem that the candidates were observing model coteaching arrangements. Also, it appears that the statistics here seem to negate the research in the field, thus indicating that in the cooperating districts, coteaching was functioning at a collaborative stage well above the national norm.

However, the individual ratings for various coteaching components as well as the overall scores computed for candidates on the coteaching class they observed were at odds with the candidate narratives. One candidate, Jennifer, illustrated this disparity. Jennifer, whose overall score for the coteaching observation was 18.67 (near the top of compromising), wrote of several interactions that gave her pause. She mentioned that the general education teacher “chastised” the special education teacher and that the classroom management was “very lopsided.” She rated the instructional presentation at the collaborative stage but described the special education teacher as “more like an observer” and stipulated that the general education teacher “was the one leading the class.”

Another candidate, Nancy, exhibited the same disconnect between her (high) ratings and (critical) narrative. Nancy’s score for the overall coteaching observation was 21.67 (well within the range of the collaborating stage), yet in her narrative she pointed out that the general education teacher “would tell me all of the complaints that she had about the resource [special education] teacher.”² More specifically, Nancy rated the instructional presentation component as in the collaborative stage, indicating the two teachers shared the presentation and instructional components of the lesson. Yet, she described the teaching approach as “one-teaching-one-

² In an attempt to improve readability, we have minimally edited our candidates’ responses for grammar and punctuation. Attention has been paid to insure the substance of their comments was not altered by our changes.

observe” and backed up her opinion by saying that “the general education teacher developed every lesson plan and was the primary teacher.”

Natalie had the same disconnect between her overall score of 21 (also, within the range for collaborating) and her narrative. When a peer commented on what a great coteaching experience Natalie had and asked her if she would like to coteach with a special education teacher one day, Natalie was hesitant and revealed that maybe her collaborative ratings were exaggerated.

I think it depends on the SE teacher. I think it is very important for both teachers to work equally and work as a team. During this experience, I have noticed both the GE teacher and SE teacher work well together but I do still think the class considers the SE teacher somewhat a teacher’s assistant or aide.

How can we reconcile the candidates’ high ratings with their narrative comments? We hypothesized that the candidates were reluctant to criticize their mentor teachers. At times, the candidates were able to articulate aspects of the coteaching that made them uncomfortable, such as one teacher criticizing the other, but such encounters did not often translate to lower scores on the rubric. The candidates seemed hesitant to give the skilled practitioners they were observing low scores. As teacher educators, this reluctance posed a significant problem. Our goal with this exercise was to expose the candidates to coteaching so as to prepare them to collaborate successfully in their future classroom. If the candidates were reluctant to “see” the problems in the coteaching classrooms they observed, would this exercise serve to reinforce ineffective collaboration?

A closer analysis of the candidates’ qualitative comments suggested the more promising aspects of the exercise. As noted above, the qualitative comments of the candidates were strikingly different from the quantitative results. In their narratives, candidates articulated confusion and discomfort with some of what they saw. In their peer-to-peer response interactions, they were able to critically think through the problems and possibilities for coteaching.

Reframing Negative Models

As noted above, Jennifer wrote that the “chastisement” between the teachers suggested that “interpersonal communication among [the two teachers] was not yet at the level of collaborating.” She also indicated that classroom management was “lopsided” and “the general educator was the only one taking care of the discipline.” In relation to *instructional planning*, Jennifer observed that collaboration was “at the beginning stage” and offered as evidence the fact that the special education teacher did not know what topic was being covered in class. Yet, despite these specific negative observations, Jennifer concluded that the

teachers were at a collaborating level in both assessment and curriculum goals, modifications and accommodations. This was evident to me because they were both working one on one with different students and they were using different techniques and approaches with different students. Overall it was great to see a class like this because most of the things were being done very well and it seemed to me like overall it is a team teaching classroom.

In other words, despite overwhelming evidence to the contrary, which she has gathered and reported, Jennifer labeled these teachers as successful coteachers.

One of Jennifer's peers called attention obliquely to the contradictions in Jennifer's narrative. Claudia observed, "It is quite interesting that you noted how although one level of the collaborative process may be excellent, others may need work." She continued with an important caution about the sunny assessment, picking up on Jennifer's comment about the general education teacher's chastisement of the special education teacher. Claudia wrote perceptively, "I think this was a way of the general education teacher 'marking his/her territory.' It's unfortunate because in reality this kind of chastisement may lead students to disrespect the special education teacher." This analogy represents an apt rebuttal of Jennifer's overall sense of successful coteaching.

Another candidate articulated what she saw as the "waste of resources" involved in the coteaching situation, which she found to be "less productive than what it set out to be." Elisa wrote about:

a clear distinction in responsibility for the kids [exists] between both teachers. The GE teacher does not grade their work or collect their assignments; he directs the students to the SE teacher who usually sits in the back of the room with his back to the kids, not following class instruction or helping "his struggling kids."

She described a tense, even hostile working relationship between the two teachers:

classroom communication is guarded. Even though the teachers spend the majority of the day together, they only speak when necessary to each other... they are never on the same page and they have both expressed to me that they do not like the others' methods.

Elisa's analysis of this situation, unfortunately, laid the blame almost entirely with the special education teacher. She wrote:

I feel much fault falls on the SE teacher—he does not keep up with the GE teacher. For example, on any given day the class may have a test; the following day the GE teacher has "his" kids' tests graded and is ready to review them. The SE teacher, however, must leave the class to grade them and all this while the class is reviewing [the tests].... The SE teacher demonstrates limited familiarity not only with the content but also with the accommodations the students require. Since his back is usually to the class, he rarely follows the lesson. When "his" kids struggle, he does not serve as a model for them—he asks them what their problem is and is quick to make negative comments and basically shut them down. The instructional presentation is done by the GE teacher. The SE teacher is unaware of the day/weeks lesson. There is little, if any, interaction among the two. Again I would say it's more of the SE teacher's fault because the GE teacher always has his teaching goals planned out.

Elisa's observations were pointed and revealing, but her overall analysis devolved into blame and fault—i.e., identifying the special education teacher as failing his peer and his students. This was a particularly problematic response in that it may have reinforced in Elisa, a general education teacher in training, ideas about her superiority and about the inferiority of special education teachers. While her observations were thoughtful, her conclusions raised a difficult set of problems.

Again, however, the peer responses of other candidates did substantial work in reframing the discussion. Megan S., for example, put Elisa's comments in a broader context of the difficulty of coteaching:

Many people have this experience when they are observing a coteaching classroom. Not all people are comfortable with another teacher in the classroom. This [discomfort] is even greater when they do not agree on a vast majority of things. If the teachers have different ways of teaching and thinking, they will not be able to connect and teach a successful lesson together.

Megan S. didn't share Elisa's pessimism. She concluded her remarks with her "hope" that "by the time we are teachers, we are able to communicate with each other and successfully teach [together in] a classroom."

Another candidate, Natalie, tried to push Elisa even further. She disputed Elisa's comments about coteaching as a "waste" and reframed the discussion as one of collaboration. Natalie remarked, "I personally think it is a matter of being able to work as a team and actually working an equal amount." She also stressed the value of Elisa's observation of this negative model: "At least you were able to observe what changes can be done if you are ever in the situation to have to co-teach."

Elisa was not the only candidate who observed a predominately negative model of coteaching. After substantial negotiation on her part to find a coteaching class to observe, Megan L. arrived to find that the general education teacher was absent. "Even though there was a substitute," she explained, "I could still tell the type of coteaching environment that existed in that classroom." She continued:

I observed the students finish an assignment that the teacher left on the board and then [watched the students] take out their cell phones, iPods and other electronic devices and continue to talk throughout the rest of the period. The Special Education teacher would go around and work one on one with his special education students. It was evident that the special education teacher simply serves as an aide to his particular students. He told me that he does not take part in the lesson with the general education teacher. The students he was helping continued to work for most of the period, but all the other students just pulled out the electronic devices and chatted the period away. He did not check to see if the general education students had done their work; he just allowed them to hang out the entire period. He never had control of the classroom, only of his special education students, and this was proof that he is a minor part of the classroom when the general education teacher is present.

Megan L.'s discussion was again reframed by another candidate. Lori deplored the situation that Megan L. observed, remarking that "It seems out of hand, and unfortunate that the SE teacher could not teach the entire class something, even a review." She went on, however, to refocus the discussion on the basics necessary for successful coteaching, suggesting that Megan L.'s observation underlined "why co-teachers should share teaching and lesson plans, at least one day out of the week." She also began to rethink the tacit devaluing of the special education teacher, wondering if the "co-teacher may not have [had] the training." Both these comments move us away from a cycle of blame and failure and towards strategies – planning time and training – for coteaching success.

Learning from Indirect Experiences

Not all of the candidates had negative observational experiences with coteaching. And, the online discussion forum on the Blackboard platform ensured that positive experiences could also be shared. Nii explained that he knew from the start that the two teachers he observed had a successful working relationship as the first teacher "cracked a few jokes" while introducing him to the second teacher. Nii wrote:

It was apparent that Mrs. S. and Mr. Sh. was in the collaborating stage of coteaching Right away Mr. Sh. stated that they team taught. He explained that in regular teaching situation, they take turns teaching. For example, Mr. Sh. may do the opening and Mrs. S. may do the closing, alternating instruction.... I could tell that Mrs. S. [the special ed teacher] was a major part of the classroom by the way the [students] responded to her when she walked around to each student, making sure they were on task. The students were not afraid to ask Mrs. S. for help. The way Mrs. S. interacted with the students showed that she had a certain rapport with the students.

Interestingly, Nii was able to contrast this positive coteaching example with another involving the very same teacher. He was able to observe Mrs. S. immediately afterwards in a coteaching scenario with a different general education teacher, Mrs. P.:

This class was a stark contrast to [the other] class. This was definitely in the beginning stage of coteaching. Earlier, Mrs. S. mentioned that she played a more laid back role in Mrs. P.'s class. Through my observation, I saw that Mrs. S.'s role was reduced to an aid. The communication ... was minimal. When we walked into Mrs. P.'s class, there was little introduction compared to the introduction I experienced with Mr. Sh. Mrs. S. just mentioned to Mrs. P. that I was there to observe an inclusion class. That was the extent of the communication between the two of them. Mrs. S. and I went straight to the back of the class. Mrs. P. did all of the instruction. She basically talked the whole class. When Mrs. P. tried to engage the students in the lesson, only a few students answered, while Mrs. S. stood by a student who I presumed may have been an inclusion [student], judging by his outburst and his behavior. It was as if Mrs. S. stood guard in order to keep [this student's] behavior in check while Mrs. P. taught the class.

Obviously, Nii noticed the “difference” between the two scenarios he observed. The responses from the other candidates, however, drew conclusions beyond Nii’s observation. For example, Elisa (cited above) who expressed the negative coteaching model she observed and her initial reaction of blame directed at the special education teacher, offered a different response to Nii’s observation. Her seemingly negative attitude toward coteaching was completely absent in the comments she offered:

It sounds as if from the beginning they were very organized. That’s great that they were expecting you and it wasn’t a surprise. [It] makes the situation more comfortable. I like the team taught approach. As for the teachers you were with, I think it says a lot about them and how they still care. Being a “team” takes a lot of work, planning, and commitment to students and each other. It’s great that you were able to observe both situations. It will help you draw conclusions as to why coteaching may or may not work and how you (as a teacher) can do things.

In other words, reflecting on Nii’s two experiences allowed Elisa to reframe her earlier experience and articulate both her goals about successful collaboration as well as her specific ideas (e.g., planning, commitment) about how to make coteaching work.

Another candidate, Nancy, took Elisa’s comments on Nii’s report even further:

That sounds like a great classroom to be in. This should be the way all inclusion classes work. The teachers and students should have no problems working together and they all should be treated equally as it seems to be in the classroom you have described. This [collaboration] benefits the students greatly because they know that they can go to either of the teachers for help, allowing for a more effective learning experience.

In other words, one successful coteaching model observed by one candidate and a positive experience paired with a less than model experience were enough to help another candidate articulate her commitment to coteaching, faith in the possibility of successful collaboration, and understanding of the benefits of successful coteaching for the students.

Finally, one candidate’s comments illustrated the way the candidates had begun to internalize the value of coteaching. After describing a successful observation, Lori wrote:

Collaboration has to be learned. You have to admit that we adults spend most of our adult life trying to get along.... I think sharing the teaching of lessons ingrains a confidence in [a] student’s awareness of [cooperation] being an important aspect of adult/professional life.

Discussion

If the inclusive classroom is going to succeed in meeting the needs of all learners, teacher candidates need to be better prepared to meet the challenges of collaboration and coteaching, which they will face in their future classrooms. Strategies for improving teacher education

programs in order to provide this preparation have been enumerated (Cramer & Nevin, 2006; Ford et al., 2001; McKenzie, 2009).

This study suggests that small changes can make a difference in preservice teachers' attitudes and knowledge about coteaching. We introduced a coteaching assignment into the undergraduate field experience course for secondary education teacher candidates with no previous preparation in coteaching. Our research found that the infusion of a unit that included minimal reading on coteaching, a focused observation assignment that required a critique of current practitioners in a coteaching environment, and the opportunity to share these critiques and reflect on the observations in an online discussion forum, enabled candidates to engage in a meaningful discussion of the challenges and benefits of coteaching and served as an expedient and powerful, while obviously not fully sufficient, learning tool.

The candidates in the program were able to become comfortable with the developmental stages of the coteaching relationship, even if they were reluctant to numerically rate their mentor teachers as less than proficient practitioners. More broadly, although the models that the candidates observed were uneven and sometimes negative, as is reflective of the state of the field (Harbort et al., 2007; McKenzie, 2009; Scruggs et al., 2007), these candidates were able to recognize less than adequate collaboration between coteachers without devolving into the language of blame or an overall pessimism about coteaching.

Because of the exchanges between candidates on the online discussion forum, we observed that the candidates were able to find avenues to articulate and refine positions in which they recognized the value of collaboration for teachers and students. Moreover, the candidates were able to do important work in appreciating the difficulty of achieving a true collaborative partnership in the classroom, framing a discussion of the challenges of collaboration in terms of time, training, commitment, and interpersonal skills, and beginning to outline personal strategies and ambitions for their own future collaborative partnerships.

Finally, our study revealed that the online discussion forum amplified the benefits of the observation of positive coteaching models in the field, even for those candidates who were unable to personally observe a positive model. The candidates were able to appreciate and learn indirectly from the positive experiences of their peers and to ameliorate the effects of their own observations of less successful models.

Researchers have argued that attitudes are precursors to behavior and with more positive attitudes, teachers are more apt to modify their instruction to meet the needs of all students (Swain et al., 2012). If so, our candidates are better prepared to do the work ahead of them.

Limitations

Clearly, the benefits of our study are limited. The candidates did not interact with special education teacher candidates, and thus were unable to break down barriers and prejudices between these two groups. Also, they did not begin to address the issue of special education teacher competency in teaching advanced subject matter. An extension of our research would be to ask the candidates, after the initial observation and discussion, to visit and evaluate a second

coteaching classroom in order to determine whether the discussion enabled candidates to deepen their understanding of the issues.

Conclusion

The proliferation of inclusion necessitates that teacher education programs undertake substantial revisions in their preparation of general education candidates. However, while these revisions go through the time-consuming process of programmatic and curricular reform, our research suggests that with one relatively small assignment, preservice teacher candidates can start to identify the value and the challenges of collaboration in the classroom. With this exercise, teacher candidates were able to embark on a powerful and meaningful conversation about coteaching, a conversation we hope they will continue with colleagues throughout their professional lives.

AUTHOR NOTES

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Appendix Co-Teaching Observation Rubric

		BEGINNING	COMPROMISING	COLLABORATING
INTERPERSONAL COMMUNICATIONS		<ul style="list-style-type: none"> ➤ Classroom communication is guarded <ul style="list-style-type: none"> • Interpersonal communication lacks openness • Teachers seek to correctly interpret verbal and nonverbal messages • Clash of communication styles • Level of dissatisfaction 	<ul style="list-style-type: none"> ➤ Classroom communication is open and interactive <ul style="list-style-type: none"> • Interpersonal communication is more open, interactive and amount is increased • Teachers develop nonverbal signals • Respect for different communication styles with give & take of ideas 	<ul style="list-style-type: none"> ➤ Classroom communication models effective styles for students <ul style="list-style-type: none"> • Interpersonal communications demonstrate effective ways to listen, solve problems, and negotiate ➤ Teachers use non-verbal communication in and out of the classroom ➤ Reflect positive role models for students in regards to different communication styles
PHYSICAL ARRANGEMENT	Seating	<ul style="list-style-type: none"> • Impression of separateness • Students with disabilities are seated together 	<ul style="list-style-type: none"> ➤ Outside observer unaware of which students are SE and which are GE based on seating arrangement 	<ul style="list-style-type: none"> ➤ Students' seating arrangements become intentionally interspersed for whole-group lessons ➤ All participate in cooperative groups
	Materials	<ul style="list-style-type: none"> ➤ Little ownership of materials by the SE teacher ➤ SE teacher asks permission to access or share materials 	<ul style="list-style-type: none"> ➤ Some shared materials 	<ul style="list-style-type: none"> ➤ Materials are truly jointly owned
	Teacher Movement	<ul style="list-style-type: none"> • SE teacher has a delegated place to sit away from the front of the classroom or GE teacher's space ➤ Little ownership of space by the SE teacher 	<ul style="list-style-type: none"> ➤ Some movement and shared space <ul style="list-style-type: none"> • Territoriality less evident ➤ SE teacher moves freely, but rarely takes center stage 	<ul style="list-style-type: none"> ➤ Teachers are fluid in their positioning in the classroom ➤ Teachers control space and are cognizant of each other's position in the room ➤ Classroom is always effectively covered
FAMILIARITY WITH CONTENT		<ul style="list-style-type: none"> ➤ SE teacher demonstrates limited familiarity with the content or methodology used by GE teacher <ul style="list-style-type: none"> • GE teacher has limited confidence in SE teacher's ability to teach the curriculum • SE teacher makes limited suggestions for accommodations or modifications 	<ul style="list-style-type: none"> ➤ SE teacher demonstrates some knowledge of curriculum or methodology <ul style="list-style-type: none"> • Increased confidence for both teachers regarding the curriculum • GE teacher becomes more willing to modify the curriculum • Teachers begin to share in planning and teaching 	<ul style="list-style-type: none"> ➤ Teachers demonstrate the specific curriculum competencies that they bring to the content area
INSTRUCTIONAL PRESENTATION		<ul style="list-style-type: none"> ➤ Teachers present separate lessons ➤ One teacher is seen as the "boss" who holds the chalk and the other is in the role of the "helper" ➤ SE teacher helps identified students & GE teacher helps GE students ➤ Students treat SE teacher as an "aide" 	<ul style="list-style-type: none"> ➤ Some of the lesson presentation is shared ➤ Teachers direct some of the activities in the classroom ➤ SE teacher offers mini-lessons or clarifies strategies students may use 	<ul style="list-style-type: none"> ➤ Teachers participate in the presentation of the lesson, provide instruction, and structure the learning activities ➤ The "chalk" passes freely between teachers ➤ Students address questions and discuss concerns with both teachers

Appendix (Continued)

	BEGINNING	COMPROMISING	COLLABORATING
CLASSROOM MANAGEMENT	<ul style="list-style-type: none"> ➤ One teacher assumes the role of the "behavior manager" so the other teacher can "teach" • Little or no discussion or use of whole class or individual behavior plans 	<ul style="list-style-type: none"> ➤ Teachers take turns managing behavior/teaching • Increase in communication & mutual development of rules and routines for the classroom • Some discussion and use of individual behavior plans 	<ul style="list-style-type: none"> ➤ Rules, routines, and expectations are mutually implemented • Teachers are implementing a class behavior management system • Evidence of individual behavior plans, use of contracts, & tangible rewards/reinforcers as well as community building activities
INSTRUCTIONAL PLANNING	<ul style="list-style-type: none"> • Teachers do not plan together ➤ At times there are two distinct and separate curricula being taught ➤ Two types of service delivery may be observed 	<ul style="list-style-type: none"> ➤ Evidence of some mutual planning exists, SE teacher is aware of the flow of the lesson • Teachers begin to show more give and take in the planning process 	<ul style="list-style-type: none"> ➤ Mutual planning and sharing of ideas is consistently evident • Teachers continually plan and share • Teachers are able to respond to the need for on-the-spot changes in the lesson to accommodate the needs of the students
CURRICULUM GOALS, MODIFICATIONS, & ACCOMMODATIONS	<ul style="list-style-type: none"> • GE teacher views modifications as "giving up" something or as "watering down" the curriculum • Little interaction regarding accommodations to the curriculum • Teachers do not appreciate the need for modifications in content 	<ul style="list-style-type: none"> ➤ Co-teachers use modifications and accommodations, particularly for students with more "visible" special needs • Modifications and accommodations for learners with special needs are generally restricted to those identified in the IEP 	<ul style="list-style-type: none"> ➤ Teachers differentiate concepts that all students must know (big ideas) from concepts that most students should know (essential knowledge) ➤ Differentiation, accommodations of content, activities, homework assignments, and tests for students who require them are observed • Teachers consider ways to integrate the goals and objectives written in the IEP
ASSESSMENT	<ul style="list-style-type: none"> • Two separate grading systems, equally maintained by separate teachers • GE teacher solely responsible for grading • Teachers begin to explore alternate assessment ideas • Number & quality of measures are limited 	<ul style="list-style-type: none"> • Teachers begin to share grading responsibilities • Teachers explore alternate assessment ideas • Teachers discuss how to capture student progress • Number and quality of measures begins to change 	<ul style="list-style-type: none"> • Teachers share grading responsibilities • Teachers appreciate the need for a variety of options for assessment • Individualize grading procedures for all students and/or specific progress monitoring may occur • Use of subjective and objective standards for grading

Bold items are typically observing behaviors.

The Co-teaching Process

Stages	Description
Beginning	At the beginning level of co-teaching, teachers communicate superficially, as they develop a sense of boundaries and attempt to establish a professional working relationship. Moving from a social relationship to a professional relationship with a colleague may be difficult for some pairs of teachers. Some general educators may experience feeling of intrusion and invasion. Special educators may feel uncomfortable, detached, and excluded. At the beginning stage teacher tread more slowly as they work to determine role expectations. Communication may be polite, guarded, and infrequent. Unless there is a clear sense of the developmental process and the goal of collaboration is a mutual one, teachers may get 'stuck' at this level. It may be that much of the dissatisfaction that is noted in the literature regarding co-teaching is expressed by teachers who continue to interact at the beginning level.
Compromising	Teachers who have adequate relationships display more open and interactive communication. An increase in professional communication is evident. Although students benefit from this increase in communication, a sense of 'give and take' and compromise pervades at this level. The special education teacher may be taking a more active role in the classroom teaching but, in doing so, may have had to 'give up' something in return. The compromises at this stage help the co-teachers to build a level of trust that is necessary for them to move to a more collaborative partnership.
Collaborative	At the collaborative level, teachers openly communicate and interact. Communication, humor, and a high degree of comfort punctuate the co-teaching, collaborative classroom. This high level of comfort is experienced by teachers, students, and even visitors. The two teachers work together and complement each other. At this stage, it is often difficult for outsiders to discern which teacher is the special educator and which is the general educator.

The Benefits of a Comprehensive Retention Program for African American Students at a Predominately White University

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Since the passage of the Civil Rights Act of 1964, the retention of African American students at predominately White colleges and universities continues to be problematic. Although many of these institutions have implemented retention programs for African American students, few have incorporated a comprehensive program that utilizes multi-program components. Using a qualitative methodology, this study explored how a comprehensive retention program at one predominantly White university impacted the matriculation of African American students. The results revealed that the retention program had a positive influence on the success of African American students, thereby resulting in the students' receiving several academic, social, and cultural benefits. Also emerging from the study was a comprehensive retention model for supporting the retention of African American students at predominately White institutions.

Keywords: retention, retention programs, African American students, graduation rates, colleges and universities

Throughout history, the African American experience has been immersed with social subordination, political repression, and economic exploitation. In an effort to repress these experiences, African Americans identified education as the most valuable resource for improving their standing in America (Watkins, 1993). The two federal legislative acts that helped facilitate changes in higher education opportunities for African Americans were the Civil Rights Act of 1964 and Higher Education Act of 1965.

The Civil Rights Act of 1964 ordered a census of all U. S. postsecondary institutions that identified students by race or ethnicity and cautioned administrators at these institutions that federal monies would be withheld if found to be noncompliant with equal opportunity mandates. The Higher Education Act of 1965 (HEA) expanded both the number and types of financial assistance available to citizens pursuing higher education. While the HEA triggered an increase in the enrollment of African Americans at predominately White institutions, little change could be seen and difficulty still remained in their retention and graduation rates (Davis, et al., 2004). Holmes, Ebbers, Robinson and Mugenda (2000-2001) viewed this condition as being one of the most pressing concerns in higher education.

Although campus-based affirmative action initiatives have contributed to an increase of African American students at predominantly White institutions (Williamson, 1999), this student population is still achieving less and graduating at lower rates than their White counterparts

(Davis, 2004). In fact, the 2008 report of the National Center for Educational Statistics (2010) revealed that the enrollment of African American students at predominately White institutions was 14% compared to 68% for White student enrollment. Further, the research notes that in the 21st century, African American students will continue to enroll in predominantly White institutions at higher rates than at Historically Black Colleges and Universities; and if this current trend for enrollment and completion continues, over half of the African American students enrolled at predominately White institutions will fail to graduate (Benton, 2001).

Studies which have identified factors that affect the adjustment, academic performance, and attrition of African-American students (Ting & Bryant, 2001) at predominately White institutions have resulted in many of these institutions initiating retention programs targeted specifically for African American students. Despite these efforts, African American students continue to achieve less and receive a lower percentage of degrees than White students (Rodgers & Summers, 2008). To improve the effectiveness of retention programs at predominately White institutions, researchers suggest that these programs specifically target African American students (Furr & Elling, 2002) and take into consideration how race and attrition affect their experience and psychological processes (Rodgers & Summers, 2008).

The purpose of this study was to explore the effectiveness of a retention program for African American students at one predominantly White university by focusing on the experiences of African American students, faculty, and staff involved in the retention program. It was hypothesized that an understanding of student perceptions of the benefits of retention programs could provide useful information to higher education institutions seeking alternative ways to improve retention programs for African American students.

Problems and Concerns of African American Students at Predominately White Institutions

African American students enrolled at predominately White institutions are confronted with many challenges. Among the most often cited is stereotypes. When African American students internalize the stereotypes of their White peers, it causes them to spend a lot of time proving their academic credibility in the classroom, thereby causing some students to contemplate dropping out (Fries-Britt and Turner (2001). African American students also believe they are treated differently because of stereotyping. In fact, some students have reported being treated like they needed to be remediated in order to meet the standards that were set by their White educators (Davis, 2004).

Another problem reported by African American students is difficulty in their relationships with White faculty. Good faculty-student relationships are important to the success of African American students (Love, 2008). Tinto (2006-2007) stated that such relationships are also essential to student retention. Nutt (2003) emphasized this point by asserting that, "It is the people who come face-to-face with students on a regular basis who provide the positive growth experiences for students that enable them to identify their goals and talents and learn how to put them to use" (p. 17). However, Allen (1988) found that the majority of African American students reported that their White professors showed some difficulty in building a working teacher-student relationship, and that many professors commonly avoided interactions with them outside the classroom. Additionally, over half of the students expressed strong concern about

their professors' fairness in evaluating their academic performance. Some students had difficulty knowing if their evaluations were based on their race or academic capabilities (Sedlacek, 1999). Therefore, it is not surprising that African American students tend to believe that White faculty are prejudiced towards them, which can take the form of lower performance expectations and/or overly positive reactions to work quality (Allen, Bobo, & Fleuranges, 1984).

Relationships with faculty are very important to the success of African American students at predominately White institutions (Love, 2008). And, the lack of African American faculty/staff has been reported as being one of the central problems faced by these students (Allen, 1992). According to Sedlacek (1999), the absence of powerful African American figures as role models can have a strong effect on feelings of loneliness and isolation; and the lack of a variety of viewpoints relevant to African American students could impact their learning, development, and identification with the institution. The low number of African American faculty can also contribute to limited access to faculty for support and mentoring (Hinderlie & Kenny, 2002).

Retention Efforts at Predominantly White Institutions

To increase the success of African American students, many predominately White institutions have implemented a variety of academic retention strategies (e.g., support programs, programs for first year students, mentoring programs), as well as made retention an institution-wide commitment. The importance of support programs has been recognized as a significant contributor to student success (Gansemar-Topf & Schuh, 2005). Many of these programs are designed to increase the retention of African American students because of the disproportionately large number of ethnic minority students dropping out of college (Thile & Mott, 1995). The most beneficial supports are programs such as tutoring, study skills training, and mentoring. When compared to a matched group, participation in a support program was shown to have a significant impact on the retention of African American students (Dale & Zych, 1996), and tutoring and study skills training were identified the most helpful services (Bell & Drakeford, 1992; Swail, 2004).

According to Himelstein (1992), programs for first year students, such as early intervention programs, have proven to assist in the retention of African American students at predominantly White institutions. These programs focus on the freshman year as being a critical determinant of college continuance by helping students adjust to college life and academic expectations (Himelstein, 1992). Researchers ("Features", 2006; Jamelske, 2009; Robbins & Smith, 1993) report that universities with the most success at retaining African American students proactively identify these students and provide retention services within the first few weeks of the semester. Moreover, minority students who participate in freshman courses have been found to have greater knowledge and use of university resources, which helps increase their networking and satisfaction with the university (Robbins & Smith, 1993). Effective retention programs also have a pre-freshman bridge program to help students increase their academic skills before enrolling in more challenging college courses (Campbell, Denes, & Morrison, 2000).

Mentoring programs are also an invaluable service to African American students. These programs are typically targeted at minority students, women, and academically under-prepared students with the goals of enhancing the institution's degree completion rates (Blackwell, 1989). Mentoring programs have many benefits and are becoming very common in universities across

the country (Leon, Dougherty, & Maitland, 1997). Some of the benefits of mentoring programs include students' successful attainment of their educational and career goals and the facilitation of faculty-student relationships, which are important in student retention (Blackwell, 1989). Mentoring programs decrease students' discomfort at predominantly White institutions (Kimbrough, Molock, & Walton, 1996), and having mentors who successfully attained their degree at these institutions and peers who are racially and ethnically similar that are persisting in their education, can foster a belief in one's own abilities to complete certain tasks in order to obtain specific goals (Terenzini, Pascarella, & Lorang, 1982). In brief, mentoring programs can provide students with an opportunity to interact with faculty thereby enhancing both academic and social support, which increases their retention (Guffrida, 2005; Tinto, 2006-2007).

Institution-wide commitment is also critical to student retention. Parker (1997) notes that institution-wide commitment (i.e., involvement of the entire university) provides the greatest impact for improving student retention. Institutions should work diligently to assist minority students in their quest for academic success by removing barriers that may contribute to their failure. This can be accomplished by appropriately responding to concerns relating to academic preparation, financial assistance (scholarships), and maintaining an ongoing process for identifying other concerns. To assist with achieving this goal, institutions should integrate minorities into all aspects of institution life (e.g., the boardroom, classroom, staff). To help make the goal a reality, institutions must develop educational initiatives that create a campus atmosphere where students are presented with instructions for success (Parker, 1997).

Method

Research Design

This case study utilized qualitative methodologies to explore how a retention program at one southern, predominantly White university, impacted the matriculation of African American students. Case study is a method that can be used to study an individual or an institution, in a unique setting or situation, in as intense and as detailed manner as possible, to enable the researcher to develop a rich account of what is occurring (Salkind, 2008). This study addressed two research questions:

1. How does participation in a student retention program at a predominantly White university influence African American students?
2. To what extent do students and staff/faculty identify component(s) of the retention program as positively influencing the success of African American students?

Setting

The setting for this study was a predominantly White university in the southern region of the United States. During the time of this study (Fall 2004) there were 13,140 undergraduate students, of which 1,139 was African American. Data reported for the 2011-2012 academic year indicate an undergraduate student population of 14,591, with 7.2% or 1,045 African American. The graduation rate for African American students reported for the 2011-2012 academic year was 80.9% compared to 84.9% during the time of this study. Appendix C provides a summary of

the graduation rates for undergraduate students who graduated four, five, and six years after the study.

Participants

The participants in this study were six students and four retention program directors/deans, of which one held a dual appointment (i.e., staff/faculty). The six students (3 males; 3 females) were all African American, ages 18-21 years with a 2.5 GPA or higher, and actively involved in one or more components of the university's retention program for at least two semesters. These students (2 sophomores, 2 juniors, 2 seniors) were from varying backgrounds and their motivation for degree attainment ranged from representing and helping their communities to achieving career and/or financial goals. The retention program staff was comprised of two African American females, one African American male, and one Chinese male.

Data Collection

After obtaining institutional review board approval, student participants were recruited for the study and interviewed concerning their experiences with the retention program. The recruitment process involved: (a) mailing copies of the recruitment letter and consent forms to the administrative assistant to post in the retention program office, (b) sending announcements to qualifying students, and (c) making announcements at various events/meetings/activities hosted by the retention program office.

Data were collected at the end of the 2004 spring semester, and was comprised of audiotaped interviews with retention program staff/faculty and students. The interview questions were open-ended (see Appendix A and B) and designed to explore each individual's experience at the university and in the retention program. It also consisted of a collection of university documents (i.e., reports, web pages, publications, and students' grades).

Data Analysis

Data analyses were conducted using coding, memos, constant comparative analysis, and triangulation. *Coding*, the formal representation of analytical thinking, involved analyzing and generating categories and themes to facilitate analysis; developing a coding scheme for the categories and themes; and diligently and thoroughly making passages in the data using the codes (Marshall & Rossman, 1999). The coding process consisted of codes developed from the literature review, documents on the retention program, and transcribed interviews. The data was continuously coded and analyzed as it was collected, and all of the codes were kept in a notebook, color-coded, and labeled according to the source of origin.

Memos, an essential tool in qualitative analysis, capture and facilitate one's analytic thinking about data (Maxwell, 1996). Memos are meant to be analytical and conceptual rather than descriptive. They flourished in complexity, density, clarity, and accuracy as the research progresses and force the analyst to move from working with data to conceptualizing it (Strauss & Corbin, 1998). In this study, memos were kept on a continuous basis. The researcher began writing memos after developing initial codes. These memos contained: (1) the views of the researcher regarding the interviews as they were held, (2) thoughts of the researcher that

occurred during the time of codebook analysis, (3) ideas of the researcher that emerged from the student and staff/faculty interviews, and (4) various documents that were regularly and consistently analyzed.

Constant comparative analysis, a process that involves the reduction of data into a manageable model and a continual reassessment and refining of concepts as fieldwork proceeds (Lincoln, 1994), was also used. For this analysis, the researcher took all of the color-coded codes and compared them for similarities and differences. Emergent themes were identified from the codes after multiple coding and data analyses. The list of codes was reevaluated throughout the data collection phase resulting in a revision of the themes, which included merging multiple themes, adding, and disconfirming codes. However, when disconfirming evidence was found, the researcher examined all sources of data for additional evidence. Also, as the list became smaller the color-coding was redone. This process was repeated continuously until themes were established.

Triangulation, the final phase of data analysis, was used to ensure trustworthiness and reliability of the data. Triangulation involved the use of multiple methods of data collection, an analysis to assist in confirming research conclusions (Sheperis, Young, & Daniels, 2010).

Results

Research Question 1: *How does participation in a student retention program at a predominantly White university influence African American students?* The first research question attempted to determine how participation in a retention program at a predominately White university influenced African American students. It was revealed that the retention program had a positive influence on student success. This positive influence resulted in the students receiving innumerable academic, social, and cultural benefits. The students felt that they needed this resource to help them successfully cope with various aspects of the university and stated that it was comforting to know that they had an advocate and a system of support. Overall, the students confirmed that program participation influenced them academically, socially, and culturally.

Academically, the students benefitted in a variety of ways. They stated that involvement in the mentoring program helped with their coursework and internships. They also commented on how the program staff helped them pinpoint exactly what they needed to focus on to achieve academic goals. Additionally, the students pointed out that the staff was influential in their decision to remain at the university.

Socially, the students stated that program participation increased their socialization with faculty, program staff, African American leaders, and other students. It also kept them abreast of various issues and concerns at the university that were prevalent in the African American community. They also stated that the retention office provided them with information on various events and organizations, and encouraged their involvement.

Culturally, the students' cultural awareness was a prevalent theme that emerged. Attending a predominantly White university appeared to have made these students very aware of their culture. They were proud to be African American and proud of their cultural heritage. This pride made them feel that it was important to participate in cultural activities and classes. Fortunately,

the retention program allowed them the opportunity to attend cultural activities and interact with prominent African American leaders.

Moreover, the students conveyed that because of the support received from the retention program, they were empowered and better prepared to deal with various situations. For them, the program made the difference between staying and leaving, and coping and not coping. The students saw this program as a comfort zone, a home away from home, and their advocate. Also, the students felt that any obstacle they faced whether it was racial, financial, personal, social, or academic, the program would support them.

Research Question 2: *To what extent do students and staff/faculty identify component(s) of the retention program as positively influencing the success of African American students?* The second research question investigated the extent to which students and staff/faculty identified component(s) of the retention program as positively influencing the success of African American students. The students identified several components of the retention program as having a positive influence on their retention at the university. However, the majority of students identified the mentoring program and peer helper program as the most influential.

The mentoring program provided the students with academic and career advice. They found it very helpful to talk with mentors who looked like them in professional positions and who had expertise in their area of interest. Also, they were able to seek help on academic assignments and build lasting relationships. Both the staff/faculty and students considered the mentoring program a valuable resource in providing academic, social, professional, and cultural enhancements. It should be noted that the recruitment of faculty mentors involved the director sending letters to all minority faculty with an invitation to join the program. Those electing to join completed an application and returned it to the director. The faculty selected for involvement in the program was required to attend an orientation and reception, and were matched with a student according to their interests and careers.

The peer helper program paired students with upperclassmen that advised them on how to navigate the various areas of the university. They also made favorable remarks about how their peer helpers provided them with an instant support system. In fact, the students commented that the peer helpers reached out to them throughout the summer with the writing of three letters, thus cultivating the start of an emerging friendship. The peer helpers hosted various events that promoted socialization as well as cooked dinners; and they took them to restaurants or movies. For academic assistance, they held study sessions and had an initiative designed to increase the grade point averages of African American students. The students were glad to have upperclassmen that had already acclimated to the university to share with them and to help them proactively deal with various issues or situations.

Also, the peer helpers greeted parents and students during the recruitment celebration that the Office of Admissions hosted for African American students who had been offered admissions to the university. On the day the students moved onto the university campus, a formal welcoming reception was held for them, which was hosted by the peer helpers along with other faculty and staff. The Office of Admissions also hosted an award ceremony to honor the students for completing their first semester of college. Overall, the students maintained that the support given to them from their peer helpers helped them to survive their first year of college.

Interestingly, the students who served as peer helpers also believed in the benefits of the program to first year students. Most of the current peer helpers had participated in this program and knew first-hand how students felt during their first year. Staff/faculty also reiterated the effectiveness of the peer helper program. Their views were similar to the peer helpers regarding the importance of students' success during their first year of college and how it increases the likelihood for student success at the university. The consensus of students and staff/faculty was that the peer helper program was instrumental in helping first year students remain at the university. And, that the development of relationships with staff/faculty and peers was very important for students.

Additionally, the staff/faculty believed that the retention program was beneficial to students because pride in the mission and goals of the program were well exhibited. Students were excited as they described their programs and were proud of the work of the entire office. Each student gave heartwarming stories of the ways the staff helped him or her. It seemed that the students were able to feel the staff's dedication and commitment as sincere, which further helped them to be positively impacted by the program. Moreover, the staff/faculty seemed to be aware of the importance of this program and how beneficial it was to the students. They kept abreast of the effectiveness of their program by gathering information through surveys and other forms of data collection.

Discussion

This study was undertaken to explore how a retention program at one predominantly White university in the southern region of the United States impacted the matriculation of African American students. The overarching theme that resonated from this research was that the retention program was an effective conduit for sustaining, supporting, and cultivating African American student success.

At the time of this study, the retention program was comprised of five tiers—a Peer Helper Program, Mentoring Program, Center of African American Culture, Library of African American History, and an African American Parents Association. The current retention program is still comprised of five tiers, with one exception—the Library of African American History was replaced and has now become a Tutoring Program.

The data analysis revealed that the retention program was successful in retaining African American students as a result of the combined efforts of the retention program, its commitment to African American students, and institution-wide commitment. The analysis also revealed that the students benefited academically, socially, and culturally from participating in various components of the retention program. They received academic assistance from the peer helper and mentoring program, and they were able to receive academic advice from the peer helpers (e.g., information on classes, majors, professors).

Socially, the students' support system was comprised of both faculty/staff and peers. The students were provided with an immediate social network from their peer helpers and fellow peers, and they were able to socialize with their mentors and staff in the retention program office and at various social events. Culturally, the students were able to attend various forums, listen to and interact with well-known African American figures, and participate in small group discussions to learn about their culture. The retention program that supported African American

students housed an African American Library and computer laboratory, which enhanced each student's ability to study and research their culture. Consequently, universities that report improvement in their retention rates for African American students have strong African American student organizations that help students to foster a sense of belonging at the university ("Features", 2006). Additionally, African American cultural centers and organizations offer support and a mechanism for students to become more integrated into the campus community (Rodgers & Summers, 2008).

All of the participants identified the mentoring program and peer helper program as the most effective components of the retention program. In fact, they considered these programs as being the backbone of the retention program. Mentoring programs for African American first year students that include upperclassmen peers have shown great success on student retention at many universities ("Features", 2006).

Unexpectedly, the researcher found that the retention program was also successful due to the commitment and dedication of the retention program staff/faculty. Each dean (or program director) that the researcher spoke with talked passionately about the role they served. They seemed to think that what they did was more than a job but a personal commitment and duty. They also appeared to have a vested interest in seeing African American students graduate.

Likewise, the researcher found that university-wide commitment to the retention of African American students further enhanced the effectiveness of the retention program. For example, the retention program staff established relationships with the entire university community to assist African American students in obtaining their degree. They also encouraged the university to hire African American faculty and staff so that students could see someone who looks like them in various positions of authority. Love (2008) and Oseguera and Rhee (2009) point out that good faculty relationships are beneficial to African American student retention at predominantly White institutions. Though highly influential in the success of the students, the retention program staff did not take all of the recognition for the high retention rates. Instead, they attributed success stories to the commitment of the university as a motivating factor to student retention, which is supported by Steele (1997) who asserted that institution-wide commitment makes the greatest impact on student retention. Also, it should be noted that since the time of this study, this predominately White university has continued to implement its retention program, and it continues to be successful at retaining African American students. Though some of the staff has changed, the overall structure of the program is relatively the same.

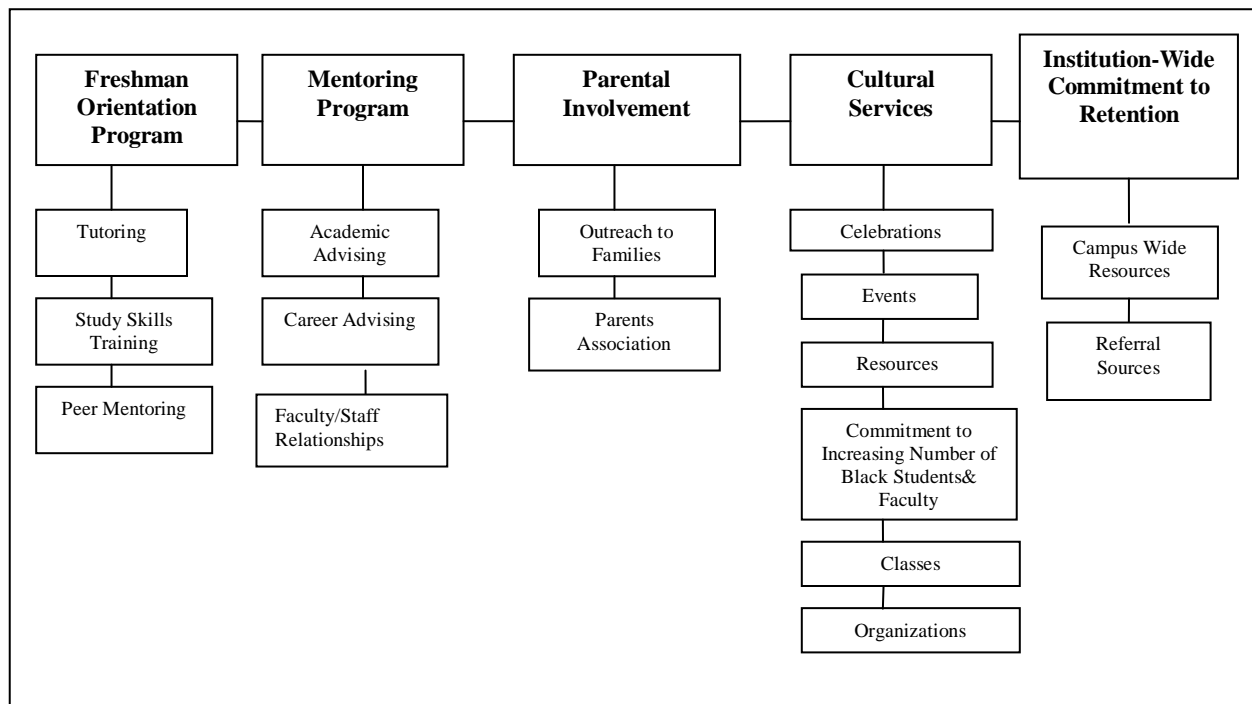
Limitations

This study is not without limitations. The main limitation was its limited student and faculty sample size. Another limitation is that the study explored the effectiveness of a retention program at one predominately White university. The data collection period was also brief and consisted of one round of interviews; and, the data collection timelines did not allow for the interviewing of students at each classification level. Despite these limitations, this research provides important information about a retention program for African American students. Future research should include a larger sample size and allow for a longer data collection period. Such an investigation would serve as an extension to the existing research and possibly add another dimension to understanding the impact of retention programs on African American students' success at predominantly White colleges and universities.

Implications

The findings of this study suggest that a comprehensive retention program that focuses on academic, social, and cultural development have the potential to enhance the success of African American students. The comprehensive retention model shown in Figure 1 was developed from data obtained in this study and prior research on retention. It includes five main components—a freshman orientation program, a mentoring program, parental involvement, cultural services, and institution-wide commitment to retention.

Figure 1. Comprehensive Retention Model



Freshman Orientation Program

The freshman orientation program includes tutoring services, study skills training, and peer mentoring. The tutoring services are designed to enhance students' academic capabilities as well as assist them in any area of weakness. The study skills training program is designed to provide students with various strategies to explain how to study and manage time effectively. The peer mentoring component is designed to provide the students with the positive experience of upper class students and place incoming students with the much-needed assistance to adjust to college life (e.g., ways to navigate the college environment; tips on classes, professors, and information on majors). It is also structured to provide introductions into campus social life and extracurricular activities, as well as formulate friendships. One of the most important aspects of the freshman orientation program is building peer relationships, which is needed to help combat the alienation and isolation that African American students experience at predominantly White institutions. Research on retention illustrates that students who actively participate in educationally purposeful activities on campus achieve more satisfaction and are more successful (Bean, 2005; Pascarella & Terenzini, 2005).

Mentoring Program

The mentoring program includes academic advisement, career advisement, and the building of faculty/staff and student relationships. Academic advising can help students monitor their academic performance. Career advisement can provide students with information to assist them in making realistic career choices. Student/faculty/staff relationships, which are positive in nature, helps students feel supported and provides them with a confidant they can trust and depend on through their highs and lows at the university. According to Tinto (1993; 2006-2007), developing good faculty relationships are critical in helping students integrate into the academic and/or social systems of the university.

Parental Involvement

Parental involvement at predominately White colleges and universities is important. It can be cultivated through outreach activities for students' families and a parent association. To be effective, outreach to families must begin prior to a student's entry to the institution. For example, parents should be given a variety of information on financial aid to help alleviate the financial burden of tuition. While a parent association typically serves to enhance students' university experience and help build collaborative relationships between parents, students and the university; they also serve as advocates for parents, participate in recruitment and fundraising activities, as well as sponsor programs that promote parental involvement. Additionally, a parent association could provide students with, for example, an extra support system and additional financial assistance for books, emergencies, supplies, and trips home through donations and fundraising. Researchers suggest that an African American student's family is a key factor in assisting students with obtaining financial assistance (Stewart, Russell, & Wright, 1997).

Cultural Services

Another integral part of retention programs is cultural services (Patton, 2006). These services should include cultural activities and celebrations, resources, as well as a committed effort to increasing the number of African American faculty and students on campus. Cultural activities and celebrations could consist of celebrations of importance to African American culture. Resources should be available to provide students with access to useful information about their culture, including various cultural organizations and classes on the university campus. According to Hikes (1998), parents and students want universities to recognize their culture and address their concerns.

Institution-Wide Commitment

Institution-wide commitment is also essential to sustaining a welcoming and supportive campus environment. This type of engagement can provide retention program staff with an abundance of resources for the students it serves. Research indicates that institution-wide commitment and involvement provides the greatest impact on student retention (Parker, 1997).

If implemented collectively, all of the components of the retention model—freshman orientation program, mentoring program, parental involvement, cultural services, and institution wide commitment—presented in Figure 1 should be effective and helpful in increasing the retention of

African American students at predominately White colleges and universities. Of equal importance is the faculty and staff working with these students. These entities must be sincere and have a genuine interest in the success of African American students. This is especially important because students can readily sense the sincerity of faculty and staff.

Conclusion

It is imperative that African Americans excel in education to disprove the myths and stereotypes (e.g., being lazy, criminal, anti-intellectual, not valuing an education) that are prevalent in society (Gray, 2001; Davis, 2004). Society needs to recognize that African Americans are intelligent, hardworking, and productive members of society, and that all citizens regardless of race or nationality should be given an equal opportunity to pursue a college degree in a welcoming and nurturing environment.

Because African Americans will continue to enroll in predominantly White colleges and universities for various reasons—e.g., tuition costs, scholarships, programs of study, academic rankings, facilities—these institutions need to promote their matriculation in a manner that equals to that of their White peers by implementing retention programs that increase student satisfaction, retention, and graduation rates. Despite the limitations in the present study, this research continues to reiterate that predominately White institutions can be successful at retaining African American students and that retention programs are essential to retention efforts and student success.

While this study suggests that not all African American students' experiences are negative at predominately White institutions, there were things that could be done to enhance these experiences in more positive ways. The literature explained that even though educators recognize certain factors that affect retention and subsequent matriculation, few schools have rectified the problem.

Lastly, although most, if not all, predominantly White institutions have offices that address the needs of ethnic minority students, as well as one or two components of retention (e.g., mentoring), rarely do these institutions have a comprehensive retention program geared specifically for African American students. For retention programs to be effective for African American students, these programs should be designed specifically for this population.

AUTHOR NOTES

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Appendix A: Student Interview Protocol

Pre-entry Attributes (family background, skills, and abilities, prior schooling)

1. Could you tell me about where you grew up?
2. Could you tell me a bit about your parents' educational background? Your siblings? Other family members?
3. What role did your parents and family play in your education? Can you give me an example? How did your family feel about education?
4. Tell me about your high school background. What courses did you take? Do you think these courses prepared you for college? For your major? For your career choice?
5. Why did you decide to attend college?
6. Was there anyone who played a role in your education and decision to attend college?
7. What attracted you to the University of _____?

Goals and Commitments

1. What do you want to get from attending college? What are you doing to get it?
2. Tell me about studying--How much do you study? Do you enjoy what you are studying?
3. What will it take you to be successful and graduate from this university?
4. What motivates you to succeed?
5. Imagine yourself ten or maybe five years from now. What do you see? Where do you want to be?

Social System (extracurricular activities and peer-group interactions)

1. Tell me about your own personal experiences here.
2. What is the social scene on campus? Say it's a Wednesday night here. Can you tell me what that might look like for you? What about a Saturday night?
3. Describe your interactions with peers on campus.
4. What makes you feel comfortable here on campus? the department? lectures? What makes you feel uncomfortable? on the campus, department, lectures?
5. Are you involved in any extracurricular activities? Why or why not? Describe involvement.
6. How helpful do you find the staff to be? In what ways are they helpful? Answering questions? Informing you of opportunities? resources? If so, can you give me a specific example of how staff has helped you?

7. What does it mean to be a minority student at this campus?
8. Do you feel that you receive equal treatment here at the university?
9. In addition to the retention program, this university offers classes and/or activities that are specifically geared toward African American or black students. Do you participate in any of these? IF YES---How often? Can you give me an example of something you've done in these activities or classes? What led you to join this class? What does it give you? IF NO, what led you not to take part in these classes and or activities?

Academic System (academic performance, faculty/staff interactions)

1. What is your major?
2. What is your classification?
3. What classes are you currently taking?
4. How are your classes coming along?
5. Tell me more about the class you just mentioned in which you are doing well.
6. What do you think makes the difference between the classes in which you are doing well and the others?

Academic/Social Integration (personal normative integration)

1. How long have you been involved in the retention program for African American students?
2. What prompted your involvement?
3. What components of the retention program do you specifically use or participate in? Can you give me a specific example of your participation?
4. Do you feel the retention program helped you?
5. Describe how (academically, socially, culturally) it helped you and what component(s) you feel helped the most.
6. How does the faculty/staff of the retention program help you specifically?
7. How has participating in the retention program affected your opinion about the university?

Appendix B: Faculty/Staff Interview Protocol

1. What is your position at the university?
2. How long have you worked with the students in the retention program?
3. Have you seen a difference in the success of students who participate in the program?
4. What component of the program do you feel are most effective?
5. What is your perception of the students who are participating in this research study involvement in the retention program?
6. What do you perceive as the benefits of a program such as this to the students it serves?
7. Describe the differences that you see in the students who participate in the program as compared to those who do not.
8. How long are the students usually involved in the program?
9. What are the classifications of the students who usually participate in the program?
10. Do you actively recruit students for the program?
11. How do you recruit students for the program?

Appendix C: University Graduation Rates

First-Year Retention and Graduation Rates for First-Time First-Year Undergraduate Students Entering Fall 2004					
Ethnicity	Number Entering	First-Year Retention Rate	Percent Graduated After		
			4 Years	5 Years	6 Years
African American	288	95.8%	69.1%	80.9%	82.6%
Asian American	335	99.1%	91.0%	95.8%	97.0%
Hispanic American	139	94.2%	85.6%	89.2%	89.9%
Native American	5	100.0%	100.0%	100.0%	100.0%
Non-Resident Alien	161	93.2%	80.1%	83.9%	86.3%
Unclassified	224	96.0%	84.4%	91.5%	92.4%
White American	1,944	97.3%	85.9%	93.6%	94.2%
TOTAL	3,096	96.9%	84.5%	91.8%	92.7%
First-Year Retention and Graduation Rates for First-Time First-Year Undergraduate Students Entering Fall 2004					
Gender	Number Entering	First-Year Retention Rate	Percent Graduated After		
			4 Years	5 Years	6 Years
Male	1,436	96.7%	82.9%	89.9%	92.7%
Female	1,660	97.1%	85.8%	93.4%	94.1%
TOTAL	3,096	96.9%	84.5%	91.8%	92.7%

Online Resources

Peggy Snowden ♦ Chauncey Carr-McElwee

HOWTOSMILE.ORG provides an online collection of free high quality, math and science activities ranging from downloadable lesson plans, how-to-videos, to online interactive games. The activities teach science, technology, engineering and math (STEM), and are designed for school-aged children and adults. This website was named by the American Association of Science Librarians as Best Website for Teaching and Learning in 2012.

Keeping Pace – *Keeping Pace with Online and Blended Learning* is an affiliate of Evergreen Education Group. This resource strives to add to the body of knowledge about online education policy and practice and serve as a source of information for practitioners and policymakers who are new to online education, as well as those who have extensive experience in the field. It offers data and information about programs available in each state, annual reports on the status of K-212 online education across the country to further contextualize current practice, news and information on the state of K-12 online learning in the U.S., and a blog.

National Center on Universal Design for Learning (UDL) - supports the effective implementation of UDL in schools nationwide by providing resources to professionals and other stakeholders through videos, presentations, articles, and various web links.

RTI Action Network - a program of the National Center for Learning Disabilities that is dedicated to the proper implementation of Response to Intervention (RTI) in school districts. This site offers a wealth of information for guiding educators and families in the large-scale implementation of RTI. Its goal is to promote access to quality instruction for struggling students, including students with learning disabilities. The site offers informational resources for Pre-K, middle school, high school, higher education, and parents and families.

Teaching Channel - showcases videos of effective teaching produced by a team of professionals that include video production experts, education advisors, and practicing teachers. The video library offers a wide range of subjects for grades K-12 and presents effective teaching practices, information regarding alignment with Common Core State Standards, and supplementary material for teachers to use in their classrooms. Users of this website can also post blogs and subscribe to a weekly newsletter.

The Chronicle of Higher Education - provides news, advice columns, information about jobs for people in academe, discussion forums, career building tools, and more. The online digital format of The Chronicle is published every weekday and it features complete content of the articles and other information contained in its newspaper as well as an archive of previously published content.

The Event Zone

Martha Jallim Hall ♦ Michael J. Maiorano

24th International Conference on College Teaching and Learning

April 8-12, 2013
Ponte Vedra Beach, Florida

NCTM Annual Meeting and Exposition

National Council of Teachers of Mathematics
April 17-20, 2013
Denver, Colorado

EdTech Teacher iPad Summit USA

Leading Change in Changing Times
April 11-12, 2013
Atlanta, Georgia

73rd Annual NSBA Conference

National School Board Association
April 13-15, 2013
San Diego, California

IRA 58th Annual Convention

International Reading Association
Celebrating Teachers Making a Difference
April 19-22, 2013
San Antonio, Texas

AERA Annual Meeting

American Educational Research Association
Education and Poverty: Theory, Research, Policy and Praxis
April 27-May 1, 2013
San Francisco, California

YAI International Conference

Young Adult Institute
May 6-9, 2013
New York, New York

10th Annual Teaching Professor Conference

May 31-June 2, 2013
New Orleans, Louisiana

ISTE Conference

International Society for Technology in Education
June 23-26, 2013
San Antonio, Texas

2013 ASCD Conference on Teaching Excellence

June 28-30, 2013
Harbor, Maryland
(Washington, D.C., Metropolitan Area)

2013 NEA Annual Meeting and Representative Assembly (RA)

June 26 - July 6, 2013
Atlanta, Georgia

National Down Syndrome Congress Convention

July 19-21, 2013
Denver, Colorado

IDEC 2013 Conference

International Democratic Education Conference
What Future Do You Want To Create?
August 4-8, 2013
Boulder, Colorado

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Scientific Learning *Complimentary Webinars*

Why Good Schools Have Poor Test Scores

Presenter: Martha S. Burns, Ph.D.
April 17, 2013
1:00 p.m. PT/ 4:00 p.m. ET

RTI & Special Ed: How Are We Doing?

Presenter: Chris Weber, Ed.D.
April 23, 2013
1:00 p.m. PT/ 4:00 p.m. ET

The Parent Trap: When and How Parents Can Help a Struggling Learner *(Pre-Recorded Webinar)*

Presenter: Martha S. Burns, Ph.D.

The Center for Learning *Complimentary Online Workshops*

Keys to Implementing the Common Core State Standards

Presenter: Dr. Douglas Reeves

How Can Differentiation be Achieved - Without Putting Too Much Burden on Teachers?

Presenter: Dr. David Sousa

Call for Manuscripts

The **Interdisciplinary Journal of Teaching and Learning** is seeking manuscripts for its Fall 2013 special issue—*Culturally Responsive Education for African American and Hispanic Students: Merging Theory, Research, and Practice*. Manuscripts acceptable for inclusion in this issue should focus on one or more of the following topics:

- Culturally responsive instructional practices and/or curricular models that help educators understand and address the specific needs of African American and Hispanic students, particularly practices and models that focus on ways to: (a) close the achievement gap, (b) increase access to gifted and Advanced Placement, (c) reduce overrepresentation in special education, and (d) address the social, emotional, and psychological needs of Hispanic and African American students.
- Culturally responsive practices in the areas of design, methods, measures, interpretation, and research.
- Culturally responsive tests and assessments and ways of modifying tests and assessments to be culturally responsive.
- Designing policies for creating culturally responsive schools.

All manuscripts will undergo final peer review. The submission deadline is June 30, 2013. Send manuscripts to the guest editors—Dr. Donna Y. Ford, Dr. Malik A. Henfield, and Dr. Michelle Trotman-Scott.

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Manuscript Submission Deadline Extended

The submission deadline for manuscripts for the Summer 2013 issue of the **Interdisciplinary Journal of Teaching and Learning** has been extended to June 5, 2013. Send manuscripts to coeijtl@subr.edu