Effects of Video Modeling on Implementation of Literature Circles in Inclusive Content Area Classrooms

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Abstract

Trends in special education favor inclusion and concurrently the implementation of inclusive instructional practices. As students with learning disabilities are increasingly placed in general education classrooms, the need to assist general educators in establishing inclusive classrooms becomes a major priority. Cooperative learning, in the form of literature circles, is offered as a means of providing support to academically diverse student populations. In light of research-to-practice challenges, this study investigated the potential for students with learning disabilities and their peers to learn about literature circles by viewing video models of the practice in action. Students in the video modeling group demonstrated significantly more effective implementation of literature circles including cooperative behaviors, suggesting that video modeling could serve as a means of improving the translation of research on effective instructional strategies to actual practice in classrooms.

As inclusion becomes a common standard of practice, particularly for students with learning disabilities, the need for assisting educators as they establish inclusive classrooms becomes a major priority. Concurrent with the evolution of inclusive theory in education has been the proliferation of inclusive instructional practices such as co-teaching, cooperative learning, peer-mediated instruction, positive behavioral support, embedded learning strategies (e.g., mnemonics, SLANT participation strategy, LINCS vocabulary strategy, PIRATES test-taking strategy) and content-enhancements (Ehren, Lenz, & Deshler, 2005; King-Sears, 1997; Lenz, Deshler, & Kissam, 2004). Although inclusive ideology has reached a point of dominance in educational doctrine, practical limitations continue to plague the realization of inclusive education in most school settings (Dieker, 2001; McLeskey, Hoppey, Williamson, & Rentz, 2004).

A significant challenge of inclusion has been establishing learning environments supportive of a wide range of learners. General education classrooms in American public schools have traditionally emphasized models in which students work independently, quietly, and often at single-person desks arranged in straight rows (Good & Brophy, 1987; Johnson & Johnson, 1999). Teaching students with high-incidence disabilities who struggle with reading, attention, hyperactivity, behavior, and academic progress challenges the use of traditional models, prompting educators to reconsider classroom environments and instructional practices. A substantial body of literature suggests that the consistent and effective use of peer support models through specialized implementation of cooperative learning promotes academic achievement

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and social integration for struggling learners (Maheady, Harper, & Mallette, 2001; Sapon-Shevin, Ayres, & Duncan, 1994).

Cooperative learning and various forms of peer support may be most accurately viewed as highly effective methods for laying the groundwork for inclusion. McMaster and Fuchs' (2002) research synthesis documents the positive impact of cooperative learning on the achievement of students with learning disabilities when the *active ingredients* of individual accountability and group rewards are components of the strategy. These *active ingredients* are the aspects of highly varied cooperative learning strategies that must be included to have a positive effect on the performance of students with learning disabilities in inclusive settings (McMaster & Fuchs, 2002).

Cooperative Learning as an Inclusive Instructional Practice

Cooperative learning involves a number of structures and strategies for collaborative group work sharing certain common characteristics. Johnson and Johnson (1994) identify five features of cooperative learning promoting greater productivity than other instructional approaches. These features include (a) an explicit focus on positive interdependence, (b) extensive group member interaction, (c) a clear focus on individual work to contribute to the achievement of the whole group, (d) established use of interpersonal and small-group skills, and (e) open reflective discourse regarding group functioning. Cooperative learning has, since its origin as a defined instructional practice, focused largely on accommodating heterogeneity in classroom learning experiences (Johnson & Johnson, 1999). In recent years, cooperative learning has been further defined as an inclusive instructional practice for students with learning disabilities (Jenkins & O'Connor, 2003).

Cooperative learning strategies, especially when incorporated into a class as a universal design feature (Hehir, 2002; Pisha & Coyne, 2001), are logical and effective methods for accommodating the heterogeneity of a diverse classroom (Daniels, 2002b). Peer support is most critical as a means of supporting students with learning disabilities for whom reading is the most common area of difficulty (Fletcher, Morris, & Lyon, 2003; Lerner, 1989). Further, students with learning disabilities account for as much as 50% of the overall population served by special education funding (U.S. Office of Special Education Programs, 2004). When analyzing texts in cooperative group settings, certain learning strategies have the potential to aid students in complementing each other's abilities. For example, the literature circle approach (Daniels, 2002a) is a literacy-based cooperative learning strategy in which students choose (or are assigned) roles based on various reading comprehension strategies and share their understandings of a text in a discussion format.

Inclusive instructional practices, such as literature circles, emphasize peer support and foster student analysis and discussion of texts. Such practices are particularly helpful to students with learning disabilities as they transition from elementary school to middle school (Blum, Lipsett, & Yocom, 2002). Academic content at the middle school level increases dramatically in complexity and challenge each year,

requiring students to read and write across subject areas, a struggle that students with learning disabilities have experienced throughout their years in school (Dieker, Lane, Allsopp, & O'Brien, 2004). Compounding this increased difficulty of middle school content is the transition from an emphasis on *learning to read* (as in elementary school) to *reading to learn* (Taub, McGrew, & Keith, 2005). Reading to learn is fundamental to effective learning in content area classes such as social studies and science (Passe & Beattie, 1994). These subject areas are often heavily loaded with factual information and new vocabulary (Lenz, Bulgren, Kissam, & Taymans, 2004). Although the literature circle approach as a cooperative reading strategy is strongly grounded in the English language arts literature, Daniels (2002a, 2002b) provides guidelines for implementing the approach with nonfiction texts in content classes like science and social studies. The literature circle approach is easily modified to support the needs of students with learning disabilities (O'Brien, 2007). Consistent with the critical element of individual accountability in cooperative learning, there are five student roles in *nonfiction* literature circles (see Figure 1). These roles include Questioner, Passage Master/ Summarizer, Vocabulary Enricher, Connector, and Illustrator (Daniels, 2002a). They reflect the true spirit of cooperative learning and could be used for students with learning disabilities in inclusive settings to increase access to complex content knowledge (O'Brien, 2007). The literature circle approach emphasizes content acquisition through student-centered collaboration and the use of specific strategies that parallel theory related to the development of reading comprehension (Daniels, 2002a; Palincsar & Brown, 1984).

Figure 1. Overview of nonfiction group roles (O'Brien, 2007).

Role Names	Individual Accountability/Role Specifics
Questioner	Student writes down a few questions that came up during the reading. Role examples: -asks questions to monitor reading comprehension -records questions about content elements they found challenging or confusing
Passage Master	Student picks a few special sections of the reading to share. Role examples: -helps readers notice the most interesting, funny, puzzling, weird or important sections of the text -summarizes significant elements
Vocabulary Enricher	Student selects and shares challenging words in the text. Role examples: -looks for words that are tough, confusing, or unfamiliar, and marks them while reading -writes down definitions, either from a dictionary or from group discussion

Connector	Student makes connections between the text and the world outside. Role examples: -highlights connections between text and personal interests and life experiences -shares any personal observations (no wrong answers)
Illustrator	Student draws a picture or graphic organizer related to the reading. Role examples: -sketches a cartoon, diagram, flow chart, or scene -completes graphic representation based on personal connections to text or ability to summarize key points

Literature Circles as a Content Area Reading Strategy

Blum, Lipsett, and Yocom (2002) suggest that literature circles are effective for accommodating student diversity in inclusive classrooms. Specifically, the authors describe the potential impact of literature circles as a strategy for increasing self-determination of students with disabilities, suggesting that the approach requires development of metacognitive skills including recognition of one's successes and failures in reading endeavors. Further, Blum and colleagues report that students experience improved confidence related to reading ability following participation in literature circles.

Grounded in the literature on reading comprehension, the individual role responsibilities in nonfiction literature circles are explicitly linked to what Palincsar and Brown (1984) refer to as "comprehension-fostering strategies" (p. 119). The authors suggest that, if decoding of text is not a barrier, successful development of reading comprehension for struggling readers involves the use of "active strategies that the reader employs to enhance understanding and retention, and to circumvent comprehension failures" (Palincsar & Brown, 1984, p. 118). These active strategies include summarizing, questioning, clarifying, and predicting. Summarizer and Questioner are included as roles in nonfiction literature circles and Clarifier and Predictor are included in traditional fiction-based literature circles (Daniels, 2002b). Critical in enhancing reading comprehension, both summarizing and questioning require that students attend to the content in a passage, concurrently evaluate their understanding of the content by selecting important details and notable selections from the text (the Passage Master/Summarizer role), and engage in active self-monitoring by asking themselves questions (the Questioner role). Used more with fiction, clarifying (the Clarifier role) requires students to evaluate their understanding as they read and predicting (the Predictor role) requires students to make inferences about the reading and test those inferences throughout (Palincsar & Brown, 1984).

Further, Robb's (2000) summary of key strategies for improving reading comprehension aligns with the roles of literature circles. These strategies include: (a) activating prior knowledge; (b) deciding what's important in a text and synthesizing information; (c) drawing inferences during and after reading; (d) self-monitoring comprehension, repairing faulty comprehension; (e) asking questions;

and finally, particularly in content classes (f) using strategies for building vocabulary. Links between key comprehension strategies and literature circle roles are detailed in Figure 2.

Ultimately, there is potential for students with learning disabilities in inclusive settings to benefit from strategies such as literature circles. The challenge remains that strategies promoting inclusion are often unknown to teachers or are difficult to integrate into classroom practice.

Figure 2. Links between roles and effective reading comprehension strategies (O'Brien, 2007).

Roles	Reading Comprehension Strategies
Questioner	• Self-monitoring comprehension • Repairing faulty comprehension • Asking yourself questions
Passage Master	• Deciding what's important in a text • Synthesizing information • Paraphrasing main idea
Vocabulary Enricher	• Analyzing text for unknown vocabulary • Using context clues
Connector	• Activating prior knowledge • Making text-to-self, text-to-text, and text-to-world connections
Illustrator	• Visualizing textual information/making mental pictures • Constructing visual representations of ideas • Creating graphic organizers of thinking

Purpose of the Study

The purpose of this study was to evaluate the feasibility of a classroom innovation, video modeling, to aid in addressing the gap between educators' awareness of inclusive practices and implementation of these practices in actual classrooms. This study investigated the potential for students with learning disabilities and their classroom peers to accurately perform the roles and procedures of a cooperative learning strategy, literature circles, after viewing video models of the strategy in action. The study builds on an extensive body of literature in the area of explicit modeling (Harris & Graham, 1996; Knight, 2002) and the fascination of the contemporary generation of students with technological applications in education (Rideout, Roberts, & Foehr, 2005). A quasi-experimental design with random assignment of teachers' classrooms to alternate treatments (i.e., video modeling and traditional) was employed to evaluate the feasibility of video modeling as a tool to promote students' use of cooperative learning strategies in general education classrooms.

Considerable research exists on video-based anchored instruction for teaching complicated, sometimes abstract, concepts (The Cognition and Technology Group at Vanderbilt, 1990). Gersten (1998) referred to anchored instruction as "learning through experience" (p. 166). An expansion of the original work on anchored instruction has led to the implementation of video-based anchored instruction as an approach for teaching content to students with learning disabilities (Rieth et al., 2003). Further, video modeling has been successful in recent years as a method for teaching complex social skills, including verbal interactions, to students with autism (Delano, 2007). Charlop and Milstein (1989) suggest that video modeling provides a means for accelerating the effective use of conversational skills by children with autism. Integrating the aforementioned converging research findings raises the question as to whether a video modeling approach could be utilized to aid students with learning disabilities in more effectively implementing inclusive instructional strategies, such as cooperative learning.

In this study the video model was intended to present to students an exemplary model of nonfiction literature circle implementation in the content area of social studies in middle school classrooms. The study focused on the needs of students with learning disabilities by evaluating the impact of video modeling on nonfiction literature circle implementation.

Methods

The primary research question addressed in this study was, "Do students in inclusive settings, including students with learning disabilities, who view a video model of a particular cooperative learning approach, literature circles, demonstrate significantly more effective implementation of the approach than students who do not view a video model?" The researchers evaluated the extent to which demonstration of a video model improved the ability of students with learning disabilities and their peers to (a) learn the foundational information about and understand the rationale for using literature circles, (b) implement literature circles effectively, and (c) improve academic outcomes.

The Video Model

A video development process established in previous research by Dieker, et al. (2004) was employed to create the final video model. The researchers collected a broad array of video clips from exemplary classrooms representing effective literature circle implementation by students from schools across the state of Florida. Significant emphasis was placed on highlighting student models that visually represented a range of racial, cultural, and social characteristics while following the principles of anchored instruction. The primary researcher edited video clips in order to capture the classroom environment and student participation in literature circles in a content area classroom. Narration was added to the video to provide direct explanations to the students who were to implement this new strategy in their classes. Three content experts reviewed the video to ensure accuracy of the final product.

For this project, the video model was presented as a 10-minute video clip demonstrating classroom implementation of literature circles in an inclusive social studies classroom. The video model emphasized student implementation of *nonfiction* literature circles with current events materials (i.e., social studies/news magazines for young readers). Peer model segments demonstrated each of the five nonfiction literature circles roles.

Sampling

In order to gain access to a diverse population of students, including those with learning disabilities, ten certified general education teachers were selected to view the literature circles video, provide a literature circles-based lesson, and allow observation in their classrooms. Due to issues with classroom access, this study used a voluntary sample of convenience for selection of teachers' classrooms. Selection of classrooms was based on teachers' current assignments in their school setting, teachers' roles as instructors of social studies content, and a diverse student population including students with learning disabilities in general education classrooms. Moreover, in an attempt to exclude students' prior knowledge of the strategy as a contributing variable, classrooms were selected for this study with the understanding that these ten teachers were not already implementing literature circles (or comparable strategies) with their students. Participating teachers were instructed to create heterogeneous groups based on the model suggested by Johnson and Johnson (1999)—one high-achieving, two typically-achieving, and one low-achieving student in each group. Observed groups included at least one student with an identified specific learning disability.

Within each teacher's classroom, the primary researcher randomly selected one literature circle group that included at least one student with a specific learning disability (SLD) by state definition. The study participants were students with learning disabilities currently included in general education social studies classrooms in middle school (i.e., grades 6-8 in these specific classrooms) and their nondisabled peers participating in the literature circle activity. Students were selected from 10 teachers' classrooms across four middle schools representing a range of cultural diversity and socioeconomic status (see Table 1). The full range of data (i.e., strategy knowledge measure, observational measure, content measure) was collected for 158 students across these four schools, with one literature circles group per classroom and four students per group. This sample was limited to students who had not received prior training in literature circles and were in attendance on both days for the full class time in which the literature circles training was introduced (5 students were excluded due to lack of attendance on both days).

Of the 158 students in this study, 43 received special education services for specific learning disabilities in accordance with state and federal guidelines and were currently included in the general education classroom for at least part of the day. Following random assignment to the video or nonvideo group, the sample amounted to 20 students with learning disabilities in the video group and 23 students with learning disabilities in the nonvideo group. Of these 43 students, 56% were African American, 19% were Hispanic, 26% were White and 67% were male.

Table 1
School Demographics

2005 Student Enrollment								
	School 1		School 2		School 3		School 4	
Total Enrollment	860		1386		1228		1607	
	#	%	#	%	#	%	#	%
Disadvantaged[a]	651	76%	719	52%	549	48%	672	42%
ELL[b]	95	11%	44	3%	115	9%	100	6%
ESE[c]	190	22%	157	11%	186	15%	256	16%
Black	420	49%	340	25%	114	9%	113	7%
Hispanic	167	19%	259	19%	321	26%	429	27%
White	239	28%	651	47%	704	57%	988	61%
Asian	26	3%	71	5%	69	6%	49	3%
Other	1	< 1 %	6	< 1 %	4	< 1 %	5	< 1 %

[a]Economically disadvantaged based on eligibility for free or reduced price lunch
[b]English Language Learners
[c]Students with identified disabilities receiving Exceptional Student Education

Treatment Conditions

Using a random number generator, classroom teachers were randomly assigned to one of two treatment groups. All selected teachers were given traditional professional development in the implementation of the literature circle approach, appropriate materials for using the strategy, and video models designed to demonstrate the instructional effectiveness of literature circles as an inclusive practice for middle grades content area reading.

In treatment group 1, teachers (n=5) were given a detailed lesson plan with scripted instructions for the first day of the treatment and asked to implement literature circles with their students. Teachers in Group 1 provided a traditional approach to preparing students for a new instructional strategy. Traditional instruction included a lecture and discussion-based presentation along with engaging overhead transparencies. The overhead transparencies detailed the critical elements of the strategy and summarized the methods involved in literature circles.

In treatment group 2, teachers (n=5) were given a detailed lesson plan and scripted instructions for implementing literature circles comparable to the preparation materials used in treatment group 1. Demonstration of the strategy did not include the transparencies provided to group 1. Students in treatment group 2 viewed a DVD video model of literature circles played either on a desktop computer and projected on an overhead screen or a comparable DVD player and television in plain view of students in the classroom. Included in the video model were explicit descriptions of the roles and responsibilities comparable to the overhead transparency presentation provided in

treatment group 1. This ensured that both groups received the same information about literature circles. Ultimately, the two presentations of the strategy were comparable in information, time, and steps, with the critical difference being the visual representation of actual students using each role provided by the DVD video model.

A fidelity checklist was developed to ensure parallel implementation during each phase of implementation. The fidelity checklist included a detailed list of lesson events (including the constraints of those events) based on the lesson plans given to the teachers. To ensure consistency across classrooms prior to the implementation, a specific nonfiction expository text appropriate for middle school (i.e., *Teen Newsweek*) was selected to be used in a parallel fashion across all classrooms. All students read the same article in the magazine when meeting with their group.

Instrumentation

Three instruments were used in the study: (a) the Basic Knowledge of literature circles Pre-post Test (a 10-item assessment of factual knowledge of the critical elements and roles used in the literature circles strategy), (b) the Observation Instrument to evaluate implementation of critical strategy elements, and (c) the Assessment of Content Knowledge Pre-post Test. The 10-item Basic Knowledge of literature circles Pre-post Test is grounded in the extensive work of Daniels (2002b) drawing from previous work that specifically defines the roles included in literature circles. Content and instructional experts in the area of English language arts and reading instruction enhanced the protocol's validity through review of the material related to their areas of expertise.

The Observation Instrument, which measured the specific elements of literature circles and cooperative learning, was strongly grounded in the work of Daniels (2002b) and Johnson and Johnson (1999). Elements of the Observation Instrument included items related to student demographic information and classroom descriptive information adapted from the Local Systemic Change Observation Protocol developed by Horizon Research, Inc. (2000). The specific observational elements included assessment of overall fidelity to cooperative learning's major tenets (i.e., positive interdependence, individual accountability, promotive interaction, and cooperative group skills), and specific assessment of literature circles role completion (to be completed for each member of the group).

The Observation Instrument included observation items for each of the five roles of the nonfiction literature circles (see Figure 3). Items 1-3 on the observation instrument were parallel in item structure across the roles of literature circles. The instrument also provided room for the researchers to include field note data, particularly student comments pertaining to their perceptions of the strategy and ability to perform their roles.

Figure 3. Sample of role assessment items from Observation Instrument.

Student 1: Questioner **First Name or Initials of Student: _____**

Criteria	Low Level Implementation		Moderate Implementation		High Level Implementation
1. During reading, lists questions on paper for later review with group members; seeks questions from the text—reflecting on what he or she does not understand.	1	2	3	4	5
2. Leads group discussion by sharing and seeking group discussion of questions, drawing questions from others and seeking answers to questions through collaboration.	1	2	3	4	5
3. Shares questions with group in a manner that promotes natural conversation.	1	2	3	4	5
4. Explicit Focus on Positive Interdependence Learns the material and ensures that all group members learn the assigned material.	1	2	3	4	5
5. Extensive Group Member Interaction	1	2	3	4	5
6. Clear Focus on Individual Work to Contribute to the Achievement of the Whole Group Student is accountable for his/her portion of the group work. He/she contributes his/her fair share.	1	2	3	4	5
7. Established use of Interpersonal and Small-group Skills Enacts a Win/Win attitude encouraging others to complete their tasks to achieve the overall goal. Problem solving and cooperative attitudes are critical.	1	2	3	4	5
Synthesis score for role (items 1-3):					
Synthesis score for cooperative behaviors (items 4-7):					
Synthesis score for overall role performance (items 1-7):					

Items 1-4 adapted from Daniels (2002). *Literature circles: Voice and choice in book clubs and reading groups*. Items 5-8 adapted from Johnson & Johnson (1994). *An overview of cooperative learning*.

Previous research and publications in the English language arts community by Daniels (2002a) provide a strong foundation for identifying the features to be observed in an effective implementation of literature circles. Five content specialists in English language arts, secondary reading instruction and social studies provided expert validation of the items included in the instrument. Items related to effective use of cooperative learning were also drawn directly from an extensive body of publications and research by Johnson and Johnson (1999) that identified four specific elements to be observed in cooperative learning groups.

Finally, the Observation Instrument was piloted in a central Florida middle school. Prior to formal observation of students in the study, the study researcher and additional field observer developed comfort with the Observation Instrument, came to agreement about objective interpretation of items, and then piloted the instrument while observing students using literature circles in three teachers' classrooms at a school that did not

participate in the study. The pilot project enabled the observers to refine the instrument. Items were enhanced to be more objective for rating by isolating target behaviors to be observed. The format of the instrument was enhanced in regard to layout of rating forms and space for field notes.

The Assessment of Content Knowledge Pre-post Test assessed development of content knowledge related to the middle grades social studies curriculum. The content assessment was an open-ended pre-post measure of the students' general knowledge related to the topic in the text, in this case, an article entitled, "Poverty in America: Why the number of poor people in America is growing." Students reported what they knew about this topic on the first day, and following their literature circles discussion, they reported again what they knew about this topic. The instrument's scoring rubric (see Appendix) was drawn specifically from the content of the reading material. Validity of the instrument as a measure of achievement in middle school social studies content was enhanced by review of a university level specialist in curriculum for secondary social studies and a sample of practicing social studies teachers in local schools.

Data Collection Procedures

Students in treatment group 1 and treatment group 2 completed the 10-item Basic Knowledge of literature circles Pre-post Test to determine if learning gains had been achieved related to their basic knowledge regarding literature circles. The scores from the Observation Instrument were collected during student implementation of literature circles on the second day of the research timeline. Scores were obtained from both the primary researcher and an additional field observer who was not informed of the experimental condition to which the classroom had been assigned. Ultimately, only scores from the primary researcher were analyzed, but scores from the two observers were compared using point-by-point inter-rater reliability in an effort to attain unbiased scores.

An a priori decision was made to observe the performance of the students identified for special education as well as their nondisabled group peers in the literature circle. Also, as group sizes for the literature circles varied to encompass between four to five roles, the researcher and additional field observer determined that four students would be the optimum number that they could reliably observe and score without having an intrusive effect on the group dynamic. This enabled the researchers to accurately evaluate group interactions and role implementations including both the students with learning disabilities and their nondisabled peers.

The primary researcher observed 10 teachers in 49 classrooms across 4 schools. The additional field observer was present for 82% of the total observations to ensure unbiased scoring of groups. Following completion of the study, a random sample of 25% of the 40 classrooms observed was selected to compute point-by-point inter-rater reliability for each item within each of the observed roles of literature circles. Reliability scores were calculated specific to the roles of literature circles across each of the specific observation criteria (1-7) to ensure that the standard of reliability did not

vary markedly across literature circles roles. Inter-rater reliability met the criteria for all seven observation items for each of the five roles of literature circles with point-by-point reliability ranging from as low as 80% in one cell (item per role) to as high as 100% on 29 separate cells (item per role) indicating very strong agreement in ratings between the primary researcher who was aware of the experimental condition and the additional researcher who was not aware of the classrooms experimental assignment.

As a way of enhancing social validity, field note data were also collected as a component of the observation instrument. Field note data was related to student perceptions of the video model during field observations. The researcher did not prompt comments, but recorded all spontaneous commentary by students pertaining to their attitudes about using the strategy and their level of comfort with the task assigned to them. Periodically, students who made particularly unique comments were given the opportunity to member check following the classroom observation to ensure the researcher had correctly interpreted their comments (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005).

Finally, in order to assess the academic impact of the video model, pre and post measures of content knowledge related to the current events topic presented on the first and second day were collected. Pre and post measures were scored according to the content measure rubric. Each response received a score of 0, 1, or 2 with 0 reflecting an incorrect or unrelated response, 1 reflecting an adequate response related to the content, and 2 reflecting a high-level response indicative of synthesis of the information or connections to broader contexts.

Data Analysis

Following data collection, quantitative analyses were completed using Multivariate Analysis of Variance (MANOVA) to examine group differences related to knowledge of the essential elements of the strategy, implementation of the strategy, and content achievement. MANOVA was selected due to the need to analyze the impact of one independent variable on multiple numerical dependent variables. Data from the three instruments were entered into SPSS and a MANOVA calculated to determine statistically significant differences between students in classes randomly assigned to the two treatments.

To further evaluate the feasibility of the video modeling approach, student commentary from field notes was reviewed. Student commentary was first transcribed for analysis. General themes were drawn from the qualitative data using the Interpretivist analysis approach advanced by Erickson (1986). Basic conclusions were developed by scrutinizing transcripts for broad themes and illustrative quotes while seeking disconfirming evidence until consensus was achieved. General themes were relatively clear, as the qualitative data were not extensive.

Results

A one-way between-subjects Multivariate Analysis of Variance (MANOVA) was performed to investigate differences in strategy knowledge, implementation, and content knowledge between the traditional and the video-based treatment group. Students in the sample (n=158) included 43 students with learning disabilities. Three dependent variables were used: basic knowledge of the strategy, implementation of the strategy, and content knowledge. One variable, *implementation*, was divided into two separate scores: Role Total and Cooperation Total. The separation of scores was based on the distinction made on the observation instrument between individual and group behaviors of the student during the observation (see Table 2). These two scores were entered into the analysis as separate variables based on the assumptions of MANOVA calculation.

A statistically significant difference was found between students in the video group (n=84) and students in the nonvideo group (n=74) on the combined dependent variables: F (4, 150) = 4.49 (p=.002); Wilks' Lambda= .89. partial eta squared = .107 (see Table 2). Wilks' Lambda is a measure of association in multivariate analysis ranging from 0 to 1 with greater scores suggesting significance. It is interpreted similarly to R-squared (Pallant, 2004). Based on the partial eta squared value, approximately 11% of the variance in the combined dependent variables could be explained by assignment to the treatments group (video-based versus traditional treatment).

Table 2
Multivariate Tests

	Wilks' Lambda	F	Df	Error Df	Significance	Partial Eta Squared
Treatment	.893	4.49	4	150	.002*	.107

***** Indicates results were statistically significant

When the results for the dependent variables were considered separately, two variables reached statistical significance. Using a Bonferroni adjusted alpha level of .013 (Pallant, 2004), only the two implementation variables achieved statistical significance. The adjusted alpha level of .013 is an attempt to control family-wise type I error rates by adjusting or restricting the alpha level downwards when running more than one test in one set of experimental data, i.e., reducing the likelihood that an effect will be seen that is not actually significant. The two significant variables include Role Total: F (1, 153) = 17.67, p<.001, partial eta squared = .104; and Cooperation Total: F (1, 153) = 9.346, p=.002, partial eta squared = .058. The two remaining variables did not reach significance (see Table 3). The independent variable, video-modeling treatment, accounted for approximately 10% of the variance (partial eta squared= .104) in Role Total scores and 6% of the variance (partial eta squared= .058) in Cooperation Total scores (see Table 3).

Table 3
Tests of Between-Subjects Effect

	F	Df	Error Df	Significance	Partial Eta Squared
Role Total	17.62	1	153	< .001*	.104
Cooperation Total	9.46	1	153	.002*	.058
Knowledge of Strategy	1.00	1	153	.318	.007
Content Gain Score	.540	1	153	.464	.004

* Indicates results were statistically significant

An inspection of the scores indicated that students in the video treatment group achieved higher observation scores for Role Total (*M* = 8.28, *SD* = 2.75) and Cooperation Total (*M* = 10.88, *SD* = 3.25) than students in the nonvideo group (*M* = 6.65, *SD* = 1.93; *M* = 9.36, *SD*=2.83). Scores for the video group (*M* = 7.28, *SD* = 2.75) were only slighter higher on the measure of strategy knowledge than the nonvideo group (*M* = 6.81, *SD* = 3.14). Also, scores reflecting gains in content knowledge were only slightly higher for the video group (*M* = 1.67, *SD* = 1.82) than the nonvideo group (*M* = 1.46 *SD* = 1.68; See Table 4 for details).

Table 4

Descriptive Statistics for Dependent Variables

	Treatment	Mean	Standard Deviation
Role Total	Video	8.28	2.79
	Nonvideo	6.65	1.93
Cooperation Total	Video	10.88	3.25
	Nonvideo	9.36	2.83
Knowledge of Strategy	Video	7.28	2.75
	Nonvideo	6.81	3.14
Content Gain Score	Video	1.67	1.82
	Nonvideo	1.46	1.68

Next, data analysis was completed at the level of the 43 students with learning disabilities (20 video, 23 nonvideo) to preclude the possibility that the treatment effect occurred only for their nondisabled peers. Due to smaller sample size, the MANOVA indicated no statistically significant differences between the scores of students in the

two treatment groups. However, the effect size (partial eta squared= .101) indicated that the independent variable, video modeling, accounted for 10% of the variance in the dependent variables suggesting practical significance of the video modeling treatment (see Table 5). Inspection of descriptive statistics clarified that mean scores on all measures were greater for the sample of students with learning disabilities in the video group (see Table 6).

Table 5
Multivariate Tests

	Wilks' Lambda	F	Df	Error Df	Significance	Partial Eta Squared
Treatment	.899	.98	4	35	.43	.101

Table 6
Descriptive Statistics for Dependent Variables

	Treatment	Mean	Standard Deviation
Role Total	Video	7.68	2.98
	Nonvideo	6.67	2.08
Cooperation Total	Video	10.21	3.41
	Nonvideo	8.90	2.36
Knowledge of Strategy	Video	7.21	2.53
	Nonvideo	6.05	3.19
Content Gain Score	Video	1.21	1.44
	Nonvideo	1.10	1.45

Student Commentary

A relatively consistent commentary emerged from the field notes transcribed during field observations. Students seemed to place high value on the use of explicit peer modeling in the video. In response to a teacher's general query about the literature circles process, a student replied, "We sat right in front of the television so it was easy for our group to see the video from yesterday. We just did what they did in the video. It was pretty easy."

Responding to general praise from the researcher, another student made an unsolicited comment:

> I didn't know what he [the teacher] wanted us to do at first, so I just tried to copy what the girl did in the video. She asked all the people in the group the words that she didn't know so I just did it like that.

Several students indicated that the literature circles approach was a way of learning that was appreciably outside of their typical learning experiences. Students appeared to require greater explicitness in the presentation of the strategy in order to confidently step outside of their comfort zone. During observation, a self-conscious student expressed concern to her group members asking, "Are we doing this right? I don't think we're doing it right, because we don't look like the kids on the video. They seemed really smart and I really liked the way they talked to each other." The same student then commented to the researcher who was quietly observing from the corner, "We don't really get to do stuff like that. We're not usually allowed to talk in class so we don't really know what to say." Clearly the last student's comments remind us that the video modeling technique is intended as an approach to improve the implementation of a new cooperative strategy, not a replacement for a skilled teacher.

Discussion

Following extensive data analysis, the results suggest that video models improved the implementation of cooperative learning strategies within the literature circles approach. McMaster and Fuchs (2005) note that many teachers struggle to translate the complex theory and design of effective cooperative learning into practice. In this study, video models appeared to ease the process of introducing a new learning approach by demonstrating the strategy directly to students. As a follow-up to the formal study, a teacher in the video treatment group shared with the primary researcher that she implemented the strategy approximately a month later following the formal study for a second trial, and students were able "to jump right into their groups and use their roles." Rather than spending weeks and months teaching students to use a strategy in this particular classroom, the video model eased integration of the strategy to the point that students were relatively well-versed by their second attempt.

When compared to a traditional method of preparation in which teachers explain new learning strategies through discussion, lecture, use of notes and overhead transparencies, there does not appear to be a substantial difference in students' ability to learn the basics—names and descriptions of roles. Also, as content scores were consistently low across the treatments, it is unclear whether the video model had any influence on the students' learning outcomes.

In contrast, considering actual implementation of strategy roles, the data suggest positive effects of the video model. Students were not only able to implement the specific aspects of the roles at a higher level, but they also incorporated the critical elements of cooperative learning, which are foundational to literature circles, at a

consistently higher level. Students who viewed the video model appeared to grasp what the strategy was supposed to look like in action. Rather than rigidly employing a list of tasks presented by the teacher (i.e., make questions, make connections, make an illustration, etc.), students who viewed the video model appeared to employ the strategy in a more conversational and collaborative manner, as is desired.

Conclusions and Future Research

A substantial research base exists to suggest that cooperative learning and other forms of peer-mediated instruction are beneficial to students who struggle to succeed independently. Further, students usually experience increased academic achievement when emphasis is placed on individual accountability and group reward for student performance as an interdependent unit. The literature circle approach is an excellent example of *best practice* (Daniels, 2005) in English language arts instruction characterized by the critical elements of cooperative learning and reading comprehension development (Daniels, 2002b). Whether we speak of best practices or evidence-based practices, the problem remains that strategies meant to support diverse learners are rarely implemented in classrooms (Deshler, 2003; Gersten & Dimino, 2001; Gersten & Smith-Jones, 2001; Greenwood & Abbott, 2001). The purpose of this study was to find a method for addressing the diversity found in middle school classrooms when students with learning disabilities are included with their peers. Specifically, the investigation focused on the direct impact of video modeling of literature circles on students' knowledge about literature circles, implementation of literature circles, and subsequent content knowledge development as a result of using literature circles in a middle school social studies class.

Logically, this study emphasized the value of inclusion—as an ideology and a practice meant to provide high quality learning experiences to a population of learners with a vast array of needs. The students' responsiveness to video modeling is not particularly surprising. The youngest generation, Generation M (Rideout et al., 2005), seems to not only enjoy or engage with media, but almost requires media as part of their learning. This emerging generational characteristic is a notable, if unexplored factor to consider in future work of this kind.

Inclusion, conceptually and philosophically, has broad significance for students in American public schools. Its ultimate potential will not be realized, however, as long as teachers struggle to alter their practice by incorporating more inclusive approaches to instruction. In this study, literature circles, a student-centered instructional practice, is advanced as an example of best practice in the general curriculum aligned with inclusive ideology. Results indicate that an approach of this nature may be so distinctly different from the typical learning experiences of students in general education settings that technological interventions like video modeling may, at least, accelerate the pace at which students incorporate the practice into their learning experiences.

When considering the effect of the video model, this study's findings provide an indication of a larger impact, without providing a clear understanding of the specific

elements of the video model that supported the students. Future research using single-subject methods may be required to observe the specific elements of the video model that impact student implementation of literature circles. Also, included in future research is a need to determine the level of interactivity required for students to develop proficiency with the strategy. As modeling is a key feature in explicit instruction, a potential future direction for this work may include the development of an interactive video. This model can build upon the foundation of the major principles of explicit instruction (e.g., strategic instruction) and include a description and model of the strategy, verbal and controlled practice, and feedback, and ultimately advanced practice and feedback (Ellis, 2000; Schumaker, Scheuermann, & Faggella-Luby, 2005).

Research in video-based instruction suggests a promising foundation for teaching content to students with learning disabilities and instructional strategies to teachers. This study made a connection between these two lines of research with relatively positive implications. Results provide lasting implications for teacher education, professional development, and the establishment of research-validated inclusive practices. The continued proliferation of visual images in the form of video-based models could represent a positive step in improving outcomes for students with learning disabilities in general education classrooms.

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Appendix
Content Measure Rubric

Content Measure Rubric

Scores for the content responses by students will be scored by comparing student responses to the list of potential accurate responses. Further, they will be given scores of 0, 1, or 2—0 reflecting an incorrect or unrelated response suggesting the student made incorrect conclusions or made comments unrelated to the topic, 1 reflecting an adequate response in some way related to the content of the lesson, 2 reflecting a high-level response reflecting keen insight and elaboration based on the content information provided in the selected article.

Potential Accurate Responses for the 10-item List

1. There is poverty in America.
2. The number of poor people in America is growing.
3. School janitors may make only $6.50 per hour and often do not receive benefits like health insurance or retirement.
4. There may be a relationship between teen pregnancy and school completion, welfare, and wages.
5. Many people who work still cannot afford to live well.
6. Hurricane Katrina did not solely cause the poverty in New Orleans; it exposed the preexisting poverty.
7. Certainly, storm victims fared worse after the storm losing homes, possessions, and jobs.
8. Poverty in America is an enduring problem—not something to be conveniently distanced from our lives in history books.
9. The number of people living in poverty has increased over the last 3 years despite economic recovery.
10. In a nation of 300 million, 37 million live below the poverty line.
11. The poverty rate is expected to continue to worsen due to issues related to hurricane Katrina (both from direct damage and indirect impact on relatives supporting victims).
12. The U.S. poverty rate is currently 12.7%.
13. The U.S. poverty rate is the highest in the industrialized/developed world.
14. The number of poor people in America is equal to the entire population of Canada.
15. Forty years of research have left experts without clear conclusions related to the causes of poverty.
16. Liberals blame poverty on a tilted economic system that favors wealthy people.
17. Conservatives blame poverty on the welfare state and a culture of poverty.
18. Multiple factors impact poverty beyond limitations in resources and training.
19. Unemployment is not a primary cause compared to challenges of low wages.
20. Federal minimum wage is only $5.15 set by congress.
21. A person working a 40-hour week makes only $10,712 a year before taxes.
22. Minimum wage has not improved for many years although the cost of living has increased.
23. Since 2001, the U.S. has lost numerous manufacturing jobs (i.e., 2.7 million) leaving people with low paying service jobs with limited benefits.
24. Medicaid pays for poor children to have health insurance, but rarely covers adults.
25. Working people often live in poverty due to their inability to pay for basic living expenses.
26. American attitudes tend to blame poor people for their problems.
27. Poverty has ceased being a major political issue in America.
28. Politicians have ignored people living in poverty because of their limited political power.
29. Over the last four decades, social programs like Social Security and Medicare have helped elderly people living in poverty.
30. Food stamps have mostly eliminated severe hunger.
31. In 1996 welfare reform cut the welfare rolls by over 9 million people.
32. In the 1990s 4.1 million working poor people improved their situation related to government initiatives and economic prosperity.
33. The September 11th, 2001 tragedy hurt the economy and stalled progress in the fight against poverty.
34. President Bush's policy agenda did not include issues related to poverty. Instead terrorism and tax cuts were the focus.
35. The cost of rebuilding the Gulf Coast states could result in cuts to programs designed to help poor people.
36. Senator Barack Obama suggested that American policy has been very neglectful of poor people in the U.S.
37. White people make up the largest raw number of people living in poverty—16.1 million.
38. Percentage-wise, the poorest ethnic groups are African-Americans (24%), American natives (24%), and Hispanics (22%).
39. Hispanics and American natives are significantly lacking in health care.
40. Poverty has decreased markedly since the 1960s but has begun a trend toward an increase in poverty.
41. Poverty impacts children—1 in 5 children are born poor.
42. One in 146 children die before age 1. One in nine are born to teenage mothers. One in seven never graduate from high school. One in 13 arrested before age 17.
43. Individuals under the age of 18 are the largest group of poor people and foreign-born people are poor in greater numbers.
44. Programs that helped decrease poverty include Head Start, Food Stamps, Medicare and Medicaid.
45. Johnson suggested the Great Society and sought to address links between racial issues and poverty.