



Florida Journal of Teacher Education

*Vol. VIII Spring/Summer 2005*



# Florida Journal of Teacher Education

Volume VIII, Spring / Summer 2005

# ***FLORIDA JOURNAL OF TEACHER EDUCATION***

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**Vol. VIII, Spring/Summer 2005**



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## Journal Information

### Call For Manuscripts

Fall/Winter 2005

**Deadline For Submission:** October 15, 2005

**Send to:** Dr. Janet Towell, Co-Editor  
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777 Glades Road  
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**Suggested Topics include:** Innovative ideas, methodology, and pedagogical practices, technology, digital portfolios, collaboration in teacher education, action research, community outreach, and English language learners.

#### Editorial Policy

The *Florida Journal of Teacher Education (FJTE)* publishes scholarly work in the broad field of Teacher Education. The *FJTE* is concerned with the preservice and inservice education of all school personnel: Instructional, instructional support, and administrative.

A major goal of *FJTE* is the continued improvement of education in Florida by providing a vehicle for sharing information on theory, research, validated best practices, and policy analysis. *FJTE* conducts blind reviews by two reviewers, although the co-editors reserve the right to return papers without review if they are clearly outside the *FJTE*'s focus.

#### Manuscript Guidelines

- Submit three copies and an online version in Microsoft Word with a cover sheet and 200-word abstract with the author's identification.
- The manuscript should be double-spaced in APA format, with a length of 1,500 to 3,000 words.
- Manuscripts should not be under consideration by other publishers at the time of submission. Since manuscripts will not be returned, contributors should retain their original manuscript.
- In typed copy, observe standard one-inch margins.
- Figures and tables should be camera-ready.
- References, notes, tables, and figures should conform with APA style, 5<sup>th</sup> edition.
- Editors reserve the right to make final revisions.

**We welcome partners from other Florida universities for Editorial and Review Board opportunities as well as support and collaboration from professional organizations. The Spring/Summer 2005 issue is the first since 1991, thanks to the sponsorship of Florida Association for Staff Development.**

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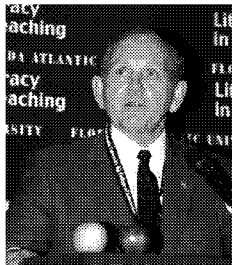
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## Message From Dr. Greg Aloia, Dean Of The College Of Education, Florida Atlantic University

A professional publication like the *Florida Journal of Teacher Education (FJTE)* showcases the fundamental characteristic of an institution of higher learning that distinguishes it from any other institution in our modern culture. Higher education provides a scholarly culture for faculty to advance knowledge. *FJTE* and other professional publications affirm the views of Dr. Jaroslav Pelikan in his book, *The Idea of the University: A Reexamination*. In it he posits that the role of a modern scholar in contemporary society should be based upon the philosophical cornerstone of the Latin maxim from the Middle Ages, “*contemplata aliis tradere*” (i.e., to communicate with others the fruits of one’s contemplation). Pelikan argues that modern scholars should share their enlightenment. He states, “*As it is better to enlighten than to merely shine, so too it is better to give to others the fruits of one’s contemplation than merely to contemplate.*” The contributors to this edition of *FJTE* exemplify this ideal of a modern scholar.

The primary theme of this issue of *FJTE* is the field of special education. In the last forty years, the field of special education has evolved from being on the periphery of the educational system (i.e., stymied by historic attitudes, biases, legislative mandates, and judicial rulings), to being actively included as an integral part of the educational landscape. My parents experienced this exclusionary mindset with my brother who was denied access to the first grade by laws specifically intended to deny children with disabilities an education. Since the sixties the field has continued to grow in quality programs and services and legislative and judicial mandates that affirm the rights of individuals with disabilities in all aspects of our culture. Yet, in spite of these advances, the field is still very much in state of continual transition and regeneration. The realization of the goals of special education is a continual journey, not a destination. This journey has not been without its bumps and bruises. Several of the articles in this issue of the *Florida Journal of Teacher Education* attest to this ongoing journey of special education to insure that all students receive a “Free Appropriate Public Education.”

This edition of the *Florida Journal of Teacher Education* is rich in content and insightful findings for all educators. The Co-editors and the reviewers have done a splendid job in compiling timely and focused articles. Reflect on the insights of its many scholars and join in their discourse to continue to improve education for all students.



Gregory F. Aloia, Ph.D.  
Dean, College of Education  
Florida Atlantic University

## Message From The Editors

The *Florida Journal of Teacher Education (FJTE)* has a major role in the continued improvement of education in Florida. Through the sharing of information on theory, research, validated best practices, and policy analysis in the broad field of Teacher Education, the *FJTE* will provide the readers with the opportunity to delve into current issues and share insights on a variety of topics.

In this first issue (since 1991), we begin with a series of eight articles, five of which pertain to the field of special education. The first three articles focus on preparing preservice teachers to face the challenge of providing effective instruction for students with special needs. In the first article, Cox and Nelson discuss results of a survey regarding the perceptions of preservice teachers on necessary accommodations for students with disabilities. Their findings point to the positive effects teacher education courses have on the preservice teachers' perceptions of their ability to accommodate students with special needs in the general education classroom. In the second article, Ward and Golstein discuss a successful project designed to provide preservice general education teachers with the competence and confidence to differentiate instruction for students with disabilities in mainstream classrooms. As the preservice teachers experienced modeling, direct instruction, cooperative learning groups, and other teaching strategies, they succeeded in demonstrating among other skills, their ability to adapt commercially prepared general education lessons with the appropriate modifications to meet the needs of individual students with identified special needs.

The subsequent two articles address the area of curriculum development in two diverse settings. Nutta and Stoddard describe the process and outcome of a special education program designed to prepare special education teacher candidates to teach English language learners in the U.S. In contrast, Bhangwanji and a group of U.S. trainers developed an in-service special education program for an international setting. In both articles, the authors share personal reflections, that positively influenced their curricular outcomes. The next two articles: *Teaching Reading to Children with Down Syndrome...* and *Identified Temperament-Based Learning Styles* highlight specific implications for effective instruction. Thompson, Griffin, and Jones share their research on the effectiveness of phonics' instruction with three Down syndrome children. Although their sample was very small, the overwhelmingly positive results suggest the need to continue to investigate this method of instruction with Down syndrome children. Diana Joyce's article, the first of the three without special education focus, offers a variety of strategies based on students' learning styles' preferences that can easily be incorporated into most curriculums. She states that if teachers are cognizant of their own learning styles' preferences and those of their students, they are better equipped to provide the optimum learning environment for their students. Joyce reports that when teachers employ this knowledge to plan for instruction, students have a positive regard for the teacher, higher academic persistence, and higher graduation rates.

We conclude this issue with two articles that, although they may appear very divergent and unrelated, we feel they complement each other well. Paterson and Wink posit the great need "to combat a pedagogy of coverage" and Smilan, an art educator, exemplifies the breaking away with this pedagogy of coverage when she responds to the need to address the traumatic stress of her preservice teachers as a result of having experienced four hurricanes during the first month of the academic year. Smilan sets aside "coverage" as urged by Paterson and Wink in their article. They indicate that "reflection as the central component of pedagogy" is one kind of action research that will become an element of change in today's schools. Smilan



reflects on how she can assist her students in processing the events they were experiencing; what kind of curricular experiences could teach “process in the art form and process of the post-hurricane emotions”. The outcome was an integrated lesson in art-making of masks from hurricane debris and the development of skits expressing feelings before, during, and after the hurricane. The students had an opportunity to wear their masks when performing their skits. These preservice teachers learned by experiencing this process, how to effectively serve their own future students in post trauma-based situations.

It is our desire that this, our first issue of the *FJTE*, will make a significant contribution to the current literature in the field of special education, curriculum development, and effective teaching practices. It is our goal that this contribution will positively affect teacher education programs as well as the diverse learners in schools throughout the state of Florida and beyond.



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Carmen A. Morales-Jones, Ph.D. is a Professor of Education at Florida Atlantic University. She began her career, teaching French and English to Spanish speakers at the Laboratory School of the University of Puerto Rico. Her areas of expertise include second/foreign language acquisition, methods of teaching second/foreign languages, and supervision of student teachers/interns. She is the co-author of two textbooks in the field of second language teaching and the author of numerous refereed journal articles. Dr. Morales-Jones is on the Board of Sunshine State TESOL and District V Director for the state of Florida of Delta Kappa Gamma professional organization. Currently, she is on Phased Retirement from Florida Atlantic University, only teaching in the spring semesters.



**Janet Towell**  
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Janet L. Towell, Ed.D. is a Professor of Education at Florida Atlantic University. She will begin her appointment as the Literacy Director for the Teacher Education Department this fall. Before joining the FAU faculty, Dr. Towell taught for 14 years in the Teacher Education Department at California State University, Stanislaus. Her areas of expertise in Reading/Language Arts include early literacy, assessment, arts and literacy, and children's literature. She has published in national and international journals such as *The Reading Teacher*, published by the International Reading Association. Currently, Dr. Towell is one of two external evaluators for *Ready to Read*, an Early Reading First DOE grant in collaboration with the Children's Services Council and the Hispanic Human Resources Council of Palm Beach County.

## Message From Dr. Gail Burnaford, Chair Of Teacher Education

July 2005

It is an honor for Florida Atlantic University to accept the editorial responsibility for the *Florida Journal of Teacher Education (FJTE)* and to bring this inaugural edition from FAU to the educational community in our state. Now more than ever, the profession of teacher education requires careful, research-based, analysis of theories and practices that inform the field. Now more than ever, teacher educators are being called upon to define their work, the candidates they prepare to be teachers, and the nature of graduate or advanced preparation among teachers. In our public and private colleges and schools of education, teacher education is challenged to provide a menu of options for those aspiring to be teachers. What we say about our profession and how we share our research with the larger educational community is critical to our success as a profession.

In the *FJTE*, we will bring to light the quality research and practice that teacher educators throughout the state and beyond are doing to inform the field. As we explore new systems and innovative programs for teacher education, it is essential to maintain our perspective through a research lens. It is also important to share what drives our practice in order to better inform the public and school communities about what it means to be a teacher. The *FJTE* can also be a means to communicate with policy leaders, educational decision makers and others who influence teaching and teachers. We welcome their participation in the journal.

As Chair of Teacher Education at Florida Atlantic University, I am pleased to host this Journal in our College of Education. I look forward to reading and sharing practice and research in future editions. I wish to thank our Editors of the Journal, Drs. Janet Towell and Carmen A. Morales-Jones, who have worked diligently to bring this first edition to you. Their vision and persistence has resulted in a journal that has set the standard for future editions. We at FAU welcome your ideas, insights, and suggestions as we move forward with this initiative. We hope to connect to teacher education journals in other states and at the national level. Finally, we hope to connect with the teacher educators in our state – who continue to shape the profession of teaching in our communities.



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## **Perceptions of Preservice Teachers: Accommodating Students with Disabilities**

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*Penny R. Cox and Mary Ann Nelson*  
University of Florida

### *Abstract*

*A survey was conducted among preservice students entering their first semester of a teacher preparation program consisting of undergraduate study including elementary and special education coursework. These same students were slated to continue in a master's level program in elementary or special education. A total of 234 of these preservice teachers were surveyed regarding their knowledge of disabilities and perceptions of needed support to accommodate students with disabilities in general education classes. Of the original group, 212 participated in a follow-up survey conducted at the end of their second semester of course undergraduate work. Participants did not reject any accommodations, but there was considerable variation in perceptions of support needed for their implementation. Implications for teacher preparation programs are presented.*

The Individuals with Disabilities Education Act (IDEA, 1997) provides for the education of students with disabilities to take place in general education settings. The mandate has increased the numbers of students with disabilities served in settings not exclusively designed for special needs students (Twenty-Second Annual Report to Congress, 2000). Ensuring that students with disabilities receive appropriate educational experiences requires teachers to accommodate the unique academic and behavioral needs of their students. Since classroom teachers play such a crucial role in educating students with disabilities, it is prudent to assess teachers' knowledge of disabilities and their beliefs about accommodations for students in their classrooms.

In a synthesis of research regarding teacher perceptions of mainstreaming/inclusion, Scruggs and Mastropieri (1996) identified several factors that affected teachers' perceptions of the efficacy of inclusive practices. Teachers identified the areas of planning time, training, personnel resources, material resources, class size, and severity of disability as key factors affecting their ability to successfully include children with disabilities in general education settings. Within these areas, teachers reported receiving higher levels of material support than personnel support for children with disabilities. In six investigations, 25 to 50 percent of the teachers agreed that there was adequate material support for inclusion of children with

disabilities in general education settings. Perceptions of adequacy of personnel support, however, were greatly varied and received lower satisfaction ratings with eight to 40 percent of the teachers reporting satisfaction with the level of personnel support they received for inclusive practices. Scruggs and Mastropieri (1996) concluded that “the ultimate success of mainstreaming efforts, then may well depend on the extent to which such supports are made available” (p. 72).

A search of the literature on inclusive practices yielded no investigations of the nature of supports needed to implement particular accommodations for children with disabilities in general education settings. Teacher preparation programs would benefit from insight into preservice teachers’ perceptions toward the feasibility and nature of support needed to accommodate children with diverse learning needs. Such knowledge would be useful in determining program content and designing field-based experiences for preservice teachers.

Toward that end, students as they entered a teacher preparation program and through their first year of coursework were followed to see how their perceptions of supports needed to accommodate children with disabilities changed. It should be noted that their program merges elementary and special education teacher training by drawing upon the expertise of faculty in all departments of the College of Education. One goal of the program is to develop skills that enable teachers to design and maintain successful inclusive classrooms. Preservice teachers in this program also receive training in developing collaborative skills for working with school personnel, families, and community members.

The purpose of this article is to report the results of the surveys and track changes in the perceptions of the teacher candidates as they progress through the first year of their program of study.

## **Participants**

All participants were college juniors entering their first semester of teacher preparation coursework in the program described above. A total 234 participants were included across two cohorts entering in two consecutive fall semesters. Participants were surveyed a second time at the end of their second semester of coursework. Of the original group, 212 of the original group participating. Surveys were conducted during class sessions of teacher preparation courses. Student absences and attrition from the program account for fewer participants in the follow-up.

Coursework taken in the two semesters included three special education courses. One introduces special education law and disability related issues with limited coverage of specific disability categories. The second course is about teaching strategies and presents various models of instruction. The third course covers classroom management. Supervised field experiences are required in both semesters.

## **Survey Instrument**

The survey was developed by the authors and consisted of 26 items. The first eight items covered knowledge of disability areas. The remainder of the items were related to participants' beliefs about accommodations for instruction, assignments, and assessment/evaluation procedures.

The items regarding knowledge of disabilities included four high incidence disability areas. Each of the areas was identified on the survey as it is categorized in public schools in Florida (i.e. speech/language; specific learning disabilities; emotionally handicapped; mentally handicapped). Two categories of sensory disabilities were also included (i.e. visual impairments; deaf/hard of hearing). Physical impairments and autism were the last of the eight disability areas listed. Participants rated their knowledge of each disability according to four categories. The categories ranged from never having heard of the disability to knowing how to accommodate students having that disability.

Items regarding accommodations for instruction, assignments, and evaluation procedures were related to accommodations recommended by the Florida Department of Education in *Accommodations: Assisting Students with Disabilities, A Guide for Educators* (1999). Accommodations were chosen based upon best practices identified in special education literature as well as personal experiences as special education teachers and instructors in teacher preparation programs. The researchers also tried to anticipate what preservice teachers would understand prior to having any field-based experience. A draft of the survey was reviewed by teacher preparation faculty members. Revisions were made to ensure clarity of items.

The original survey included only three responses for the accommodations items. They were "could not use/manage," "needs support," and "does not need support." Prior to the second survey administration, the "needs support" response was expanded allowing participants to specify types of support (i.e. additional funds; additional personnel; administrative approval). Participants could choose more than one type of support for each accommodation if they felt it was necessary. Subsequent surveys reflected this change. (The amended survey is found in the Appendix.)

## **Results**

Survey results are reported in the paragraphs that follow. Overviews of responses to items regarding knowledge of disabilities and perceptions of needed support for using accommodations are provided. For complete survey results, see Tables 1 and 2.

### *Knowledge of Disabilities*

Participants rated their knowledge of eight disability categories and their ability to accommodate students with those disabilities in a general education classroom. Not

surprisingly, the overwhelming majority of participants in the initial survey (61.9 to 76.4 percent) reported limited textbook knowledge of definitions and characteristics of disability categories. The percentages of responses were nearly equal across all eight disability categories.

Almost thirty percent of participants reported that they could accommodate students with hearing, vision, and physical impairments. This is almost twice as many as said they could accommodate students with emotional handicaps, specific learning disabilities, and mentally handicaps. Twenty-one percent reported that they could accommodate students with speech/language impairments.

As expected, results of the survey administered at the end of the second semester of the program are quite different. Though low already, the numbers of participants describing the knowledge of each disability category as “never heard of” or “heard of but do not know the definition or characteristics” decreased for all categories. Fewer participants said they had textbook knowledge of all the categories except autism. The most notable change in results is seen in the number of participants who said they knew how to accommodate students with each disability. These responses increased across all categories and more than doubled for learning disabilities, mental handicaps, emotional handicaps, speech/language impairments, and autism. Hearing, vision, and physical impairments were again identified as the disabilities most participants believed they could accommodate with almost twice as many indicating their ability to make appropriate accommodations for them.

#### *Implementing Accommodations*

Participants were asked to rate their beliefs about the utility of accommodations and if additional support was anticipated to implement each. The accommodations fell into the categories of instruction, assignments, and assessment/evaluation. In the first administration, very few participants rated any of the accommodations “unusable or unmanageable.” In the areas of instruction and assignments only allowing students to use calculators, giving students a choice of tasks or assignments, and providing students with page numbers for locating answers in textbooks received such ratings from more than 5 percent of the participants. The only accommodation for assessment/evaluation rated “unusable or unmanageable” by more than five percent was retaking a test to get credit for improvement.

Many indicated that no support was needed for most of the accommodations. More than half said 14 of the accommodations listed did not require support. At least 84 percent indicated six instruction and assignment and two assessment/evaluation accommodations do not require support. Conversely, more than half of the participants indicated that support was needed for allowing students to have textbooks to leave at home and for using a word processor, for reading test items to a student, and for letting a student respond to test items orally. More than 40 percent believed support was needed for providing audio versions of materials and providing structured organizers for notetaking.

As noted above, response options were expanded to include additional funds, additional personnel, and administrative approval as specific types of support for implementing accommodations after the survey was first administered to cohort 1. Therefore, data in the remainder of this paragraph are based upon responses from cohort 2 (N=114). Participants indicated that financial support was needed for four of six accommodations identified in the previous paragraph with allowing students to keep a set of textbooks at home getting the most responses (68.4 percent) followed by using a word processor (59.6 percent), providing audio versions of materials (56.1 percent), and providing structured organizers for notetaking (36.8 percent). The only accommodations identified as needing support in the form of additional personnel were in the assessment/evaluation category. Specifically, they were reading test items to students (46.2 percent) and allowing a student to give oral responses to test items (40.3 percent). Administrative approval was viewed as a requirement for keeping a set of textbooks at home by one third of the participants. Administrative approval was also deemed necessary for allowing students to submit alternative demonstrations of knowledge and for retaking a test to get credit for improvement by 30.7 percent and 22.8 percent of the participants respectively.

Again, some expected changes occurred in the results of the follow-up survey administered at the end of the second semester of the teacher preparation program. Overall, few participants reported needs for support to implement 11 of the accommodations. Most notably, 13 to 16 percent fewer indicated a need for support to provide organizers for notetaking and for implementing individual academic or behavior plans. The number of participants indicating support was needed for using alternative demonstrations of knowledge also declined. On the other hand, some responses increased markedly. The percentage of participants who said using a tape recorder required support almost tripled over the initial survey. Less dramatic increases occurred in responses about providing audio versions of materials, keeping textbooks at home, using a word processor, and retaking a test to get credit for improvement. When considering specific types of support, generally few responses increased and those that did increased minimally. With regard to the accommodations participants identified as needing support on the initial survey, additional funds was again the type participants chose most often, with additional personnel and administrative approval following. The number of participants who said additional funds were needed to provide audio versions of materials remained constant at 56 percent. However, the number who said funds were needed for providing organizers for notetaking, keeping textbooks at home, and using word processors all declined (24.5, 57, and 48.5 percent respectively). No change was seen in the number of participants who believed additional personnel were necessary to allow students to give oral responses to test items. Slightly more said more personnel were needed to read materials to students. There was a general decline in the number of responses indicating need to administrative approval to implement accommodations.



## Discussion

Not surprisingly, participants indicated they had little knowledge of disability characteristics or how to accommodate them as they entered their teacher preparation programs. As novices in the field of education, their entry-level knowledge base was limited. An unexpected result of the survey, however, was the fact that some participants reported similar knowledge of low and high incidence disabilities. Initially, the categories of specific learning disabilities and autism received almost identical knowledge ratings. In the follow-up survey, the number of “can accommodate” ratings increased overall, but autism received the fewest “can accommodate” ratings. Even higher ratings of knowledge were reported for hearing, vision, and physical impairments in both the initial and follow up surveys.

It is encouraging that participants did not reject any of the accommodations presented. It is also encouraging that participants’ confidence in their ability to implement accommodations on their own as they gained knowledge and experience. However, some questions arise as the data were considered. First, will beginning teachers be prepared to address the need for additional funding for specific accommodations? As budgets are restricted at both school and district levels, it is possible that paraprofessionals, specialized equipment, or individualized materials will become scarce. In such cases, teachers need to act as advocates for students to help secure appropriate resources. Second, participants indicated the need for administrative approval for several accommodations. Such a result is of concern as accommodations are driven by the Individualized Education Program (IEP) process under IDEA (1997). Do beginning teachers have sufficient knowledge of IDEA (1997) and the IEP process to understand the impact of the law on educational services provided for students with disabilities?

Results of the surveys and the questions and concerns generated by participants’ responses have clear implications for teacher education programs. While it is encouraging that participants did not reject suggested accommodations, their perceptions of needs for support and approval should not be ignored. General and special educators need sufficient knowledge of IDEA (1997) and the IEP process to know how to obtain appropriate supports for accommodating students with disabilities. Such knowledge would include how to incorporate accommodations into classroom routines, obligations on the part of schools to provide support for needed accommodations, and the role of administrators in the IEP process. Additionally, they need to be skilled at working within the parameters of school districts and individual school cultures to fulfill the requirements of the law and appropriately serve students. If such needs are addressed within teacher preparation programs, beginning teachers will be better prepared to serve all students.

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## Appendix

### SURVEY OF ATTITUDES OF PRE-SERVICE TEACHERS TO ISSUES OF INCLUSIVE TEACHING

For items 1 through 8, use the following scale to rate your knowledge of each of the disability areas listed below. Record your responses on the scantron form.

- a. I have never heard of this disability.
  - b. I have heard of this disability, but I do not know its definition or the characteristics of students who have this disability.
  - c. I have introductory or limited "textbook knowledge of this disability area, but I am not familiar with how to accommodate students with this disability in a general education classroom.
  - d. I have knowledge of the characteristics of this disability and know its implications for students in the classroom.
1. Specific learning disabilities
  2. Mentally handicapped
  3. Emotionally handicapped
  4. Deaf or Hard-of-hearing
  5. Visually impaired
  6. Physically impaired
  7. Speech and Language impaired
  8. Autistic

Listed below are practices recommended by the Florida Department of Education for assisting students with disabilities. For items 9 through 26, rate each practice according to the scale below. You may mark as many responses as are appropriate for each item. Record your responses on the scantron form.

- a. A teacher ***could NOT*** manage or use this practice.
  - b. A teacher ***could*** manage or use this practice without additional support.
  - c. A teacher would need **additional money** to manage or use this practice.
  - d. A teacher would need **additional personnel** to manage or use this practice.
  - e. A teacher would need **administrative approval** to use this practice.
9. Provide an audio version of the material (such as books on tape).
  10. Provide structured organizers for notetaking, such as a copy of overheads, outline of lecture, or predesigned graphic organizer.
  11. Let the student use a tape recorder to record class lectures and discussions.
  12. Seat the student in the place where he or she can receive maximum information and is least likely to be distracted by other classroom activities.
  13. Let the student use a calculator for routine computation tasks.
  14. Use a prearranged signal to gain attention before giving directions.
  15. Give the student an agenda or schedule for each day.
  16. Give the student a choice of tasks or assignments.
  17. Give page numbers for locating answers in the textbook.
  18. Break assignments into shorter parts.
  19. Let the student keep one copy of textbooks at home and another copy in class.
  20. Let the student use a word processor or typewriter.
  21. Reduce the length of a written assignment or allow more time to complete assignments.
  22. Implement individual behavior or academic management system.
  23. Read test items to the student, unless the assessment is a test of reading skills.
  24. Let the student respond to test items orally.
  25. Let the student provide alternate demonstrations of knowledge (such as posters, dramatizations, or other projects) instead of taking traditional tests.
  26. Let the student retake a test and give credit for improvement.

**Table 1: Initial Survey Results**

KNOWLEDGE OF DISABILITIES													
Item #		Never heard of		Heard of; Don't know definition or characteristics		Limited textbook knowledge		Know how to accommodate					
		f	%	f	%	f	%	f	%				
1	SLD	1	0.4	50	21.3	145	61.9	39	16.6				
2	MH	3	1.2	19	8.1	179	76.4	33	14.1				
3	EH	5	2.1	32	13.6	164	70.0	33	14.1				
4	Deaf/HH	4	1.7	12	5.1	149	63.6	69	29.4				
5	VI	4	1.7	12	5.1	152	64.9	66	28.2				
6	PI	3	1.2	17	7.2	151	64.5	66	28.2				
7	Sp/Lang	12	5.1	27	11.5	144	61.5	51	21.7				
8	Autistic	15	6.4	47	20.0	141	60.2	30	12.8				
BELIEFS ABOUT ACCOMMODATIONS													
		Could Not Use/Manage		Does Not Need Support		Needs Support		*Needs Additional Funds		*Needs Additional Personnel		*Needs Admin. Approval	
		f	%	f	%	f	%	f	%	f	%	f	%
9	Audio Version (e.g. Books on Tape)	2	.8	123	52.5	107	44.4	64	56.1	8	6.9	6	5.2
10	Provide Structured Organizers	0	0.0	136	58.1	95	40.5	42	36.8	11	9.5	2	1.7
11	Tape Recorder	2	0.8	207	88.4	24	10.2	13	11.4	0	0	8	6.9
12	Preferential Seating	2	0.8	224	95.7	7	2.9	1	0.8	2	1.7	1	0.8
13	Calculator	14	5.9	198	84.6	19	8.1	7	6.0	1	0.8	8	6.9
14	Signal for Attn.	1	0.4	214	91.4	10	4.2	1	0.8	2	1.7	0	0
15	Daily Agenda/Schedule	4	1.7	205	87.6	22	9.4	7	6.0	3	2.6	1	0.8
16	Choice of Tasks	20	8.5	168	71.7	42	17.9	1	0.8	10	8.7	8	6.9
17	Give Page #	16	6.8	205	87.6	10	4.2	0	0	1	0.8	4	3.4
18	Break Asgn into Parts	4	1.7	209	89.3	18	7.6	0	0	1	0.8	3	2.6
19	Textbook at Home	5	2.1	79	33.7	146	62.3	78	68.4	1	0.8	38	33.3
20	Word Processor/ Typewriter	8	3.4	101	43.1	122	52.1	62	59.6	2	1.7	14	12.2
21	Shorter Asgn or More Time	8	3.4	199	85.0	24	10.2	0	0	6	5.2	8	6.9
22	Behavior or Academic Mngt Plan	3	1.2	147	62.8	81	34.6	2	1.7	19	16.6	18	15.7
23	Read Test Items to Student	6	2.5	105	44.8	120	51.2	1	0.8	47	41.2	14	12.2
24	Respond Orally	11	4.7	89	38.0	131	55.9	1	0.8	46	10.3	18	15.7
25	Alternative Demonstrations	8	3.4	146	62.3	77	32.9	5	4.3	13	11.4	35	30.7
26	Retake Test; Credit for Improvement	15	6.4	173	73.9	38	16.2	0	0	2	1.7	26	22.8

\*Includes data from cohort 2 only.

**Table 2: Follow Up Survey Results**

<b>KNOWLEDGE OF DISABILITIES</b>													
Item #		Never heard of		Heard of; Don't know definition or characteristics		Limited textbook knowledge		Know how to accommodate					
		f	%	f	%	f	%	f	%				
1	SLD	1	0.5	8	3.7	116	54.7	85	40.0				
2	MH	1	0.5	2	0.9	142	66.9	66	31.1				
3	EH	1	0.5	4	1.8	140	70.0	65	30.5				
4	Deaf/HH	2	.09	3	1.4	100	47.1	106	50.0				
5	VI	1	0.5	2	1.8	103	48.5	104	49.0				
6	PI	1	0.5	1	0.5	99	46.6	109	51.4				
7	Sp/Lang	1	0.5	4	1.8	94	44.3	111	52.3				
8	Autistic	1	0.5	18	8.4	139	65.5	53	25.0				
<b>BELIEFS ABOUT ACCOMMODATIONS</b>													
		Could Not Use/Manage		Does Not Need Support		Needs Support		Needs Additional Funds		Needs Additional Personnel		Needs Admin. Approval	
		f	%	f	%	-	%	f	%	f	%	f	%
9	Audio Version (e.g. Books on Tape)	2	.9	99	46.6	107	44.4	120	56.6	6	2.8	4	1.8
10	Provide Structured Organizers	1	0.5	157	74.0	95	40.5	52	24.5	1	0.5	0	0
11	Tape Recorder	1	0.5	160	75.4	24	10.2	36	16.9	18	8.4	8	3.7
12	Preferential Seating	2	0.9	204	96.0	7	2.9	1	0.5	1	0.5	0	0
13	Calculator	6	2.8	185	87.2	19	8.1	22	10.3	0	0	9	4.2
14	Signal for Attn.	2	0.9	206	97.1	10	4.2	2	0.9	3	1.4	1	0.5
15	Daily Agenda/Schedule	3	1.4	196	92.4	22	9.4	9	4.2	6	2.8	1	0.5
16	Choice of Tasks	4	1.8	191	90.0	42	17.9	1	0.5	11	5.1	8	3.7
17	Give Page #	7	3.3	201	94.8	10	4.2	1	0.5	1	0.5	5	2.3
18	Break Asgn into Parts	0	0	201	94.8	18	7.6	0	0	5	2.3	7	3.3
19	Textbook at Home	1	0.5	72	33.9	146	62.3	121	57.0	2	0.9	58	27.3
20	Word Processor/ Typewriter	2	0.9	105	49.5	122	52.1	103	48.5	7	3.3	25	11.7
21	Shorter Asgn or More Time	3	1.4	196	92.4	24	10.2	1	0.5	3	1.4	11	5.1
22	Behavior or Academic Mngt Plan	1	0.5	175	82.5	81	34.6	2	0.9	31	14.6	13	6.1
23	Read Test Items to Student	2	0.9	115	54.2	120	51.2	3	1.4	97	45.7	21	9.9
24	Respond Orally	2	1.9	121	57.0	131	55.9	4	1.8	86	40.5	21	9.9
25	Alternative Demonstrations	7	3.3	162	76.4	77	32.9	7	3.3	13	6.1	38	17.9
26	Retake Test; Credit for Improvement	1	4.7	154	72.6	38	16.2	0	0	7	3.3	44	20.7

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## **Preparing Pre-Service Teachers for Inclusion: Utilizing an Authentic Learning Activity within Cooperative Learning Groups**

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### *Abstract*

*Institutions of higher education are often expected to prepare general education teachers to include students with disabilities within their classrooms. This preparation is frequently delivered in a single special education course, most often called an "inclusion course". This article describes the incorporation of a unique project that was implemented in a special education course on inclusion. The goal of this course is to provide pre-service general education teachers with the competence and confidence to differentiate instruction for students with disabilities. The project utilizes two proven effective teaching practices in teacher education: authentic learning experiences and modeling instruction. The pre-service teachers, cooperative learning groups, practice collaboration skills while problem-solving a case involving the inclusion of four students with disabilities in a general education classroom. The project incorporates modeling and practice in direct instruction, cooperative learning groups, collaboration, problem-solving, and learning strategies.*

Since the majority of students with special needs are served in general education classes, institutions of higher education must take the responsibility to prepare pre-service general education teachers to teach in inclusive classrooms (Davern, 1999; Gettinger, Stoiber, Goetz & Caspe, 1999). These pre-service teachers need to be proficient at adapting and modifying both the classroom and curriculum to meet the needs of students with disabilities (Lombardi & Hunka, 2001). The trend across states is to require at least one special education course for pre-service general education majors (Stayton & McCollum, 2002). Lombardi and Hunka (2001) recommend that an inclusive education course be designed specifically for general education teachers, and focus on how to modify and adapt the classroom and curriculum for a wide spectrum of needs. This focus should also include the development of collaborative, problem-solving skills. Therefore, faculty teaching an inclusive education course need to utilize best practices in teaching and learning, and to also teach specific, research-based strategies for teaching students with disabilities, such as the use of cooperative learning groups. Higher education faculty also have the responsibility to teach content knowledge in a manner that is effective and efficient based on best

practices in teaching and learning, including the ability to generalize that knowledge to real life situations (McNaughten, Hall, & Maccini, 2001; Sileo, Prater, Luckner, Rhine, & Rude, 1998). The authentic learning experience model is one best practice that facilitates the generalization of knowledge and skills. Because teacher education faculties teach pre-service teachers how to teach, the faculty are in the unique position to not only include best practices in course content, but to also demonstrate these practices.

In this article we will discuss effective instructional practices in teacher education and in teaching students with disabilities in inclusive settings. We will then describe a project that was developed for an inclusive education course for pre-service general education teachers that focuses on how to modify and adapt the classroom and curriculum for students with a variety of special needs. The design of the project follows the best practice of utilizing authentic learning experiences to teach, model and practice effective instructional strategies for students with disabilities in inclusive classrooms. The principles of cooperative learning groups and collaborative problem-solving are implemented through case methodology.

### *Effective Instructional Practices in Teacher Education*

In general, effective instruction is shown to be relevant, interesting, engaging, and actively involving the students (Friend & Bursuck, 2002). A student's active involvement in learning (regardless of grade level) provides the best approach for the acquisition of knowledge; the utilization of authentic learning opportunities provides the best strategy for generalization. As Sileo et al. (1998) note, these types of activities facilitate opportunities for pre-service teachers to master concepts and skills through problem solving and practice.

Authentic learning experiences may include role-playing, simulation, case methodology, problem-solving challenges and internships. Internships are the most valuable because they offer guided and independent practice as an apprentice in a "real" classroom. Unfortunately, we cannot always obtain field placements nor is it realistic for pre-service teachers to participate fully in field placements for individual courses. Therefore, activities that most closely resemble real-life situations and challenges are the best alternative. The case method of instruction is advantageous because it allows pre-service teachers to analyze and problem solve like a professional (Elksnin, 1998; Mc William 1992; Wasserman, 1992). Modeling these effective practices is specifically recommended in teacher education (Allinder, 2001; Faison, 1996; Peterson & Beloin, 1998). In other words, teacher educators utilize and demonstrate the effective instructional methods they are teaching. This practice can improve both skill mastery and the likelihood that pre-service teachers will actually use these practices in their future classrooms.

### *Effective Instructional Practices for Students with Disabilities*

Many decades of research on effective teaching practices indicate that outcomes for students with disabilities are affected by a variety of instructional systems, which include the delivery of instruction, the grouping of students for instruction, individualizing instruction, and cooperative planning for instruction. Positive outcomes have been correlated with delivering of instruction through the direct instruction model (Mercer & Mercer, 2001; Stein, Carnine, & Dixon, 1998) and scaffolding (Pearson, 1996), grouping students for instruction with peer tutors or in cooperative learning groups (King-Sears, 1997), individualizing instruction with learning strategies (Friend & Bursuck, 2002), and planning through collaboration (Hudson & Glomb, 1997). Pre-service teachers need to be competent at differentiating instructional content (i.e., adapting and modifying the curriculum) by utilizing these effective instructional systems in inclusive classrooms.

The direct instruction model provides a procedure for instruction that includes: the review of previous knowledge, the presentation of new information through modeling and demonstration, guided practice with specific teacher feedback, and finally the opportunity for independent practice. Scaffolding provides needed support from the teacher (or other students) for a student with special needs (Pearson, 1996) through the initial modeling of correct answers, and then the planned slow withdrawal of supports as the student gains skills and confidence.

Effective systems for grouping students for learning include peer tutoring, peer assisted learning, and cooperative learning groups. Current literature shows the value of using cooperative learning groups to integrate students with disabilities and students at risk for learning problems (Cross & Walker-Knight, 1997; King-Sears, 1997). Cooperative learning groups afford teachers the opportunity to utilize peers to help support the learning of students with disabilities.

Learning strategies facilitate the individualization of instruction. Learning strategies are proven effective aids for students with disabilities to assist in understanding and organizing information in content subjects (Lazarus, 1991). Graphic organizers, vocabulary enhancements, study guides and note-taking systems are all well-known examples of learning strategies.

Teaching practices that include collaborative models such as cooperative teaching (Bradley, King-Sears, & Tessier-Switlech, 1997; Hudson & Glomb, 1997; Mercer & Mercer, 2001) are also beneficial for students with disabilities. In the cooperative teaching model, teams of teachers, both general education and special education, work together to plan and deliver instruction to students with and without disabilities in an inclusive classroom. This planning includes making decisions about adapting or modifying the curriculum or the classroom according to the needs of the students with disabilities. Cooperative teaching requires competence in both effective communication and problem-solving skills (Hudson & Glomb, 1997)..



## **The Inclusion Project**

The following describes a project for pre-service general education teachers in an inclusive education course that utilizes two proven effective teaching practices in teacher education: authentic learning experiences and modeling instruction. The pre-service teachers practice collaboration skills while problem-solving a case involving the inclusion of four students with disabilities in a general education classroom. The project incorporates modeling and practice in direct instruction, cooperative learning groups, collaboration, problem-solving, and learning strategies. Because of the variety of problem-solving activities required in this project, the cooperative learning groups need ten weeks of a semester to complete this authentic learning experience. A portion of each three-hour class is designated for group meetings. Our discussion provides a description of how an authentic learning experience is organized and delivered within a college course, and a description of the final product.

### *Authentic Learning Activity: Group organization*

We utilize the practices of cooperative learning groups and collaborative problem solving to facilitate the learning of the pre-service teachers, and provide them a model of cooperative learning groups at the same time. We felt that cooperative learning groups would work well with the diversity of experience and knowledge of our pre-service teachers. In addition, the cooperative learning group model would provide experience and practice in collaboration, problem-solving and cooperative decision-making. All skills they will need to be successful in the educational community.

The pre-service teachers who are typically enrolled in our courses are diverse in their background knowledge and college programming experience. On the one end of the continuum are students who have had significant field experiences, completed the majority of their required education courses, and are ready to student teach the next semester. At the other end of the continuum are students who are first semester juniors just beginning their required professional education courses. The other students are distributed along the remainder of the continuum. In other words, in planning content delivery we have to acknowledge a diversity of experiential background and instructional levels. Therefore, we have to provide differentiated instruction.

The students are organized into cooperative learning groups. The groups (three to four students, depending upon class enrollment) are created by the instructor based upon information provided in a student questionnaire completed at the beginning of the semester. Each group has one pre-student teaching senior and one first semester junior, and one or two mid-program juniors or seniors. This plan follows the cooperative learning model principles of heterogeneous grouping and mixed skill levels. This grouping also simulates a mixed group of teachers who would be members of a grade level team or academic department. Modeling another principle of cooperative learning, the team members determine their roles within the group, such as secretary or facilitator. Throughout the weeks of group meetings during class,

students are encouraged to practice the effective communication techniques and problem solving skills previously discussed and practiced in class.

*Authentic Learning Activity: The Inclusion Case*

*The Situation.* Each cooperative learning group receives one grade specific lesson plan and accompanying materials. The group is also provided with a skeleton lesson plan form on which specific objectives have been written for that lesson. The cooperative learning groups are told they have a general education classroom with 25 students. Due to the varied knowledge base, some of the students in this course have very limited experience with planning lessons. Since the primary purpose of the project is to learn to adapt and modify lessons, the groups are provided prepared lesson plans that have been obtained from various sources. We seek elementary and secondary level lesson plans with clearly stated objectives, detailed activities, and measurable evaluations. The content of the lessons is either social studies or science. We chose these subjects since students with special needs are more likely to be included in these lessons. The students are then presented a case that involves two problems: first, the groups complete a lesson plan for their class, and second, they adapt and modify this lesson for students with disabilities. Each problem includes different problem solving activities that must be completed.

*The First Problem.* The groups must complete the lesson plan for the majority of the students in their class. To provide a scaffold for group members with little experience in lesson planning and to facilitate the planning process for the whole group, the teams first complete a Planning Guide to be used for future reference when planning the lesson. The Planning Guide requires the groups to discuss and identify the important Big Ideas of the lesson, as well as skills and vocabulary that are either directly or indirectly taught in the lesson. Groups must also identify necessary prerequisite skills. Using the original lesson plan and the Planning Guide as a reference, the groups then take the skeleton lesson and materials provided and complete the lesson plan with objectives, activities and evaluation methods for the majority of the students in their classroom.

*The Second Problem:* After the lesson is planned for the general education students, the groups are given the profiles of four students with special needs who are included in their class. The profiles include a brief overview of each student's cognitive, academic, behavioral, social and functional skill levels, and the recommended Individualized Education Plan (IEP) or 504 Plan accommodations and adaptations. The profiles are based on records and Individualized Education Plans IEPs of actual students with learning disabilities, attention deficit disorder, visual impairments, and mild mental retardation. Using their cooperative planning skills, the groups analyze each profile in relationship to their lesson plan and determine if adaptations or modifications are needed to any of the objectives, activities or evaluation methods. If any adaptations or modifications are needed, they are then written on the lesson plan form and the student's name is written in the corresponding "For Some" column. The group then writes a rationale for the decisions made for each of the four special needs

students. A sample Lesson Plan in Appendix A shows the accommodations that have been made for “Joey” who has a learning disability in reading and written expression.

#### *Problem-Solving using Effective Teaching Practices*

As an effective practice for students with disabilities, we use and model the direct instruction method, using teacher or video modeling for the presentation of new material and guided practice. And, although some techniques or methods are taught and practiced via traditional means, we use several techniques to teach and practice through the problem-solving case simulation which provides for independent practice.

During the weeks when the groups are meeting, the lecture topics in the course address collaboration and effective communication practices, problem solving methods, differentiated instruction, and effective practices for the presentation and organization of instructional content. These include various forms of study guides, an array of graphic organizers, techniques to enhance vocabulary including the use of concept diagrams for abstract terms, and methods for adapting evaluation procedures, tests and testing situations. Though many of the methods discussed have been well researched as effective for students with disabilities, a point is made during lectures that these methods are also effective for all students, particularly students who are English Language Learners. As each topic is discussed, ideas and samples for adapting each are presented. Additionally, the pre-service teachers are introduced to hands-on independent practice activities to reinforce acquisition of content. Interspersed among the lectures are videos demonstrating the various methods in an inclusion classroom. During these weeks the groups make a study guide or graphic organizer for the content of their lesson, a concept diagram for an abstract vocabulary term in the lesson, independent practice activities to reinforce the content of the lesson, and evaluation materials. For each of these, the groups also make all modified or adapted versions as determined by their lesson plans. These tasks provide independent practice for our pre-service teachers in an authentic learning opportunity.

*The Case Study Product.* The completed lesson is submitted at the end of the semester in a single notebook created by each cooperative learning group over the course of nine to ten weeks of the semester. The notebook is subdivided into sections that demonstrate a group’s ability to take a commercially prepared general education lesson, enhance that lesson with effective teaching methods, evaluate the individual needs of four students with special needs, plan appropriate adaptations and modifications for their participation in the lesson, and make materials to be used by all of the students with adapted versions as needed.

#### **Discussion**

This inclusion project, based on a problem-solving case model, is currently in its third year of use by three instructors. This has been an evolutionary process for us. The basic design of the project has remained the same. We have refined or thrown out various group lesson plans, and fine-tuned our presentations of key concepts

associated with the project. We have also learned to manage groups. Initially we found students resistant to being grouped with other students they did not know. However, we have learned to define the grouping system within our syllabi and to explain the rationale for the grouping at the beginning of the semester. During the weeks prior to beginning the project, students are randomly grouped for several small, in-class activities. This gives them the opportunity to meet classmates and to become comfortable working with them. Since we changed our approach to the “grouping problem”, we have noticed a change in the students’ attitudes also. Students have reported to us that they now understand and appreciate the value of practicing collaboration skills prior to the “real world” of teaching.

An additional benefit for the pre-service teachers is the completed project case study with lesson plan and materials. Each group is required to produce duplicates of all materials in the notebook so that each group member has completed copy of the project notebook. Students are encouraged to include select parts of the project in their professional portfolios as evidence of their ability to differentiate instruction for a variety of students.

The design and organization of this project could be easily replicated in other teacher education courses. The classroom case would be based on the typical problem solving activities teachers encounter in that specific content or skill area. It is recommended that the instructor of such a course control group membership by using the cooperative learning group model similar to the one described in this article. It is also recommended that faculty design a management and documentation system for group activities, and develop an evaluation system that evaluates not only the end product but also individual contributions through the process of working within a group.

### **Summary**

The impetus for the development of this project was driven by our goal to have pre-service general education teachers competent and confident in their ability to include students with disabilities in their future classrooms. The design of the project incorporates authentic learning experiences and modeling; both proven as effective teaching practices. In order to model, demonstrate and practice research based strategies that are recommended for students with disabilities, the pre-service teachers are placed in cooperative learning groups and presented with a classroom case. The case involving the inclusion of four students with disabilities in a social studies or science lesson challenges the pre-service teachers to analyze individual students’ strengths and weaknesses and to design individualized instruction and materials. The pre-service students are able to apply and practice a variety of strategies and techniques that are presented in class. The resulting notebook which contains the modified lesson plan and accompanying materials provides evidence of their ability to differentiate instruction for a variety of students. The process of the project provides an opportunity for participation in professional collaborative problem-solving.

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## Appendix A

A Sample Lesson Plan: Unit: Going West Lesson: #2 Native Americans  
 Ss = students; T= teacher; I = individually; WC= whole class; P = pairs  
 [M] denotes objective, activity or evaluation that is modified for a student.

OBJECTIVES	Almost ALL	FOR SOME	WITH WHOM
[1] Ss will explain Native Americans use of natural resources (especially buffalo) for existence (food, clothing, shelter, tools/weapons, other items )	X including Joey		
[2] Ss will define vocabulary: bison, buffalo, teepee, migration, travois, hide, slaughter, nomad, native.	X including Joey		
[3] Ss will locate and label on a physical map of US: Great Plains, Rocky Mountains, Missouri River, Pacific Ocean	X including Joey		
<b>ACTIVITIES</b>			
[1] {a} Ss read <i>Plains Indian Culture</i> using Trio Reading to aid Ss comprehension {b}WC discussion of lifestyle of Plains Indians. {c}WC Complete graphic organizer (GO) with information from reading and discussion	X		
[M1] Provide taped version of text [M2] Provide word bank of terms as reference to be used when completing GO. Complete GO with peer assistance, if needed.		Joey	M1. Special educ. paraprofessional will tape record. M2. Study Buddy
[2] {a} WC complete Concept Diagram term: nomad {b} Ss in P: choose & create an Independent Practice vocabulary review activity: content puzzles, vocab cubes, or fortune tellers.	X X inc. Joey	Joey w/ peer assistance	Study Buddy
[3] Ss. in P: use physical US map in textbook or class map, locate & label on their individual maps: Great Plains, Missouri River, Pacific Ocean. Draw Rocky Mts on map.	X inc. Joey		
[4] Ss (I); Create book of the Plains Indians lifestyle, with text and pictures. "Chapters" are to include: food, clothing, shelter, tools/weapons; other items, with a minimum of 3 items pictured in each chapter. Text is to explain use of natural resource for the items pictured.	X		
[M1] Use tape recorder to dictate content for book items [M2] After pictures completed for book, taped content transcribed and proofed with Joey.		Joey	Special Educ. teacher
<b>EVALUATION</b>			
[1] Test on vocabulary and map locations.	X		
[M1] Matching vocab test rewritten to fill in blank with word bank. Test read to student in resource room		Joey	Special Ed. teacher
[2] Plains Indians Lifestyle book graded by T rubric.	X inc. Joey		

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## **Reducing Confusion About Infusion: A Collaborative Process of Infusing ESOL Into Special Education Teacher Preparation**

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### *Abstract*

*This article describes the development of a Special Education degree program that includes the English for Speakers of Other Languages (ESOL) endorsement through infusion and presents the resulting infused model, including resources available to other teacher education institutions. The authors explain the frustrations, miscommunications, compromises, and commonalities they experienced in this process through excerpts from on-going dialogue notes and reflective journals.*

### **Introduction**

On July 1, 2004 Florida Statute 1004.04: (3)(c)1 went into effect, requiring all pre-service teacher education programs to meet the ESOL teacher education requirements stipulated in LULAC et al. v. Florida Department of Education (1990). Although since 1990 Florida districts had been providing the 300 clock hours of ESOL endorsement in-service required of teachers who are primary language arts providers of English language learners (i.e., those teaching Early Childhood, Elementary, English, Special Education), it was nearly 12 years later that universities were obligated to graduate students in these areas eligible for the ESOL endorsement. As most pre-service programs did not want to add 300 clock hours (15 credits) of ESOL education courses, the majority of institutions chose to offer the ESOL endorsement through infusion.

An infusion approach reduces the number of ESOL courses required for the endorsement by incorporating content from the five required courses (ESOL Methods, ESOL Curriculum, ESOL Testing, Cross Cultural Communication, and Applied Linguistics) into other classes and field experiences, including ESOL as an integral part of all curriculum and instruction, not as an adjunct. In order to receive state approval for infused programs, other critical elements must be in place as well. These include a three-credit course or equivalent, faculty development in TESOL for those teaching ESOL-infused courses, early and late field experiences with ESOL students, and quantitative and qualitative summative evaluations of the 25 ESOL Performance Standards established by the Florida Department of Education.



As faculty members in the ESOL and Special Education programs at a Florida public university, the authors approached the infusion task from different, sometimes conflicting perspectives. In the following sections, the authors offer insights into interdisciplinary curriculum development based on their interaction over a period of two years, describe the infused program they created, and provide information on resources for infusion that they developed.

### **Challenges of Infusion**

Of the many elements required for Florida DOE approval of ESOL-infused programs, two curricular issues stand out as particularly challenging—incorporating ESOL content into non-ESOL courses and offering faculty development in teaching ESOL (TESOL) to faculty who teach the infused courses. Both tasks require careful analysis of the subject matter content in TESOL and the discipline into which it is infused so as to build on areas of overlap as well as to focus on concepts and skills that are distinct to TESOL. In the case of Special Education, parallels between the two fields both eased and complicated the attainment of these goals. The authors attempted to negotiate the requirements of infusion through dialogue, but often the discussion revealed conflicting opinions and misunderstandings. Our reflections show varying perspectives on the difficult tasks of faculty development and infusion of ESOL content into non-ESOL courses.

#### *Faculty Development*

For both of the authors, the faculty development requirement caused an emotional reaction. The ESOL Education faculty member (Joyce) had lived through the early implementation of the Consent Decree in a previous position as a district ESOL trainer and had experienced teachers' hostility and resistance to the mandated 300 hours. It was difficult to take on this task at the university level, knowing that her colleagues may hold some of the same feelings toward the faculty development. The Special Education faculty member (Kim) was a tenured associate professor with many years of experience, a high degree of intellectual curiosity, and a strong sense of duty. In the following journal reflections, Kim and Joyce obviously had very different notions of the need for the faculty development and what its content should be.

## **Conflicts of Faculty Development**

**Kim (Special Education Faculty Member):** *I resisted and avoided the process of infusing ESOL requirements into my teaching repertoire. I never questioned the importance of gaining more insight into working with students from ESOL backgrounds or the infusion of ESOL practices within the curriculum. I've always been interested in learning new techniques, new perspectives regarding "best practices" in teaching including cultural diversity and the theoretical perspective of cultural differences. I always considered myself a life-long learner. I also believed the resources provided for the infusion of ESOL were well thought out and beneficial to an educator. I was, however, very insulted with the delivery model our state Department of Education chose to educate faculty within IHE. Without this documentation I would no longer be allowed to teach the courses I'd been teaching unless I completed the training and submitted my documentation. I was insulted that someone believed that in the past I was not aware of individual differences, interested in understanding individual differences, nor knew anything on how to implement strategies for diversity. The State Department of Education was now going to enlighten me to become aware and skilled in the area of cultural and language diversity. I also was insulted that I had to prove my level of mastery through documentation because they also did not trust that I would learn the information to improve myself professionally and that the only way I would learn it was if it were required and documented. Despite my resistance and avoidance I reluctantly became involved in the training, completed the requirements, and provided the necessary documentation. The information provided by the facilitators was informative and enlightening and if it were introduced to me via another method I most likely would have welcomed the new information.*

**Joyce (ESOL Education Faculty Member):** *As a junior faculty member, I took on the charge of providing faculty development with trepidation. Although faculty from various disciplines were required to complete ESOL Education in-service, our college's resources allowed us only to offer general seminars and workshops for all faculty required to participate. A constant concern was establishing what was distinct and unique about ESOL Education and how these unique concepts could be connected to faculty's knowledge and skills in their various fields without losing the ESOL focus. Many materials in the ESOL field are written for second language specialists, so an emphasis in available materials was on providing background regarding the use of general pedagogical practices (e.g., scaffolding) and less on how the practices are implemented for English Language Learners (ELLs) in the mainstream classroom. I found that focusing on "ESOL Strategies" only caused greater confusion about the necessity of this in-service since many of the strategies are also used in other disciplines (e.g., graphic organizers or cooperative learning). As I searched for materials, I found many geared toward classrooms where all students are second language learners engaged in activities that promote acquisition of their new language. However, the students who would receive the endorsement would most likely teach ELLs in mainstream classrooms. Results from a needs assessment showed that faculty preferred receiving practice-oriented information that they could share in their classes rather than in-depth information about Second Language Acquisition (SLA) theory geared to faculty in Education. In hindsight, I wish I had gone more with my gut feelings and immersed the participants in SLA theory to ensure that they understood the unique discipline of ESOL and then how teaching strategies need to be executed with ELLs, not to see the practice of teaching ELLs as "the same strategies we use in Special or Elementary Education".*

The issue of the unique nature of TESOL and how to convey that to faculty in other fields remains. However, in order to make the faculty development as convenient as possible, the co-author (Nutta) obtained a Title VII grant and developed web-based modules on ESOL topics, available at: <http://tapestry.usf.edu>. These modules can be used as one option in a menu of faculty development opportunities. Each module

includes preview questions, a video lecture, postview questions, an outline, and resources. The six modules are: 1) Teacher Education and ESOL; 2) Legal Issues and ESOL; 3) Special Education and ESOL; 4) Content Instruction and ESOL; 5) Dialect Diversity and ESOL; 6) ESOL Strategy Workshops. Providing flexible, easily accessible resources has lessened the burden of faculty development. Although we believe that we have improved the content of the faculty development, further refinements and enhancements in available materials are necessary.

### *Defining the Infused Content*

As with faculty development, establishing the content of infusion has been a discursive effort. On numerous occasions the co-authors discussed the what's and how's of infusion of ESOL content into Special Education courses, and for about a year the discussion seemed to go in circles. We found that we unintentionally touched on topics that hit a nerve, such as when Kim stated that ESOL is part of the diversity issue that good teachers automatically address and Joyce felt that this ignored the substantial knowledge base in the field of ESOL, especially its foundations in linguistics. The following section highlights reflections that address these issues.

#### **Just Good Teaching?**

**Kim:** *One of the premises of special education is embracing and valuing diversity both in the academic and affective domain. ESOL students and their families seemed to be part of the wide spectrum of diversity that teachers embrace and include as part of the learning community. I considered this perspective as part of the definition of "good teachers." I further define "good teachers" as ones who value diversity, try to understand differing perspectives, learning styles, and cultural differences including different cultures based on language, Socio-economic Status (SES), gender, religion, and ethnicity. Additionally, good teachers will demonstrate a high degree of teacher efficacy by taking responsibility to ensure that all students learn. This will require learning about the differences in various cultures and then finding the best means for reaching each student. In my dialogue with my colleague in ESOL the premise that good teachers already embrace ESOL students was considered a "cop out."*

**Joyce:** *Whenever I hear teachers saying "ESOL strategies are just good teaching," I cringe. When teachers see "ESOL strategies" that many of them know and use, such as Language Experience Approach and dialogue journals, they think that just by using them with their mainstream class they are meeting the needs of English language learners. What expert ESOL teachers know is that implementing these strategies doesn't matter as much as the way they are used, with adjusted language, pacing, contextualization, etc. If the teachers don't know how to use these strategies with ELLs at different levels, and if they don't understand what using these strategies accomplish (comprehensible instruction and language development) and why, then they have missed the point. I think saying that tending to the needs of ELLs is part of good teaching homogenizes ELLs into the mainstream and makes their needs less apparent.*

With continuing dialogue, the authors were able to appreciate the underlying assumptions in their conflicting viewpoints. Joyce came to understand that Kim considered "good teachers" as those who were informed, skilled, and knowledgeable about individual students' needs, including those of English language learners. Kim

saw Joyce's point that if ESOL is not emphasized and made explicit, a one-size-fits-all approach in the classroom can result.

### *The Question of Diversity*

The authors held conflicting assumptions about whether ESOL is primarily an issue of diversity. Kim often spoke of ESOL as part of diversity, and Joyce perceived this as cultural diversity. Through an experience Kim had with English language learners in her own teacher education classes, the critical role of language became more apparent.

#### **Seeing ESOL as more than a Multicultural Issue**

**Joyce:** *It took a while for me to see this, but I think that many people see the ESOL issue as a cultural one and not a linguistic one. So many faculty have told me that their classes are already ESOL infused since they discuss multicultural literature, but they don't address how to make the literature comprehensible to English language learners. Others say that because they are teaching generic reading strategies, their courses have infused ESOL. What they don't address is the role of the native language in reading development or how oral proficiency affects reading comprehension. Time and again I return to the issue of language, and even though I have led the faculty in experiential L2 activities, I keep wondering how to get that crucial issue across.*

**Kim:** *Almost all of the ESOL infusion into our Special Education program involved the preservice teacher understanding ESOL students and their families. This year I have two students within my class who are ESOL adult learners. One individual has been in the United States for two years while the other has been in the US for six years. In my past years as a college educator students from different cultures have been enrolled in my classes but very little accommodations were necessary to meet their needs. This semester, the language and cultural differences have come into play within the learning environment. I've needed the support and guidance of faculty in the ESOL department to assist me as I work with these two students.*

### **Common Histories**

After struggling with meeting the immediate need of what ESOL content to infuse in the Special Education program, the authors took a step back and decided to discuss basic assumptions, histories, and approaches of the two fields of Special and ESOL Education. Our discussions targeted common histories and approaches as well as contrasts in our goals and terminology. In taking time to view the big picture before we tried to complete the immediate task of infusion, we experienced professional growth from an open and honest exchange of ideas. In addition, we were able to clarify interdisciplinary issues so they could be presented straightforwardly to students. The following section highlights these commonalities and contrasts as well as assumptions for teaching Special Education pre-service teachers about English language learners.

#### *ESOL Education*

As noted in the history of bilingual education presented by Diaz-Rico and Weed (2002), the 1964 Civil Rights Act was used to establish the rights of English language

learners to equal access to education. Following this seminal act, in 1968 the Bilingual Education Act provided federal funding for support programs for ELLs. Shortly thereafter in 1974, the Watershed case *Lau versus Nichols* was argued before the U.S. Supreme Court, which ruled that the same books, instruction, and curriculum for students who were not proficient in English denied them a meaningful education. None of these acts prescribed what models of English language instruction should be used (e.g., bilingual education, pull-out ESOL), so various states and districts adopted approaches that suited their context and political climate. The Consent Decree offered Florida flexibility in which program models districts could adopt, but the overwhelming majority of schools and districts have adopted an ESOL, rather than bilingual education model.

Within ESOL models there are many variations, with well-intentioned advocates on different sides of the issue. Generally speaking, there are two types of ESOL instruction, inclusion or separation (Platt, Harper, & Mendoza, 2003). Separation programs often involve pull-out, sheltered instruction of ELLs, while inclusion is conducted by mainstream classroom teachers who hold ESOL credentials or with a push-in model of ESOL teachers co-teaching in the mainstream classroom. As with Special Education, parents and educators have not reached consensus about which is the preferred method.

### *Special Education History*

As in ESOL education, controversy continues in the field of Special Education over what is considered best practice for students with disabilities (Kauffman, Lloyd, Baker & Reidel, 1995). With the passage of PL94-142 in 1975 many parents, teachers, and professionals believed and hoped that the needs of students with disabilities would now be met within the public school arena. In Florida and elsewhere this meant the creation of special education resource rooms, itinerant teachers with pull out programs, self-contained classrooms, and special center schools. The belief at the time was that the special education teacher had the training and expertise to meet the needs of the student. Teachers, parents, professionals, and students applauded the programs that went into place in the early 1970's in public schools.

As these programs flourished, the problems with the model of separate placement began to be noticed (Wolfensberger, 1972). Parent advocates for students with more severe disabilities also became concerned that their children were becoming more and more isolated from their non-disabled peers due to the placement of these students in self-contained classrooms and center schools. The research also confirmed that the social and behavioral role models that students with disabilities experienced in the general education class were beneficial to the academic and social development of students with disabilities (Thousand & Villa, 1990). The passage of IDEA in 1990 changed the interpretation of the original legislation of 1975 and epitomized the shift in thinking regarding students with disabilities. In an inclusive environment diversity is celebrated and students with disabilities are provided a choice of where educational services can be provided (Stainback, Stainback, East, & Sapon-Shevin, 1994.) In

addition, more responsibility was placed on the general education teacher to provide accommodations and modifications which would help the student with disabilities be successful in the general education classroom. The view of services for students with disabilities shifted from one of preparing the student to fit the “mainstream” of a classroom to one of attempting to provide a more inclusive environment in an education setting where learning differences were valued and expected.

As inclusion and inclusive practices continue to evolve controversy surrounds the concept and the practice on what is considered beneficial for students with disabilities and what exactly is meant by the term inclusion. Proponents of full inclusion contend that separate education is not equal and the Cascade of Services is no longer necessary. These individuals contend that most students can receive special education services in the general education classroom (D’Alonzo, Giordano, & Cross, 1995; McNulty, Connolly, Wilson & Brewer, 1996). Critics of the full inclusion model contend that some students need a smaller, more comfortable, risk free environment than the general education classroom can offer (Kauffman, 1995; Shanker, 1994). The inclusion movement has provided students and the families of these students more choices, the dilemma continues over how to determine which choice is best for each child’s unique needs.

*Shared Assumptions: Differentiated Instruction*

Beyond the similar histories and types of program models, both Special and ESOL Education professionals hold the basic assumption that instruction must be differentiated for each learner. Whereas teaching to the middle might serve the needs of the majority in the classroom, the needs of both English language learners and students with exceptionalities could be ignored. Considering each child as an individual and assessing and adapting instruction to her/his needs are hallmarks of ESOL and Special Education teachers.

The authors agreed that there are two major Special Education issues regarding ESOL on which infused programs should focus: 1) discerning normal second language development and cultural adjustment/contrasts from disabilities; and 2) understanding how second language acquisition and cultural issues interact with disabilities in individual students and how to address them with Special Education services.

A continued concern that there is a disproportionate representation of ethnically diverse students receiving Special Education services has resulted in a critical look at education and assessment practices for identification of individuals in need of services for disabilities (Messick, 1984, Lester, & Kelman, 1997). In the past, students who struggled academically in the general education classroom would be referred for special education services. The common misconception was that the inability to understand directions or complete tasks was due to limited cognition or a processing problem. When, in fact, the student processed at an adequate level and could be advanced cognitively; however, the language difference is what resulted in the appearance of a disability (Garcia & Malkin, 1993). In the affective domain,

students were often misidentified due to a difference in cultural practices between the student and the general education classroom.

One of the six basic principles of IDEA is nondiscriminatory evaluation (Osborne, 1994). When a referral is made for a student to receive Special Education services nondiscriminatory evaluation ensures that the student will be assessed in his/her native language. The family history that is taken as part of the evaluation process also ensures that what might be perceived as a learning disability may really be a cultural learning difference.

Once a student qualifies for Special Education services, it is critical that the General Education teacher and the Special Education teacher are cognizant of how cultural and linguistic differences interact with a disability. Harry, Rueda, & Kalyanpur (1999) suggest developing a sense of “cultural reciprocity” with the families of children from culturally and linguistically different backgrounds. The goal is to create a relationship of trust, support and open communication. The first step is avoiding stereotypes of various cultures because variability within cultures occurs as often as variability between cultures (Corso, Santos, & Root, 2002). If a student is in a trusting environment the teacher can explore with the student the process the student uses to learn information. This insight will assist the teacher in discerning whether the challenge is due to a disability or part of the new language acquisition process. A reciprocal relationship also enables the teacher and student to share cultural backgrounds and value the differences of these backgrounds. The student can also comfortably explore different cultural practices without abandoning his or her own heritage. In addition, the teacher can learn what is valued in a student’s culture and use this knowledge to infuse the strengths of the child within the curriculum.

### Contrasts in ESOL and Special Education

	<b>Special Education</b>	<b>ESOL Education</b>
Goal	Assist a student to accept his/her disability and to learn the skills to be as independent as possible while having a meaningful life within the community	Native or native-like proficiency in English and development of academic language proficiency so that the student no longer needs ESOL support
Duration	Often extends beyond K-12 schooling	An average of five-seven years
Progression	The process is not standard. The teacher must continually assess, set goals with the student and/or the student’s family, implement a plan to reach the goals, evaluate the effectiveness of the plan, and set new goals as one goal has been accomplished.	Reasonably predictable process of second language acquisition and degree of ultimate attainment in English proficiency (given variables such as age, setting, prior education, etc.).
Teaching Strategies	Strategies vary by input and output. In addition, the type of challenge facing the student be it cognitive, physical, or emotional	Make instruction comprehensible and build vocabulary and develop structural competence and performance in English
Terminology	Accommodation Modification Mainstream Least restrictive environment Inclusion	Modification Mainstream Instruction Sheltered Instruction Inclusion

Building on our similarities created a strong foundation for infusion, yet addressing contrasting principles and terminology was equally important. The following table lists differences that we discerned through our dialogue about the two disciplines. Once we established these basic contrasts in assumptions and practices, we were able to move ahead with infusion in a more straightforward way.

### *Conflicting Terminology*

Although both disciplines use some of the same terms, their definitions can vary. We found this with the term “modification.” Joyce instructs the pre-service teachers in modifying instruction for ELLs at four levels of proficiency (according to the Natural Approach, they are pre-production, early production, speech emergence, and intermediate fluency). Using the Florida Department of Education guidelines from Language Arts through ESOL (Badia, 1996), she shows how to address a standard by modifying materials, instruction, and assessment. Modification has a very specific meaning in Special Education. In Special Education a teacher may provide an accommodation or a modification on a traditional lesson plan or curriculum of study. In an accommodation the teacher requires the students to master the same objective; however, the process for learning the objective or the process for demonstrating mastery of the objective might be different than for traditional students. In a modification the teachers changes the objective of the lesson. The learning objective for the student with a disability is different than the other students’ learning objectives in the general education classroom when a modification occurs. Once we realized that we were confusing our students with conflicting terms, we addressed this issue in our classes.

### **General Guidelines on Infusion of ESOL into Teacher Education Programs**

During the early stages of developing ESOL-infused programs, the approach was to attempt to cross walk existing teacher education course competencies to the 25 ESOL Teacher Performance Standards. Soon it was determined that this did not achieve infusion of ESOL content into appropriate courses and field experiences. A more additive approach was needed to ensure that all content from the five three-credit courses was represented in the infused curriculum. The co-author (Nutta) developed a framework for infusing ESOL into courses, including technology-based resources, by placing courses in three categories of infusion. The content of Category C is at a minimal level, the content of Category B includes that of Category C plus additional assignments, and the content of Category A encompasses that of Category B plus additional assignments and in-class activities and TESOL texts/videos, etc..



<b>A</b>	In addition to including ESOL assignments from categories B and C below, Language Arts courses provide more depth and breadth of ESOL topics, including books, articles, and videos. These courses dedicate one or more class sessions to English language learners and interweave ELL issues into each topic addressed. They also many include a TESOL textbook as a primary text.
<b>LANGUAGE ARTS COURSES</b>	
<b>B</b>	In addition to category C below, for each assignment that involves creating instructional materials, planning instruction, developing instructional activities, or composing tests: <ol style="list-style-type: none"> <li>1. Students should modify it for English language learners (ELLs) at various levels of English proficiency</li> <li>2. Students should explain why it meets the linguistic and/or cultural needs of ELLs at various levels of English proficiency</li> </ol>
<b>CURRICULUM, INSTRUCTION, OR ASSESSMENT COURSES</b>	
<b>C</b>	An article on the course content and ESOL (e.g., Math Methods for ELLs). Students can respond to the article in a learning journal, or reaction paper.
<b>EVERY COURSE</b>	

**Framework for Infusing ESOL into Teacher Preparation Curricula**

We applied this framework to the undergraduate Special Education curriculum, resulting in the model presented in the following table.

<b>ESOL INFUSED COURSES IN SPECIAL EDUCATION B.S. DEGREE</b>	
RED 4310	Early Literacy Learning—CATEGORY A
RED 4511	Literacy Learning in the Intermediate Grades—CATEGORY A
EDF 4430	Measurement for Teachers—CATEGORY B
EEX 4221	Educational Assessment of Exceptional Studies—CATEGORY B
EEX 4846	Clinical Teaching in Special Education—CATEGORY B
MAE 4310	Teaching Elementary School Math I—CATEGORY B
EME 2040	Introduction to Educational Technology—CATEGORY C
EDF 3122	Learning and the Developing Child—CATEGORY C
EEX 4604	Behavior Management—CATEGORY C
EEX 4742	Narrative Perspectives on Exceptionality: Cultural and Ethical Issues—CATEGORY C

We agreed that the Special Education (EEX) courses should adopt the textbook *English Language Learners with Special Education Needs* (Artiles and Ortiz, 2002), dividing the chapters among the courses in addition to requiring students to read journal articles on ESOL and Special Education. In addition to the ESOL-infused courses listed in the table above, the program requires three ESOL-specific courses: 1) Teaching Students with LEP K-12; 2) Language Principles and Acquisition; and 3) ESOL Practicum.

For each of the three categories, web-based resources were developed. For Category C, B, and A courses, a website listing articles with an ESOL focus by subject area is available at: [http://fcit.usf.edu/esol/resources/resources\\_articles.html](http://fcit.usf.edu/esol/resources/resources_articles.html). For category B and A courses, sample lesson plans that have been modified for the four levels of the Natural Approach (Krashen and Terrell, 1983) are presented: [http://fcit.usf.edu/esol/resources/resources\\_plans.html](http://fcit.usf.edu/esol/resources/resources_plans.html), and students can follow this model for modifying lesson plans, instructional materials, and tests (students at our institution learn how to do this in the first ESOL course, which must be taken during the first semester in the program).

### Conclusion

The dialogue on how best to understand the differences in students and the best strategies for enabling students to succeed will continue to evolve. The benefits of the discourse should yield an improved teacher education program and enhanced services for students in the K-12 environment. The lessons we have learned from our collaboration have influenced our perspectives on our respective professions, our teaching of our pre-service teachers, and our own professional and personal relationships. We have learned that mandates at any level often result in resistance, distrust, and misunderstanding of intent. We have also learned that the assimilation of new concepts, beliefs, and practice of new strategies is an evolutionary process. The process takes time, requires an open mind, a willingness to listen, and much compromise along the way.

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## **An International In-Service Education Prototype in Special Education: Outcomes and Lessons**

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### *Abstract*

*This article describes the impetus for the development of an in-service special education program in an international setting. The program's effectiveness in providing professional development on the topics of inclusion, communication disorders, bilingual special education, and family and community partnerships is explained, as well as salient issues for improving the in-service model and implications for teacher education.*

A lack in human, capital, and material resources often impede many developing nations from providing pre-service and continuing education to its teachers. As a result, many developing nations may seek the assistance of charitable or voluntary organizations to provide professional development for its teaching workforce. Belize, a country about the size of Massachusetts and located on the east coast of Central America between Mexico and Guatemala, is committed to improving the quality of education and related services provided through such an approach. This commitment is stated in the Belize Ministry of Education and Sports' mission statement, calling its officials and staff to work "in partnership with the churches and other voluntary agencies... to ensure that there exist adequate support systems for the delivery of appropriate and equitable educational services" (Belize Ministry of Education and Sports, 2005).

In Belize, however, there is no legal mandate for providing educational services for children with disabilities. Demonstrating foresight, in 1992 the Ministry of Education and Sports established a Special Education Unit to provide oversight in the delivery of educational programs for school-aged children, and to promote inclusion in general education settings. Serving children with disabilities in Belize has been expressed as a “moral duty (and) a genuine social responsibility and obligation to the equitable development of all children” (Belize Ministry of Education and Sports, 2005).

In 2001, following concerns raised by private citizens and public officials in Belize about a lack in special education preparation for its teachers, the first author’s assistance was sought to develop an in-service program. Following a year of planning, the Belize Special Education Unit agreed to provide logistical support and invite Belizean educators to participate in the training opportunity, to be held annually in early August. The first author agreed to develop the curriculum and establish a core group of U.S. trainers to facilitate the in-service program.

### **Literature Review**

A review of the literature revealed pedagogical discussions about in-service education to cluster around two frameworks: (a) format of delivery, and (b) methods of instruction.

Format of delivery. The Government of India’s National Council of Educational Research and Training (2005) succinctly classified three types of delivery formats, namely the face-to-face, cascade, and media supported distance education models. The most extensively used format is the *face-to-face* approach, which incorporates direct and sustained interaction between the teachers and trainers. However, as the face-to-face format emphasizes interactive and participatory approaches, the model is less effective when the number of participating teachers is large. The *cascade* format is a tiered system of training teachers, who in turn train other teachers. While a large number of teachers can receive training using this format, the quality of training may be compromised further down the tiers of training. The *media supported distance education* format, on the other hand, can provide training to a large number of teachers from different locations at the same time. However, there is significant cost involved in utilizing this model.

Methods of instruction. Three types of instructional methods are commonly identified in the literature: (a) lecture, (b) direct instruction; and (c) constructivist. Within the *lecture* method, the trainer serves as the expert and directs the group’s thinking by maintaining tight control over topics and discussions. While this method is often used in in-service trainings, the method is unattractive to experienced teachers as the cognitive focus is usually on replicating received knowledge in a testing situation (Torp & Sage, 1998). The *direct instruction* method is similarly organized as the lecture method, but the trainer has the option of leading the participants in discussions (Torp & Sage, 2002). However, the cognitive focus for participants is still to replicate received knowledge in a testing situation. The *constructivist* method, on the other hand, provides participants an avenue to combine received knowledge and personal experiences to resolve a case or problem situation (Alkove & McCarthy,

1992; Brooks & Brooks, 1999). Significant problems or challenges are best tackled when the learning is situated within the contextual experiences of the individual and community (Dewey, 1916; Glickman, 1991). As a result, the constructivist trainer serves as a consultant and resource by guiding participants to develop answers to their own learning or teaching situation (Torp & Sage, 2002).

## **Purpose**

After consultations with Belizean officials and U.S. trainers, an in-service education program that combined the face-to-face format and constructivist method of instruction was deemed the most appropriate model given the importance of understanding cultural contexts, establishing open dialogues to ensure meaningful training, and number of expected participating teachers. This article describes the effectiveness of the face-to-face and constructivist model of an in-service education program delivered to primary and secondary school teachers in Corozal, a northern community of Belize, in August of 2003.

## **Method**

### *Participants*

Twenty-eight Belizean primary and secondary school teachers participated in the special education in-service education program. Many of the teachers traveled by bus to the training site, some coming as far as two hours away. Conversations with school officials and teachers revealed that participation in the training was compulsory and part of a two-week long in-service education.

### *In-Service Education*

Based on input provided by Belizean education officials, a four day in-service education program was designed to provide training in inclusion, communication disorders, bilingual special education, and family and community partnerships respectively. Four features served as foundation and guide for the overall design: (1) acknowledgement of the teachers as change agents and experts; (2) collaborative problem-solving by teachers; (3) action planning by teachers; and (4) continuous improvement of in-service curriculum. The daily agenda proceeded in the following sequence: (a) introduction of the topic; (b) identification of issues and concerns; and (c) collaborative action planning. Throughout each day, methods such as individual reflection, small and large group discussions, and other opportunities that allowed presentation and expression of feelings, thoughts, and ideas were provided, consistent with the guiding principles for the in-service program.

### *Procedures*

Each day of the in-service education program started at 8:30 in the morning and ended between 4:00 and 4:30 in the afternoon. Two lead presenters from the U.S. group of educators were selected for each day, with the remaining U.S. educators

facilitating discussions with the Belizean teachers seated at clusters of tables. Prior to the start of each day's training, the U.S. educators brought snacks and drinks to share with the Belizean teachers throughout the duration of the day.

Facilitation provided by the U.S. educators consisted of guided questioning and provision of ideas that sparked in-depth discussions. Verbal and written feedback from the teachers was also collected at the end of each day. Based on this feedback, improvements in curriculum were made and shared with the Belizean teachers the following day throughout the entire four-day program. The U.S. educators met each evening of the in-service day to reflect upon accomplishments and lessons, discuss the next day's curriculum, and assign roles and responsibilities based on interests and talents.

In addition to using the daily feedback in making adjustments and improvements in the curriculum, the feedback was also used to examine the effectiveness of the program. The Belizean teachers were informed that the feedback they provided was voluntary; this was done verbally and in writing prior to collecting the information.

Copies of the form used in collecting the written information can be obtained by contacting the first author.

### *Analysis*

Both quantitative and qualitative data were collected. Two sets of quantitative data were collected: (1) pre- and post- self-ratings in the level of knowledge of issues, priorities, skills in planning, strategies, and skills in implementing goals and plans related to the topic of the day; and (2) rank order of training components found most beneficial for each day's topic. For the first set, a t-test for dependent means was used to determine the significance of the difference in the mean score before and after each day's training. To remediate inflation of Type I error due to small group sizes, a very conservative alpha level was set by using the Bonferroni correction procedure ( $.01/\text{number of respondents}$ ), which ranged from 0.00042 to 0.00048. For the second set of data, the rank order of training components was determined by first computing the mean rating of respondents, and then listed from high to low mean scores. The higher the mean score, the more beneficial the teachers regarded the training component.

Qualitative data were collected through verbal discussions and in writing at the end of each day. Using open-ended questions such as "Any suggestions?" or "Please write down your personal reflections," the Belizean teachers were asked to comment about any or all aspects of the in-service program. Qualitative quotes were clustered into: (a) strengths of in-service program; and (b) suggestions for improvement.

### **Results**

Differences in mean averages before and after in-service education. As can be seen in Tables 1 through 4 (at the end of the article), the Belizean teachers reported

significant increases in their level of knowledge across all topics and areas – inferentially based on descriptive data, and statistically through regression analysis, providing increased credence that the in-service education program resulted in a significant positive change in the teachers’ level of knowledge.

Rank order of training components found beneficial. With the exception of visual aids and handouts during the in-service on inclusion, the Belizean teachers ranked all components during all four days as highly beneficial, averaging a score of at least seven out of a maximum score of ten for each one. Although highly beneficial, visual aids and handouts were ranked last on the topics of bilingual special education and family and community partnerships.

Small group discussions consistently ranked the highest across all four days of the in-service program. Review of day’s accomplishments and lessons ranked in the top three for three of the four days, while large group discussions and guidance provided by U.S. facilitators both ranked in the top three in two of the four days.

Strengths of the in-service program. The following are examples of the common reaction of Belizean teachers following the conclusion of the in-service program:

I will admit that before my first day here my attitude was different toward disabled persons but now I am ashamed of myself for not appreciating people I knew before. Today, now, I put my head up and see everyone as being the same but with different abilities. In my community I can share the desire that I have now to accept and let everyone to belong here, there, everywhere. Everything I learn is going to be and is useful even in my own life. Now I can see a big change in my attitude and expression. (*change in attitude*)

At the beginning of the workshop I was very reluctant towards the course which I was about to attend. But as I looked at the program something told me that it was going to be very interesting, and when the facilitators presented themselves and approached us everything changed for me. I became so open and I started sharing and learning new teaching methods, I became familiar, knowing new friends, having fun, and learning. I have been teaching special children in my class but I think that after this workshop I will do it in a more successful way. I will have more patience, be more sensitive, show more love and understand certain needs. (*new teaching methods*)

In the first place, it has been a long time since I wanted to take a workshop on special education. I was busy at school trying to teach children, leaving the slow ones behind. Sometimes, unconsciously, I ignored some who may have needed my help more not because I had no interest. It is because I did not know what the problem was; how to deal with it, so I was frustrated. I am now able to go back to my community and school to make a difference. I will offer my help to people who have children with disabilities. If I cannot help at the moment, I will contact resource persons who can. I will now be more



open to visiting parents on a regular basis. I want to know about my students before really teaching them. (*contact resource persons*)

First of all I would like to say that I am very grateful to you, our facilitators, for making me feel at home. These days of workshop opened many doors for me to explore on many aspects that I can work on with my students, parents and the community. It also helped me to learn different ways to communicate with my students and parents. (*different ways to communicate*)

Throughout these four days I have benefited a lot. Everything was great. You made us think of the issues within our society and seek ways on how we can change such situations and apply such actions within our classroom. There were many things you mentioned I never knew. Now you've made me aware and enthusiastic about taking the information back to my principal. You motivated us to make a change within our community. (*sharing the information*)

Personally I never thought that attending to this workshop would be of great benefit for me. This is one of the workshops that I have where I have felt so appreciated and comfortable. The techniques and strategies used were very or highly professional. Each and every facilitator had the potential and skills to deliver their task adequately. My community school as well as students will benefit from what I learned here. (*appreciation*)

Suggestions for improving the in-service program. Suggestions clustered around meals, discussion time, resource materials, and training in working with students who display challenging behaviors.

Being that the training site was located several miles away from the nearest restaurant, suggestions were made to “have someone sell snacks and food” at the training site and to “provide more time for lunch.” The suggestions about meals were accommodated for after discussions with education officials organizing the training event. Lunch break was extended from 30 minutes to one hour.

The U.S. educators found several creative solutions to provide more time for small and large group discussions (e.g., having Belizean teachers discuss pedagogy, with facilitation provided by U.S. educators, as opposed to U.S. educators lecturing). The U.S. educators, however, were not able to provide more resource materials other than what was brought. This situation turned out to be an opportunity to discuss alternatives and ways of seeking local supports.

Towards the end of the in-service education program, a number of teachers began to comment about challenging behaviors of students such as truancy and physical aggression that were pervasive in schools throughout the country. Upon further inquiries by the U.S. educators, the Belizean teachers suggested that future in-service programs include this topic in order to assist them in discussing and problem-solving behavioral issues.

## Discussion and Implications

In-service education must be responsive to local needs. In this project, the Belize special education in-service program was developed to meet a need articulated by education officials and private citizens. Moreover, the program “has literally assisted the Special Education Unit to execute the mandate to facilitate the development of special training programs,” meeting a national policy mandate that is frequently “a daunting one in that the Unit has inadequate staffing capacity and inadequate support to achieve this goal to a satisfactory standard of achievement” (G. Holland, Special Education Unit Coordinator, personal communication, August 29, 2003).

Policy and calls for training notwithstanding, the design of in-service program was an important consideration, given the difficult circumstances in schools (e.g., inadequate teaching tools, lack of adaptive equipment, high student-teacher ratios) and challenging conditions in Belizean society (e.g., high poverty level, lack of employment opportunities, low salaries). Therefore, a curriculum that built upon the experiences of the teachers, and which encouraged the teachers to be resourceful within a difficult context was designed. The U.S. educators also came prepared with paper materials (e.g., poster paper, sticky pads, note books for teachers), writing utensils (e.g., pens, pencils, markers), handouts, visual aids, masking tapes, and other useful items that assisted participants in learning and reduced in-service related costs for the local education agency organizing the event. For in-service education to be effective anywhere, teachers’ experiences must be regarded as strengths and serve as basis for in-depth reflection and discussion. Resources and aids should be made available to facilitate processing of information and learning.

In addition to reflecting and discussing, the findings of this study have highlighted the importance of action planning. By the end of the week, the participating Belizean teachers were capable of creating action plans that highlighted their top priority, specifying changes they wanted to see in a particular area, and most importantly identifying steps or actions they needed to take to improve the issue. Acknowledging and promoting the teachers’ roles as change agents and experts were powerful means to assisting the teachers in feeling appreciated and empowered. By discussing the value and need to improve relationships with family and community social systems, the teachers further expressed understanding of the greater impact on children’s education and outcomes as well as greater desire to reach out and establish better communication and partnership with families and community members. These elements of in-service education may be suggested for training anywhere in the globe, especially in assisting teachers become informed about available community resources and social services, and providers of social support.

Through discussions soliciting feedback to improve curriculum and program, the Belizean teachers requested in-service education on the topic of challenging behaviors of students, not unlike teachers in the United States who have cited challenging behaviors as a major concern and reason for leaving the teaching profession (Smith, Polloway, Patton, & Dowdy, 2001). The topic of positive

behavioral support was incorporated in the following year of the in-service program, delivered in August 2004. The second author, lead presenter of the topic in the August 2004 Belize in-service program, is currently preparing a manuscript focusing on the effectiveness of this session.

U.S. facilitators were careful to step back during the training in an effort to ensure that issues and solutions originated from the Belizean participants. In turn, facilitators experienced empowerment as they watched participants become proficient in action planning. As well as training participants, the U.S. facilitators experienced the power of continuous improvement as they engaged in a cycle of planning, acting, observing and reflecting. This was evident as each session built on the previous day's experience. Facilitators worked as a team, established goals, collected data, and adjusted their actions accordingly. Overall, facilitators noted a deep satisfaction in participating in the 2003 Belize special education in-service program.

### **Limitations**

A limitation in the design of the program is follow-up contact with the teachers. While immediate benefits to participants have been documented, the impact of the in-service beyond the four-day in-service is not known. Follow-up questionnaires or interviews may be options. Additionally, teachers and education officials should be engaged in discussions about procedures for collecting the follow-up information to ensure appropriateness and participation. The follow-up questions should relate to purposes of the in-service education, namely in this case the teachers' roles as change agents and resource persons, use of problem-solving through collaboration, and use of action planning as means to setting goals and delineation of steps to achieving the goals.

Another recommendation is to document the processes of engagement and the learning experiences of U.S. educators. Comments such as "I realized my role was to help the teachers discover, not just listen to what I have to say," offer important insights when interacting with teachers from different economic and socio-cultural backgrounds. Journal notes, written notes of group discussions, and daily written feedback are possible methods.

### **Conclusion**

The in-service program provided a learning climate that encouraged discussions about educational change, opportunities to practice collaborative problem-solving, and write plans. Many of the Belizean teachers expressed both personal satisfaction and professional growth, in addition to highlighting the effectiveness of the program. These sentiments have served as inspiration for the U.S. educators to continue organizing and delivering the in-service program.

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**Table 1. Effectiveness of In-Service Education in Inclusion**

	<u>n</u>	Before training <u>M</u>	After training <u>M</u>	Critical t value (one-tail)	<u>t</u>
Knowledge about issues or challenges	21	4.00	7.52	3.25	8.68***
Knowledge about priorities	21	3.67	7.33	3.25	7.21***
Knowledge and skills in planning	21	3.38	7.38	3.25	7.30***
Knowledge of strategies	21	3.71	7.38	3.25	6.96***
Knowledge and skills in implementing	21	3.47	7.24	3.25	6.71***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .002$

**Table 2. Effectiveness of In-Service Education in Communication Disorders**

	<u>n</u>	Before training <u>M</u>	After training <u>M</u>	Critical t value (one-tail)	<u>t</u>
Knowledge about issues or challenges	24	4.79	8.46	3.20	8.73***
Knowledge about priorities	24	4.54	8.25	3.20	8.76***
Knowledge and skills in planning	24	4.25	7.83	3.20	8.88***
Knowledge of strategies	24	4.42	7.96	3.20	8.97***
Knowledge and skills in implementing	24	4.25	7.96	3.20	7.92***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .002$

**Table 3. Effectiveness of In-Service Education in Bilingual Special Education**

	<u>n</u>	Before training <u>M</u>	After training <u>M</u>	Critical t value (one-tail)	<u>t</u>
Knowledge about issues or challenges	21	4.33	8.43	3.25	8.47***
Knowledge about priorities	21	4.29	8.24	3.25	8.06***
Knowledge and skills in planning	21	4.95	8.29	3.25	5.72***
Knowledge of strategies	21	4.62	8.38	3.25	6.99***
Knowledge and skills in implementing	21	4.86	8.67	3.25	6.57***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .002$

**Table 4. Effectiveness of In-Service Education in Family and Community Partnerships**

	n	Before training <i>M</i>	After training <i>M</i>	Critical t value (one-tail)	t
Knowledge about issues or challenges	22	4.82	8.32	3.23	7.62***
Knowledge about priorities	22	4.55	8.27	3.23	7.63***
Knowledge and skills in planning	22	4.96	8.64	3.23	6.13***
Knowledge of strategies	22	4.59	8.36	3.23	7.17***
Knowledge and skills in implementing	22	5.18	8.73	3.23	6.28***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .002$

**Table 5. Rank Order of Components Found Beneficial\***

Training Component	Topic of In-Service Education			
	Inclusion	Communication Disorders	Bilingual Special Education	Family & Community Partnerships
Small group discussions	1 (8.67)	1 (9.08)	1 (7.86)	1 (8.50)
Guidance provided by US facilitators	2 (8.38)	6 (8.50)	6 (7.40)	1 (8.50)
Large group discussions	3 (8.14)	5 (8.58)	2 (7.61)	6 (8.16)
Review of day's accomplishments and lessons	3 (8.14)	3 (8.75)	5 (7.52)	3 (8.45)
Listening to the action plans of others	5 (8.10)	2 (9.04)	2 (7.61)	4 (8.30)
Overview of day's agenda	6 (7.62)	7 (8.29)	4 (7.57)	5 (8.27)
Visual aids and handouts	7 (5.33)	4 (8.71)	7 (6.92)	7 (7.95)

\* Number in bracket following rank indicates respondents' mean score out of a maximum score of 10.

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Belizean and U.S. educators pose for a group photo at the conclusion of the in-service program.



U.S. educators busy creating charts and planning.



Belizean teachers and U.S. facilitator discussing ideas.



U.S. educators demonstrating an activity.



U.S. lead presenters engaging Belizean teachers through an activity.

*Photos used with verbal permission from the participants*

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## Teaching Reading to Children with Down Syndrome Using Phonics Instruction

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### *Abstract*

*Researchers who advocate for sight word instruction over phonemic-based reading instruction, suggest that learning sight words give children with Down syndrome, and other children with moderate to severe disabilities, opportunities to enhance their daily living and job skills (e.g., Browder & Yan, 1998). However, teaching children with Down syndrome to read phonetically may provide them with the skills needed to read, or decode, unfamiliar words, and help them to learn words incidentally by sounding them out, potentially improving their overall reading ability. The current study was conducted to investigate the effectiveness of phonics instruction with three elementary school children with Down syndrome. The students were provided phonics instruction that included: Explicit Phonics Routine, Making Words Routine, and Reading Decodable Texts (Cooper, 2002). All three of the students increased their reading fluency from baseline to intervention stages. The participants also maintained their ability to read phonetically and generalized the skill of word analysis to novel words. Overall, these students responded well to an individualized, direct instruction approach to phonics instruction.*

### **Introduction**

Researchers have suggested that children with Down syndrome have great difficulties learning to read phonetically because of speech and language disorders that tend to occur with this condition (Kumin, Councill, & Goodman, 1994; Miller, 1987; Parsons, Iacono, & Rozner, 1987). Nearly all children with Down syndrome have significant delays in language acquisition caused by a number of factors, some due to overall developmental delay, but others specifically linked to speech and language problems (e.g., Frith & Frith, 1974). Historically, children with Down syndrome, and others with mental retardation, were considered to be non-readers and were given little or no reading instruction (Buckley, 1995; Kliewer, 1998). However, research has supported the notion that these children can learn to read and should receive reading instruction that is comparable to other children who are at the same reading level.



Sight word instruction has been the typical method for teaching reading to children with Down syndrome who have speech and hearing difficulties (Farrell & Elkins, 1995). Many students with Down syndrome have learned to read using sight word methods such as the Edmark Reading Program (1972). Researchers, such as Browder and Yan (1998), have argued for providing this population of children with sight word instruction as a means to acquire functional skills for use in school and society. Learning to read road signs, food labels, and other functional words provide these children with an important daily living skill.

In addition to the successes with sight word instruction, children with Down syndrome also have been taught the generalizable skill of sounding out words (Cardoso-Martins & Frith, 2001; Conners, 1992). Research suggests that children with disabilities improve their reading abilities when given instruction in word analysis skills to tackle unfamiliar words (i.e., attention to vowel and consonant sounds, and sound and syllable blending). Conners (1992) has shown that applying these skills are well within the capabilities of many children with moderate mental retardation. Some skeptics believe that children with Down syndrome are an exception to the rule because of their speech difficulties. For example, Cossu, Rossini, and Marshall (1993) found that these children are unable to successfully apply phonics when reading. However, two studies (Cupples & Iacono, 2000; O'Connor, Notari-Syverson, & Vadasy, 1998) support instruction in phonological awareness and phonics as effective ways to teach children with Down syndrome to read.

Specifically, Cupples and Iacono (2000) found a positive correlation between phonological awareness and early oral reading ability in children with Down syndrome. Their study included 23 children between the ages between 6 and 10. The criteria of their participants were that each child used speech that could be understood by most people, spoke sentences of three or more words, were engaged in academic activities, spoke English as their native language, and had no severe sensorineural hearing loss. Phonological awareness was assessed for these participants using eight tasks, including rhyme judgments, alliteration judgments, phoneme blending (real words), phoneme blending (nonwords), phoneme segmentation and counting (real words), phoneme segmentation and counting (nonwords), and nonlinguistic counting. The results of this study provide support of a theoretical view of reading development in which phonological awareness and phonics play a central role.

In addition, O'Connor, Notari-Syverson, and Vadasy (1998) suggested that young children with mild mental retardation could be taught to rhyme, blend, and segment words following short-term intensive small group and individual instruction. In previous studies, the researchers taught teachers of kindergarten classes that included children with learning disabilities, mild mental retardation, and at-risk students to use activities designed to increase phonological skills of their children during large and small group instruction. In this study, the researchers studied the long-term effects (end of first grade) of the phonological skills treatment in kindergarten for children across a range of abilities. Their results emphasize the importance for children with learning disabilities and mild mental

retardation to receive early assistance in acquiring the sounds that compose words because this instruction appears to offer these children a necessary and sustained advantage in the earliest stages in reading development.

Teaching children with Down syndrome to read phonetically may provide them with the skills needed to decode unfamiliar words, and help them to learn words incidentally by sounding them out, potentially improving their overall reading ability. Phonics methods of reading instruction have been studied less well than sight word methods, leaving teachers with few research-based reading strategies for teaching students with Down syndrome (Al Otaiba & Hosp, 2004). Due to the presence of conflicting suggestions in the literature as to how students with Down syndrome should be taught to read, and the limited research available to teachers, this study was undertaken to investigate the effectiveness of phonics instruction with three young children with Down syndrome who were at various reading levels and who had received little or no phonics instruction in their elementary schools.

## **Method**

### *Participants*

Three children with Down syndrome participated in the study. Jack, Sam, and Elizabeth all received special education and related services in a small school district located in the Southeast. Jack, a nine-year-old boy, attended a regular elementary school where he received services in both general and special education settings in the fourth grade. Sam, an eleven-year-old boy, was in the fifth grade at a center school where he received special education services. Elizabeth, an eight-year-old girl, was in the second grade at an elementary school where she received services in both general and Special Education settings.

### *Initial Assessment*

In order to determine the students' phonological awareness abilities, such as blending and segmenting, and their beginning oral reading level, such as decoding CVC (Consonant-Vowel-Consonant) and CVCC (Consonant-Vowel-Consonant-Consonant) words, the investigator administered portions of the *Jump Start in Reading* assessment (Pullen, Lane, & Hayes, 1999). *Jump Start in Reading* is a literacy assessment guide that provides assessments of pre-literate abilities and early literacy development. The entire battery of subtests was not administered, only those subtests that related specifically to the study were used. Categories assessed include *metalinguistic abilities* (phonological awareness), *alphabetic principle* (alphabet writing and letter-sound identity), and *beginning reading* (sight words and decoding abilities). The performance of all three students on the Jump Start in Reading assessments employed is presented in Table 1 and described below for each participant.

**Table 1. Jump Start in Reading Assessments (Pullen, Lane, & Hayes, 1999)**

	Phonological Awareness	Alphabet Writing	Letter Sound Identity	Pre-Primer Sight Words	Primer Sight Words	First Grade Sight Words	CVC Words	CVC Non-Words
Sam	0/60	7/26	50/104	0/40	N/A	N/A	0/20	0/20
Elizabeth	10/60	25/26	100/104	3/40	N/A	N/A	2/20	2/20
Jack	25/60	26/26	103/104	38/40	39/40	33/40	20/20	6/20

Sam. On the phonological awareness assessment, Sam was unable to answer any of the 60 questions that tested word level, syllable level, onset/rime level, and phoneme level. On the alphabet principle assessment, he was unable to write all of the letters of the alphabet. He scored 50 out of the 104 points on the letter-sound identity section, which included capital and lower case letter identification, as well as making letter sounds and recalling a word that begins with the letter. In the beginning reading category, a sight-word assessment, as well as a decoding assessment was provided. Sam scored 0/40 on the Pre-primer list of sight words. Because he identified 6 or fewer words on the Pre-Primer list, he was not assessed on the Primer and First Grade lists. He read 0/20 on both the CVC words and CVC nonwords.

Elizabeth. On the phonological awareness section, Elizabeth correctly answered ten out of 60 questions. She was able to write most of the letters of the alphabet. She scored 100 out of the 104 points on the letter-sound identity section. In the beginning reading category, a sight-word assessment, as well as a decoding assessment, was provided. She scored 3/40 on the Pre-Primer list of sight words and was not assessed on the Primer or First Grade assessments because she identified 6 or fewer words on the Pre-Primer section. She read 2/20 on both of the CVC sections: the CVC words and CVC nonwords.

Jack. On the phonological awareness assessment, Jack scored a total 25 points out of 60 questions that assessed word level, syllable level, onset/rime level, and phoneme level. He successfully wrote all of the letters of the alphabet for the alphabet writing section. Jack scored 103 out of 104 points on the letter-sound identity section. In the beginning reading category, Jack successfully read all of the sight word lists from Pre-Primer through First Grade. On the decoding section, Jack read 20/20 CVC words and 6/20 CVC nonwords.

### Summary

All three students had relative difficulties on the phonological awareness assessment section of *Jump Start in Reading*, specifically with combining letter sounds to form CVC words. The alphabet principle assessment illustrated Sam and Elizabeth's weaknesses in writing letters and recognizing the letter-sound relationship. In the beginning reading category, all of the students demonstrated a need for improvement in decoding of CVC and CVCC words. One student (i.e., Jack) scored very well in the sight words section, and on the decoding of real words, but did not score as well

with the decoding of non-words. Based on these results, instruction was individually designed for each child and will be explained in detail later in this article.

### *Setting*

This study was conducted in the participants' homes, on an individual basis. Initially, Sam's intervention was conducted in the public library until the books and other materials proved to be too distracting for him, consequently the sessions were moved to his home, like the other participants. All sessions occurred in the least distracting room in the participants' home for approximately 25-35 minutes per session, 4 times per week. Participants received at least 15 individualized, instructional sessions over the course of the study. Due to the fact that the study occurred during the summer season, the students were not attending school, and therefore were not provided with any other reading instruction, except when their parents read books aloud to them.

### *Design*

To assess the effects of intervention, the investigators used three A-B designs. One maintenance probe was conducted four weeks following the last intervention session, and one generalization probe was administered directly after the maintenance probe. The maintenance probe assessed the students' ability to read the same words administered throughout the intervention period, and the generalization probe determined the participants' ability to apply word analysis skills to a different set of words with the same letter structure.

The baseline phase determined the reading level at which to begin the participants' intervention. The intervention included at least 10 individualized, instructional sessions in word analysis.

*Baseline.* After determining that each participant's had a reading level below his or her grade level as evidenced by *Jump Start in Reading*, three lists of CVC or CVCC words were developed for each child to read. Performance on these word lists served as baseline data before the intervention was implemented. Eighty percent accuracy was set as an acceptable level of performance. Lists of words to be used during the intervention were developed for each participant based on their demonstrated decoding abilities during baseline. One participant, Jack, read two sets of baseline lists with at least 80% accuracy, so the participant was given the opportunity to read a third list. The list that was used at the beginning of Jack's intervention was determined according to his performance on the third list read during the baseline phase. Figures 1, 2 and 3 display the percentage of the words that were read correctly during the probes administered during the baseline phase.

*Intervention.* The intervention to follow was developed by analyzing the baseline data. The *Jump Start in Reading* and the baseline data provided the investigators with a benchmark in which to start teaching and assessing the students. That is, after analyzing the baseline data, Elizabeth and Sam seemed to be on similar reading

levels, consequently their intervention was very similar. Sam and Elizabeth began the intervention with the same list of CVC words, however, Jack was given a different list that was developmentally appropriate to his reading abilities. The children's sessions varied with the type of phonics activity used, but most sessions included (1) review of the letter sounds taught previously, (2) phonics instruction on new sounds, and (3) a probe based on content taught. Sam and Elizabeth's sessions consisted of similar phonics activities due to the fact that they were studying the same sounds assessed by the same list of words given to them throughout the intervention period. Jack, however, moved rapidly through five lists of words, mastering each list with 80% accuracy or better before moving on to the next list.

The agenda for each session depended upon the assessment given the previous day. If the subject mastered the list with 80% accuracy or better, the investigator concentrated on new sounds and provided a new list of words. If the subject did not master the list, the investigator concentrated on the sounds participants had not mastered.

*Phonics Instruction.* The students were provided with phonics instruction in a way that motivated them. The phonics instruction activities included the *Explicit Phonics Routine*, *Making Words Routine*, and *Reading Decodable Texts* (Cooper, 2002).

The Explicit Phonics Routine emphasizes final blending. In final blending, each sound in the word is identified and pronounced before the word is said. Here is a teaching example with the word, *sat*: 1) Point to the letter *s* and say /s/. 2) Point to the letter *a* and say /a/. 3) Slide your finger under the letters *sa* and slowly say /sa/. 4) Run your finger under the letters *sa* and quickly say /sa/. 5) Point to the letter *t* and say /t/. 6) Slide your finger under *sat* and slowly say /sat/. 7) Circle the word with your finger and say, "The word is sat." Another technique that was used on a white board emphasized successive blending, where individual sounds in a word were pronounced in sequence without pausing. Here is a teaching example of this technique with the same word *sat*: 1) Run your finger under each letter as you extend the sound that each letter represents. For example, say *ssssaaaat* without pausing between sounds. (If the first sound is not a continuous consonant sound, as with the letter *b*, quickly blend the first sound with the vowel sound that follows. For instance, say *baaaaat*.) 2) Slowly compress the extended word, going from *ssssaaaat* to *ssaat* to *sat*. 3) Circle the word with your finger and say, "The word is sat." Throughout the phonics activities, the investigators provided modeling and guided instruction while the students tried the techniques on their own.

For review practice, words were written on the board and letters were covered, so that the students would make each sound individually, and then slowly the child blended the phonemes together making the sounds. For example, the investigator wrote the letter *c* on the board; the student made the /c/ sound. The investigator wrote the letter *a* on the board; the student made the /a/ sound. The investigator, then, wrote the letter *t* on the board, and the student said the /t/ sound. Finally, the investigator wrote the entire word *cat* on the board, covering sounds until needed or pointing to each sound

at a time. The student slowly blended all of the sounds together to read the word as a whole unit. As always, the investigators provided corrective feedback and motivational comments throughout intervention sessions.

The Making Words Routine (Cooper, 2002) was modified slightly; the procedure was taught similarly to the Explicit Phonics Routine. The students were given cards that had individual letters written on them, and they made the sound that the letter represented. Eventually, words were made by arranging the cards of individual sounds together in a line; the student blended the phonemes together slowly to read the entire word.

Elizabeth and Sam participated in either the Explicit Phonics Routine and/or Making Words Routine on each of their sessions, targeting CVC words, and selected sounds. Because of their different needs, the students preferred or benefited from one of the two phonics models, so the most effective model was used for their sessions. Elizabeth usually liked to hold the cards, so she typically participated in the Making Words Routine because it helped her to focus on the reading. Sam did not benefit from the extra stimulus, so he usually participated in the Explicit Phonics Routine. For the most part, Jack's sessions also consisted of both of these activities, with slight modifications. For example, nonwords were included in Jack's vocabulary lists to assess true phonemic reading abilities because he demonstrated such a high sight-word vocabulary. Phonemic rules, digraphs, and blends were also taught in order to read the words that corresponded with Jack's reading level. These rules, digraphs, and blends were taught using a combination of letter cards, as in the Making Words Routine (Cooper, 2002); Jack practiced making the sounds that certain vowels and consonant blends make, and then practiced sounding the same sounds while reading them within words. All of the words used for the students' intervention probes are listed in Appendix I.

*Maintenance and Generalization.* A month after each subject had completed the intervention phase, a maintenance assessment was conducted to demonstrate students' ability to read the same words tested throughout the intervention period. Additionally, the students were assessed on their ability to apply the taught word analysis strategies in the reading of new words with similar letter structures (e.g., CVC, CVCC words) through a generalization measure administered during the same session as the maintenance assessment.

## **Results**

### Sam

The investigator administered three baseline probes using lists of words. The lists included CVC words with all five vowels. Refer to Appendix 1 for the words used during the assessments. As illustrated in Figure 1, (i.e., 1, 2, and 3), Sam could not read any of the words on the lists that were given to him.

As displayed in Figure 1, Sam never reached complete mastery on the list of words, but he dramatically improved his reading over the course of study. During the first two intervention sessions (i.e., 4 and 5 on the line graph) of the intervention period, he read the word list with 10% accuracy. His performance increased to 40% accuracy by the third session. His performance fell between the third (i.e., 6) and fourth sessions (i.e., 7) to only 20% accuracy, most likely because of behavioral issues. Sam's scores decreased during these sessions when he demonstrated difficulties paying attention and listening to instruction. After moving him to a new instructional setting, his performance increased to 30% accuracy (i.e., 8) and then to 50% accuracy by the seventh session. Sam finished the intervention phase by reading the words with 60% accuracy by the tenth session (i.e., 13). Finally, Sam scored 80% accuracy on the maintenance assessment (i.e., 14) and 60% accuracy on the generalization assessment (i.e., 15). Overall, Sam's performance was commendable. Sam's ability to apply word-analysis skills when reading became evident during intervention, improved at the maintenance assessment, and maintained with the generalization assessment. Considering that Sam completely lacked the ability to apply word-analysis skills at baseline, his performance by the end of the study was remarkable.

### Elizabeth

Elizabeth's baseline probes consisted of the same words used with Sam. As illustrated in Figure 2 (i.e., sessions 1, 2, and 3), she read with 10% accuracy on the first list that was given to her, but was unable to read any of the words on the other two lists.

As displayed in Figure 2, Elizabeth started the intervention period reading the list with 20% accuracy and ended reading the list with 80% accuracy. Her performance increased from 20% to 40% and then to 60% accuracy by the third session (i.e., 6 on the line graph). Her performance fell from 60% accuracy on the third intervention session to 50% on the fourth intervention session (i.e., 7), then to 30% accuracy on the fifth session (i.e., 8) and then to 10% accuracy. As noted by the break in the graph between the fourth and fifth intervention sessions, (i.e., 7 and 8), Elizabeth went on summer vacation with her family and did not receive reading instruction during that time. Her scores decreased for a few sessions after her return from summer vacation, but then quickly increased. Her performance increased steadily revealing that Elizabeth read the words with 80% accuracy by the ninth session (i.e., 12). Her performance fell from 80% accuracy to 70% accuracy on the tenth intervention session (i.e., 13). Elizabeth mastered the reading list during the second to last instructional session, revealing proficiency with the use of sounding out skills to make words. Finally, Elizabeth scored 60% accuracy on the maintenance assessment (i.e., 14) and 30% accuracy on the generalization assessment (i.e., 15). Overall, Elizabeth's performance of applying word-analysis skills when reading improved throughout the intervention, and maintained somewhat a month later. Her score on the generalization assessment was not as encouraging, suggesting that systematic instruction in generalization is indicated for Elizabeth. Overall, Elizabeth improved greatly over the course of the study, meeting criterion (80%) by the end of the intervention.

## Jack

On the first baseline probe, Jack read each list with 90%, 70%, and 70% accuracy, respectively. Due to the high percent correct, Jack was given a second list with more difficult words. He read this list with 90%, 80%, and then 80% accuracy, consequently a third set of lists was provided to him. Jack's performances on the third word list are illustrated in Figure 3, (i.e., 1, 2, and 3). As shown on the graph, Jack read the list with 50% accuracy on three separate occasions. This third set of probes served as the baseline data.

Figure 3 illustrates Jack's reading improvements throughout the intervention period. Jack swiftly mastered several lists of words, making his intervention design quite different from Elizabeth and Sam's. Jack began his first list reading with 90% accuracy (i.e., 4) consequently, the next day he was assessed with a second, more difficult list of words (See Appendix 1). On the second list of words, he read it with 70% accuracy at the second session (i.e., 5) and his performance increased to 90% accuracy by the third intervention session (i.e., 6). Because Jack performed so well reading real words, non-words were introduced at this point to test his phonemic reading instead of his sight-word knowledge; this also explains the 20% accuracy on the initial assessment of the third list of words. He increased performance by the fourth instructional session (i.e., 7) and increased to 40% accuracy by the fifth intervention session (i.e., 8). His performance increased to 50% accuracy by the sixth intervention session (i.e., 9), and then finally to 90% accuracy on the seventh session (i.e., 10). Jack read the fourth list of words with 60% accuracy at the eighth intervention session (i.e., 11), improving to 90% accuracy by the ninth session (i.e., 12). The fifth list of words proved to be very difficult for Jack, because it included blends and digraphs; he read the list with 50% accuracy on the tenth and eleventh intervention sessions (i.e., 13 and 14). His performance fell from 50% accuracy on the eleventh session to 20% accuracy on the twelfth intervention session (i.e., 15). This decrease was probably caused by Jack's lack of motivation to participate during this particular instructional session. He was more interested in playing with family and friends spending the day at his house that day than spending time with the investigator. His performance increased again from the twelfth session to the thirteenth session (i.e., 16), illustrating that Jack finished the allotted time for the intervention reading the last list of words with 60% accuracy. As demonstrated in Figure 3, Jack scored 90% accuracy on the maintenance assessment (i.e., 17) and 70% accuracy on the generalization assessment (i.e., 18). On the maintenance assessment that was given a month after the intervention period, a combination of real words and nonwords were used from all of the lists to derive a cumulative assessment. On the generalization assessment, which was also given a month after the intervention, only new real words that were similar in structure to the words assessed throughout the intervention were used to assess generalization. Overall, Jack's word analysis skills improved significantly during the intervention demonstrated by his ability to decode both real words and non-words during the intervention.



## Summary

As shown in the graphs (Figures 1, 2, and 3), all three of the students increased their reading vocabulary from the baseline to the intervention stages. The participants also maintained their ability to read phonetically and generalize the skill of word analysis as demonstrated on the maintenance and generalization assessments. Clearly, all three students with Down syndrome responded well to an individualized approach to phonics instruction in reading.

## Discussion

Three elementary school-aged students with Down syndrome participated in this study. Based on assessment information collected from *Jump Start in Reading* and from baseline data, the students displayed deficiencies in phonemic awareness and in the ability to apply word analysis skills when reading. Consequently, an instructional intervention was developed and implemented over a two-month period to improve phonics skills. The students received explicit phonics instruction and guided practice in word analysis during each session. The investigator administered assessments at the beginning of each session to evaluate the students' ability to apply the taught phonemic skills when reading. The improvements in word reading evidenced by the three students suggest that they were able to apply the desired skills, and for the most part, maintain and generalize these skills.

This study was designed to investigate the effectiveness of phonics instruction with children with Down syndrome because of conflicting findings in the literature related to these children's ability to attack words phonetically. The results of this study support findings from Conner (1992) and O'Connor, Notari-Syverson, and Vadasy (1998) that applying word analysis skills are well within the capabilities of children with Down syndrome. The participants steadily improved their reading scores on the assessments given at each session. Each student read words in which they had to sound out each letter to read the entire word. One student (i.e., Jack) was also assessed on his ability to read nonwords, which clearly required him to rely on the sounding out strategy to read them correctly. However, generalizing the findings of this study to other students with Down syndrome is not recommended given the small number of study participants.

Learning to read words phonetically provided the students in this study with the necessary skills to read novel words not presented during instruction (i.e., the generalization assessment). Decoding the sounds within words enabled all of the students the freedom and confidence to read unknown words. Learning to read these words using phonics, may allow these students to continue to improve their reading ability, particularly in novel situations that require strategic reading.

## Teacher Implications

Children with Down syndrome may take longer to show improvement when being taught a new skill as evidenced by the plateaus and slow increases in the students' performance in this study. This is important to note because of its implication in a classroom setting. Teachers might not observe a rapid improvement after a trial intervention and halt the intervention because they do not feel the instruction is effective. Like all students, children with Down syndrome learn and show improvements at different rates. Consequently, teachers should allow a new instructional method to be in place for an adequate amount of time to allow the true nature of the instructional strategy to be revealed (Pressley et al., 1990). In this study it is suggested that some children with Down syndrome may require at least 5 sessions before noticeable improvements are revealed. In addition, many months of instruction may be necessary before dramatic improvements in reading performance are evidenced (i.e., two months, 15 sessions, 25-30 minutes each session, as in this study).

Motivation also plays an important role in educating students with mental retardation, including students with Down syndrome. Switzky (1997a; 1997b) suggests that instructional techniques for students with mental retardation should be focused on enhancing students' motivation by avoiding student failures. Two instructional strategies that particularly apply to improving this motivation in students with mental retardation are community-based instruction and authentic learning activities. Community-based instruction uses instructional strategies in the natural settings of the students' community life, such as learning how to search for job advertisements in the local newspaper. Authentic instruction teaches knowledge and skills in ways that tie the skills to the students' everyday and ordinary life experiences, such as running the school store. Students in this study used phonetically regular words (Carnine, Silbert, & Kameenui, 1996) during instruction. The ability to read phonetically could provide the necessary motivation for students with Down syndrome to want to transfer this skill to other more authentic situations, such as reading words used in a bus schedule or on a restaurant menu. Teachers may reinforce phonics instruction, and provide generalization opportunities, by providing learning sessions using functional words, as recommended by Browder & Yan (1998), but extending the task by allowing students to use word attack skills to learn these new words rather than simply learning them by sight. Considering the importance of possessing good phonic skills, it is unfortunate that there are so few empirically validated reading practices for students with Down syndrome. The current study provides a promising practice for classroom use.

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## Appendix 1

### Words Used During Instruction and Assessments

#### Words used for Elizabeth and Sam's Daily Assessments and Maintenance Assessments

Sam, am, sat, mat, cat, fat, rat, man, can, ran

#### Words used for the Elizabeth and Sam's Generalization Assessment

hat, Pat, vat, bat, Nat, fan, pan, Nan, van, sad

#### Words used for Jack's Daily Assessments

List 1: brat, shell, glad, brim, shack, glum, brass, glass, ship, brick

List 2: mile, vane, pole, fume, Pete, spin, spell, maid, rain, nail

List 3: fall, call, bald, almost, walrus, jall, nall, rall, malter, balty

List 4: star, harm, art, carpet, farm, barget, marn, larty, pard, sarm

List 5: seat, oak, speak, float, beast, broat, veak, roaf, cheam, spoad

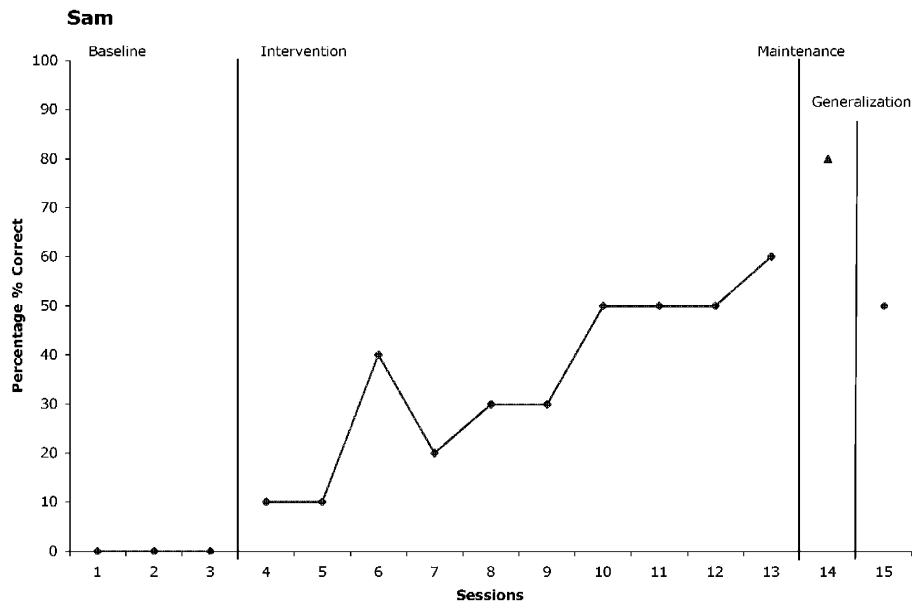
#### Words used for Jack's Maintenance Assessment

mile, call, bald, star, harm, seat, speak, jall, marn, veak

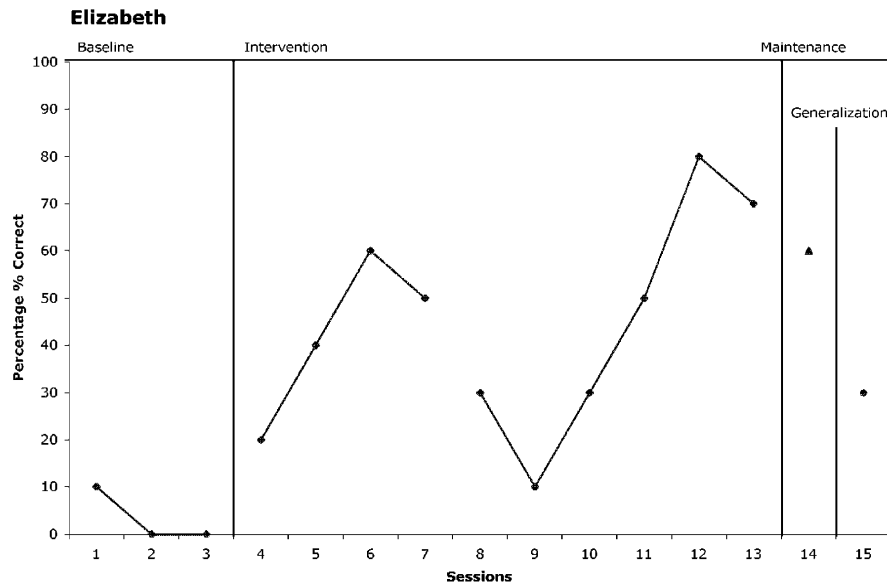
#### Words used for Jack's Generalization Assessment

bake, dive, mall, eve, tube, pain, note, shark, coal, dean

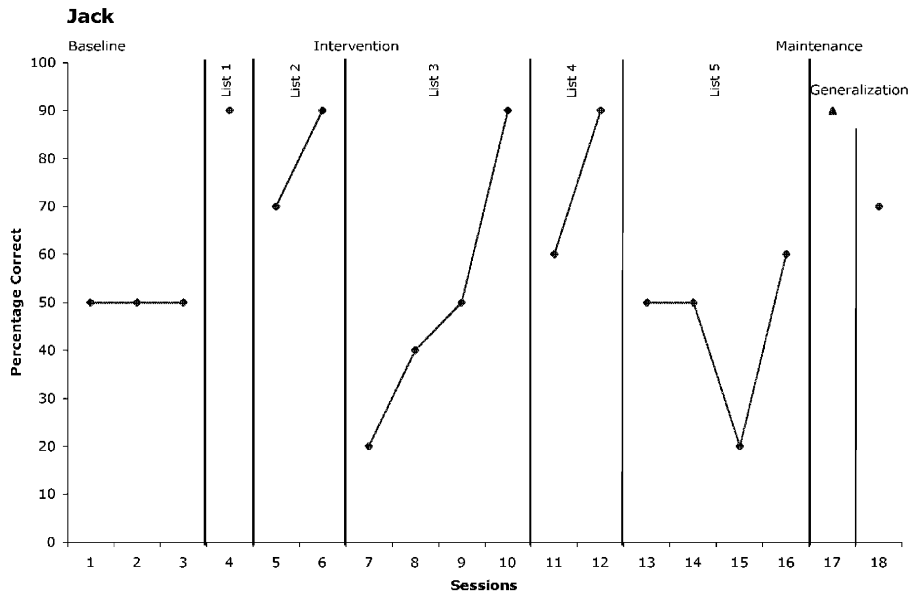
**Figure 1. Performance across baseline, intervention, maintenance, and generalization phases for Sam.**



**Figure 2. Performance across baseline, intervention, maintenance, and generalization phases for Elizabeth.**



**Figure 3. Performance across baseline, intervention, maintenance, and generalization phases for Jack.**



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## Identified Temperament-Based Learning Styles: Implications for Effective Instruction

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### *Abstract*

*Learning styles are reviewed within the theoretical framework of the Student Styles Questionnaire, a measure designed specifically for children. The learning style dimensions of this measure are among the most widely accepted and understood temperament qualities both nationally and internationally. The learning styles include four dimensions: the source from which one draws energy (Extroversion/Introversion); preference for how to acquire new information (Practical/Imaginative strategies); how one makes decisions (Thinking/Feeling emphasis); and when one makes decisions (Organized/Flexible timelines). Classroom interventions based on these learning preferences offer a variety of strategies that can easily be incorporated into most curriculums.*

Temperament-based learning style traits include learning, behavior, motivation, and personality characteristics. These traits may serve to facilitate or hinder success in both academic and social endeavors depending on how well developed they are. Traits are thought to be relatively stable and some are considered to emerge as early as infancy. The most widely known components of temperament-based learning styles are the concepts of Extroversion and Introversion. Jung (1928/1945) characterized an infant's adaptation to the environment, especially quick reactions to external stimuli as an early indication of Extroversion. In contrast, he noted some toddlers consistently exhibited fear or hesitancy when presented new stimuli (e.g., objects). These children were thought to be Introverted (Jung, 1928/1945). Other temperament researchers (Buss, 1989) have documented differing physical activity levels, emotional expressiveness, and warmth toward strangers in very young children.

Many theorists (Teglasi, 1998a,b) have postulated that temperament qualities have a biological basis and brain research indicates correlations between some brain functions and temperament learning style preferences. For example, cortical arousal (Sternberg, 1990; Wilson & Languis, 1990), limbic site activity (Kagan & Snidman, 1991), and reported rates of hypertension and heart disease (Shelton, 1996) are lower for Extroverts as compared to Introverts. Extrovert's lower arousal level may explain proactive behavior in seeking out stimulation from the environment and others. The

higher arousal level found among Introverts may explain their greater desire for solitude and their inclination to withdraw in order to rejuvenate their energy.

### **Overview Of Temperament-Based Learning Style Theory**

Learning style concepts are numerous with one recent report identifying seventy-one different theories (Coffield, Moseley, Hall, and Ecclestone 2004). Some theories include academic focused abilities such as critical thinking skills, memory, and preference for verbal or visual stimuli when learning new information. Other definitions include physiological perspectives such as attention, concentration, activity level, and frustration reactions (Thomas & Chess, 1989).

This article does not endeavor to provide a comprehensive review of all theories. Instead the learning styles perspective reviewed is based on the Student Styles Questionnaire (SSQ), a measure specifically designed for school age children and classroom intervention. The SSQ is a learning style inventory completed by children to report their own preferences. The constructs are based on Jungian theory and measure the same four domains found in the Myers-Briggs Type Indicator (MBTI). The MBTI remains the most widely used international personnel training instrument and its concepts of Extroversion/Introversion are well established in psychology literature (Furnham 1996; Pittenger, 1993).

Carl Jung derived his concepts from observation of hospital patients' pathology patterns. He noted patients exhibited two opposite orientations for deriving or renewing their own energy and named these qualities Extroversion and Introversion (Jung, 1921/1971). All patients had some of the characteristics of Extraversion and Introversion; however, his patients with extreme Extraversion or Introversion were most likely to display pathology in a manner consistent with their temperament qualities. His clinical notes indicated patients who were aggressive or prone to hysteria preferred Extroverted qualities. His Introverted patients were more inclined to exhibit internalizing problems such as depression. Jung suggested maintaining a balance of both Extroverted and Introverted qualities with the ability to use either when appropriate would result in the best adjustment. He thought having extreme preferences left the opposing qualities underdeveloped and therefore an area of weakness. In addition to Extroversion/Introversion, he notes four other functions: Sensation/Intuition and Thinking/Feeling. This theory was later modified by Myers adding a fourth dimension, Judging/Perceiving.

### **Student Styles Questionnaire**

There are four temperament-based learning-style qualities measured by SSQ theory: Extroversion/Introversion, Imaginative/Practical, Thinking/Feeling, and Organized/Flexible (See Table 1). Each of the four temperament-based learning style dimensions are considered dichotomous with two opposing sets of qualities. Students typically express a preference for one over the other. Each learning style dimension has positive characteristics; however, extreme preferences can indicate weaknesses in



the opposing traits (Coffield, Moseley, Hall, & Ecclestone, 2004; Myers et al., 1998). For example, if a child is very Extroverted this may help the child in her/his social skills and expression of ideas. However, it may also be detrimental when the child lacks the ability to work independently or silently for substantial periods of time.

Sources From Which One Draws Energy	Extroversion	energy from environment stimuli/people, many friends, many interests, prefer talking, responds quickly, enjoy interruptions
	Introversion	energy from within/own ideas, select deep friendship/interests, prefer writing, need own space/privacy, reserved
How One Prefers to Acquire New Information	Practical	enjoy facts, prefer applications first, learn by direct experience, prefer simplicity, realistic, pragmatic
	Imaginative	enjoy ideas, prefer theory first, learn by intuitive hunches, prefer global concepts, enjoy possibilities
How One Makes Decisions	Thinking	value honesty and justice, competitive, enjoy debate, quizzical, decisions based on logic
	Feeling	value harmony, sympathetic, cooperative, diplomatic, charming, decisions based on personal values
When One Makes Decisions	Organized	prefer planning, like order and systems, enjoy routine, need closure, impose standards
	Flexible	prefer spontaneity, like change and variety, enjoy surprises, like to keep options open, tolerant and adaptive

#### *Extroversion/Introversion*

The qualities of Extroversion and Introversion refer to one's orientation towards external or internal stimuli. Extroverts report they are energized by environment stimuli (e.g., sights, sounds, interacting with others). They are outgoing, expressive, and share opinions quickly. They prefer to have many friends and enjoy attention (Jung, 1921/1971). When learning, they enjoy talking about ideas aloud, cooperative learning groups, and oral presentations over written assignments. Their weaknesses can include not taking time to listen to others, less ability to work independently, and speaking before ideas are well formulated. Approximately 65% of children indicate they prefer Extroverted qualities (Oakland, Glutting, & Horton, 1996).

Research indicates the majority of school teachers and school administrators also indicate preferences for Extroverted learning styles (Myers & McCaulley, 1985; Sears, Kennedy, & Kaye, 1997). This preference for Extroversion may explain why teachers are adept at providing verbal instruction and interacting with children for many hours each day. This is an activity well suited to Extroverts. In contrast, university-level instructors are more likely to be Introverted (Myers et al., 1998).

Their work permits shorter public presentation and lecture time with more independent research work. Teaching methods that include cooperative group work, oral presentations, class discussions, and curriculum variety are consistent with extroverted strengths.

Introverted students are more likely to be introspective and draw energy from within themselves. They require privacy and need some time alone to rejuvenate. They can form very close friendships, however, friends may be fewer in number than typically for Extroverts. Introverts are often cautious and selective when sharing opinions in public. They may wish to think carefully about ideas before sharing them with others and thus demonstrate less spontaneity in conversations than Extroverts. When learning, they indicate a preference for working alone or in small groups, can concentrate for long periods of time, and prefer sedentary tasks like reading over public presentations. Possible weaknesses for Introverted students include seeming to be aloof, underdeveloped social skills, and missing opportunities to interact with others. Teaching methods that include research, reading, writing, independent work, and in-depth study are consistent with Introverted strengths. About 35% of students indicate they prefer an Introverted style (Oakland et al., 1996).

#### *Practical-Imaginative Styles*

The qualities of Practical and Imaginative styles refer to how one prefers to learn new information. Students with a Practical style learn new ideas in a pragmatic manner with an emphasis on sensory input (e.g., sight, sound, touch), preferring facts, and valuing practical applications. They are more inclined to be detail oriented and value accuracy. When learning new information, they express a preference for simplicity, step-by-step sequences, and literal meaning. Their weaknesses can include neglecting abstract thinking (e.g., theory), not recognizing themes or patterns in information, and rigid attitudes. About 65% of students prefer a Practical style (Oakland et al., 1996).

Research indicates school teachers; particularly elementary school teachers more frequently indicate preferences for Practical learning styles (Myers & McCaulley, 1985; Sears, Kennedy, & Kaye, 1997). Therefore, they may be more likely to incorporate the strengths of Practical learning styles in their instruction. Teachers, especially those in younger grades often present curriculum in a sequential, step-by-step approach with visual aids consistent with their preference for Practical styles. Teaching methods that include hands-on work and manipulatives (e.g., lab experiments), sequential presentation from simple components to complex themes, and real-life applications are consistent with Practical strengths.

Research of students with Oppositional Defiant Disorder has indicated a strong preference for Practical styles that may have implications for behavioral interventions. They indicate strong preferences for clear, detailed rules and practical applications of information (Joyce & Oakland, in press).

Students who indicate a preference for Imaginative styles often enjoy creative, original ideas and prefer learning theory first, then the practical applications. When learning they often report grasping concepts by insight or intuition (e.g., the “AHA” moments) and recognize similarities or patterns across information. They are more inclined to enjoy the use of metaphors and symbols. Possible weaknesses for Imaginative students include overlooking important details and thereby making factual errors. They also may draw conclusions too quickly overlooking practical considerations. With their global view of concepts they can underestimate the time and effort needed to complete projects as well as neglect meticulous review of details. About 35% of students report a preference for Imaginative styles (Oakland et al., 1996). Teaching methods that include creative thinking, brainstorming, global concepts, and exploration of ideas are consistent with their strengths.

Intuitive students may be particularly well suited to long-term academic achievement. A study of 1,500 students, especially gifted girls, found a preference for Intuitive styles (Oakland, Joyce, Glutting, & Horton; 2000). Other studies of the highest achievers, especially in college (Myers & McCaulley, 1985) noted higher than predicted preference for Intuitive learning styles. In comparisons of intelligence, SAT, and GRE scores, Imaginative children were consistently higher (Myers, 1962; Myers & McCaulley 1985). Students with the combined qualities of Introversion, Imaginative, and Organized have among the highest GPA and graduation rates (Myers & Myers, 1980).

Research indicates college level instructors more frequently prefer Imaginative learning styles (Myers & McCaulley, 1985; Sears, Kennedy, & Kaye, 1997), therefore, may be more inclined toward theoretical teaching orientations. This could help explain the “ivory tower” paradigm that is purported to overlook valid practical considerations.

### *Thinking-Feeling Styles*

The Thinking and Feeling dimension refers to how one makes decisions. Students with a preference for the Thinking style often are more inclined to be forthright in their opinions and analytical. They value fairness, rational logic, and truth over sentiment. When learning, they report a preference for critical review of ideas, candid feedback, and the opportunity to debate issues. Their weaknesses can include difficulty expressing feelings, being overly competitive, and offending others with their bluntness. About 65% of male students and 35% of female students prefer a Thinking style (Oakland et al., 1996).

Temperament-based learning style research with adults have indicated the same gender difference in preferences for Thinking styles among males and Feeling styles among females. The majority of teachers are female and express a preference for Feeling styles. Among university instructors a preference for Thinking styles is noted (Myers et al., 1998).

Students with a preference for the Feeling style are more inclined to make decisions based on qualitative issues such as empathy or sympathy. They are often trusting, diplomatic, charming, and tactful in their interactions with others. They value group harmony and a team orientation. When learning, they express a preference for understanding issues in a social context of how the issues affect the well being of others and how consistent issues are with their value systems. Their weaknesses can include being overly-sensitive, compliance to avoid conflict, and dependency. Teaching methods that include cooperative, non-competitive activities, and a team orientation are consistent with their strengths. About 65% of female students and 35% of male students prefer a Feeling style (Oakland et al., 1996).

#### *Organized-Flexible Styles*

The Organized and Flexible dimension refers to when one makes decisions and how individuals live their daily lives. Students with a preference for an Organized style generally prefer a structured schedule with clear deadlines. When learning, they work steadily toward goals, need an orderly workspace, and prefer completing present projects before starting new ones. Their weaknesses can include a preoccupation with neatness, prematurely closing options, working too hard, and expecting the same level of organization from others. About 50% of students indicate an Organized style with higher percentages of females (59%) than males (42%) expressing this preference (Oakland et al., 1996). Teaching methods that provide predictable routines, clear grading criteria, and order are consistent with their strengths.

Teachers (68%) and education administrators (86%) indicate a preference for Organized styles (Myers & McCaulley, 1985; Sears, Kennedy, & Kaye, 1997). Therefore, it is reasonable to expect these qualities are reflected in the structure of schools and curriculum. In many ways these qualities may be required to be successful within large public school systems, especially given the need for accurate records and progress accountability for academic goals. Flexible students prefer to make decisions spontaneously, are flexible, adaptive, and casual about deadlines. They report preferring to make work into play and enjoying juggling several projects at once with a quick pace. Their weaknesses can include procrastinating, failing to keep commitments, and a nonchalant attitude. Overall about 50% of students prefer a Flexible style. A somewhat higher percentage of males (58%) than females (41%) prefer the Flexible style (Oakland et al., 1996). Teaching methods that are quick paced, offer a variety of tasks and formats, and provide flexible deadlines are consistent with their strengths.

#### **Practical Applications Of Learning Styles Interventions**

The majority of teachers indicate a preference for Extroverted, Practical, Feeling, and Organized learning styles. In general, the majority of children also prefer Extroverted and Practical learning styles. Although most teachers prefer Extroversion and teaching provides numerous opportunities for verbal expression, the typical student may be required to listen rather than actively participate. With the majority of

students preferring Extroversion (65%) traditional classroom teaching may provide less stimulation than desired for these students. In addition, research indicates students with preferences for Imaginative styles are among the top performing students. Therefore, although Imaginative is not the preference of most teachers, it may be important to teach Imaginative approaches to children so they grasp wider theoretical concepts that have multiple applications. As most teachers are females they share a preference of Feeling styles with their female students. However, the majority of males (65%) prefer a Thinking style and therefore may not find many opportunities to express this strength in classrooms. Students are split (50/50) on their preference for Organized/Flexible styles. In lieu of teacher preferences for Organized styles, children who prefer Flexible characteristics may not find frequent opportunity to express these strengths.

#### *Matching Hypothesis*

The matching hypothesis suggests assessing each student's learning style and then matching classroom instruction to these preferences. A decade of research with the MBTI (DiTiberio, 1996) and a meta-analysis of several other learning style models has failed to support academic gains for explicit teacher to student style matching (Coffield et al., 2004). Other large study reviews indicate mixed results with half the studies indicating no effects (Coffield et al., 2004; Reynolds, 1997) for matching teacher/student styles. Therefore, the arduous task of matching student to teacher learning styles does not appear to be warranted. One exception to one-to-one matching has been found in a study of patient therapy. Research with counselors indicated incorporating the patient's style in therapy resulted in lower therapy dropout rates and voluntary attendance of more counseling sessions (Newman, 1979).

#### *Repertoire Enhancement*

The term repertoire enhancement refers to including a broad range of learning styles rather than just the teacher's preferences in classroom instruction to improve student performance. Including a wide range of temperament-based learning styles can permit all students the opportunity to work within strengths as well as the opportunity to improve their learning style weaknesses (See Table 2). Cornett (1983) found significant positive affective regard for teachers by students when they attempted use of a variety of learning styles which can be important to teacher rapport. Temperament learning styles have been identified as indicators of both academic persistence and graduation rates (Schurr et al., 1997). However, additional research to establish what specific academic gains may exist based on including a wider range of teaching methods is needed.

#### *Metacognition*

When children are taught to recognize their own strengths and weaknesses by understanding their learning styles preferences, they are better equipped to monitor their own strategies. Marzano (1998) found an average gain of 26 points when

teaching students' to obtain goals by awareness of the strategies they are presently using and teaching them to also use other strategies as needed. This student awareness appeared to be more effective than even teacher presentation style changes.

Extroverted: group projects, oral presentations, brainstorming, oral reading, class discussions, public recognition	Introverted: independent study, pursuit of in-depth study, written papers, posters, allow time for introspection, privacy, quiet, silent reading, lectures, private recognition
Practical: present real-world applications, hands-on activities, sequential presentations, concrete examples, include facts/names/dates	Imaginative: present theory first, discuss relationships between ideas, present global concepts, discuss patterns and predictions, cause and effect
Thinking: competitive games, debate, contrast/comparisons, direct feedback, critical analysis	Feeling: cooperative projects, link to humanitarian issues, story problems, team orientations
Organized: explicit grading policy, planned activities, long-term projects, structured settings	Flexible: flexible deadlines, choice in activities, short-term projects, opportunity for movement

From: "Temperament Differences Among Children With Conduct Disorder and Oppositional Defiant Disorder" by T. Oakland and D. Joyce, in press, *California Journal of School Psychology*.

#### *Non-pathological Learning Style Terms*

Another advantage of understanding learning styles is to provide a common language for professionals to define learning qualities (e.g., Organized, Imaginative, Introversion) in positive terms. Often learning difficulties are discussed in view of deficits, pathology, or negative stigmatizing language.

#### *Summary*

Learning styles theory encompasses a wide-range of traits and theories. The SSQ provides a measure specifically designed for children with widely regarded concepts that can be directly related to classroom instruction. Research has documented several beneficial factors when learning styles are understood and a range of teaching methods employed. They include positive regard for the teacher, higher academic persistence, graduation rates, and better therapy compliance in counseling (Newman, 1979). In addition, the SSQ learning styles provide a common, positive, language defining student approaches to learning. Encouraging educators to be cognizant of their own personal preferences and incorporate a broader range of methods is an easy, cost-effective method to enhance learning opportunities.

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## Finding Ways To Combat A "Pedagogy Of Coverage" Through Action Research

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### *Abstract*

*There is a difference between "domesticating education" (the pedagogy of coverage) and "empowering education" (critical pedagogy). Effective critical pedagogy is based in large part on teachers' relationships to time. Too often teachers get trapped in the paralyzing and emotionally draining habit of trying to "cover" material. But coverage does just as it infers and often covers up or buries the potential for real learning. Since students' and teachers' attitudes and assumptions about time can expand or limit the potential for learning to occur, we offer three ways for teachers to become more sophisticated about their relationship to time: (1) A Meditation on Time (a writing practice for students and teachers; (2) The Reflective Cycle (Wink, 2005), a living framework for conducting action research in the classroom; and (3) Embracing "The Mess" (Wink, 2005), a process for making peace with the reality that learning is an inherently messy process that simply takes time.*

*If it doesn't matter to students, it doesn't matter.*

(Wink, 2005, p. 176)

The way we think about time has the power to shape our lives. Critical pedagogy begins with reflecting on conceptions of time. It's important to ask, "what gives you energy, takes it away, and what for you is a waste of time?" (Graves, 2001, p. 4). These are crucial questions. Reflecting on possible answers to these questions can be the antidote to feeling worn-down, lifeless, and spent. This sort of inquiry can lead to action research that has the power to reinvigorate teaching practices and change perceptions of what can happen in the classroom.

*Time* is more important than *coverage*. Traditionally, though, we have been driven by the pedagogy of *coverage*. "We have to *cover* this now." "We have to *cover* this next." However, *coverage* doesn't guarantee *learning*. What good does it do to cover the material in the time allowed if students haven't really grasped the new material yet? Why should we expect students to take time if we don't? (Wink, 2005).

It takes a person imbued with radical bravery to experiment with “the way things are” in order to increase the potential for learning to occur. Becoming this sort of person requires cultivating a few life-saving habits of mind: a habit of reflection, meta-cognition and tolerance for the time it takes to learn new material.

With crushing schedules, onerous teaching loads and tall stacks of papers to read and grade, it’s hard to feel generous about time. Carla, a California high school English instructor, teaches a special elective class for high school seniors called the “Senior Odyssey,” a class designed as a quest for meaning and identity. Carla asks for daily reflection and revision, requiring “time and a slower pace,” something she feels slipping out of reach with the increasing emphasis placed on test preparation. She asks, “*How do I function as an agent of change while maintaining integrity in a system designed to mill out my heart?*”

In response to questions like Carla’s, we illustrate three kinds of action research to become an agent of change in the schools, one who insists on reflection as a central component of pedagogy. Briefly, we offer a simple writing practice known as the *proprioceptive writing*<sup>1</sup> method developed and explained in *Writing the Mind Alive* (2002). Second, we illustrate the “Reflective Cycle,” an empowering framework for approaching all facets of the teaching life. Finally, we introduce the concept of “The Mess” (Wink, 2005) as it relates to time and limitations of time.

### **A “Pedagogy of Coverage” Versus Critical Pedagogy**

In *Literacy with an attitude: Educating working class children in their own self interest*, Patrick Finn (1999) makes a distinction between “empowering literacy” (critical pedagogy) and “domesticating literacy” or a pedagogy of coverage (Wink, 2005). It’s worth noting that “time” is regarded, managed, and conceived in different terms in each of these teaching approaches. In the pedagogy of coverage, or what Finn calls, “What We Have and Don’t Want,” “students are rarely given an opportunity to express their ideas, ‘writing’ consists of filling in blanks, students’ access to materials is tightly controlled, work is evaluated in terms of following steps, [and] discussion of challenges to the status quo, past and present, rarely occurs” (Finn, 1999, p. 198). Time is tightly, even mechanically, sub-divided and “filled.” This is the tyranny of *chronos*-time, a ruthlessly marching linear pseudo-progression.

One of Joan’s former students describes a statistics class in her doctoral program in which the professor came to every class with fifty problems to cover. The students endured several class periods. They sat quietly and passively and copied every

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<sup>1</sup> The word *proprioception* comes from the Latin *proprius*, meaning “one’s own.” The *proprioceptive* system “may be viewed as the interface of body and mind, as well as the source of emotional expression: by virtue of *proprioception*, we react to what we see, hear, smell, touch, taste, and feel---bodily, as well as mentally” (Metcalf & Simon, 2002, p. 10). When our *proprioceptive* system becomes damaged, we lose the sense of ourselves as embodied.

number and every mark he wrote on the board, but no one was *learning*. They were only *covering* his prescribed curriculum. The students were too nervous to question him. Finally, in desperation, Joan's former student raised her hand to ask for help in class.

STUDENT: "Professor, I did not understand the first problem. Would you please repeat your explanation?"

PROFESSOR: "No, I have no time to repeat; I have forty-nine more problems to cover."

STUDENT: "Yes, but if I don't understand number one, it really doesn't matter what you do with the remaining forty-nine" (Wink, 2005, p. 171).

Unfortunately, and we doubt this is an isolated incident, the professor refused to adjust to his students' needs.

A tight focus on time or the lack of it quickly leads to *domesticating education* or the "make-believe school model" in which "there is little demand for work in return for enough cooperation to maintain the appearance of school" or the appearance of learning (Finn, 1999, p. 75). If everybody looks like they're working, then nobody complains. Finn argues that domesticating education feeds the illusion that teaching will be predictable, controllable, and safe. The teacher announces what needs to be covered and then sets about covering it. But this sort of education leads to functional acquiescence, where students become "dependable, but not troublesome," that is, not necessarily learners (Finn, 1999, p. ix).

There are options, though. In "What We Need and Don't Have" (critical pedagogy), Finn notes: "the knowledge taught is always related to the lives and experiences of the students, work is challenging, students are rewarded for initiative and inquisitiveness, not passivity and obedience, [and] teachers make a practice of explaining how assignments are related to one another" (Finn, 1999, p. 199). When dialogue is essential and lesson plans are bound to change based on new information provided by the students, teachers and students are on different terms with time. An open-ended dialogue might be uncomfortable for some who need to know exactly what will occur next. However, this sort of pedagogy leads to surprise and often better truths (Elbow, 1973).

Empowering education (critical pedagogy) is dangerous because it involves naming, reflecting critically, and acting. This work leads to the explosion of myths (Nieto, 1996), including the most destructive myth that there is not enough time. We feel controlled by time. However, in our own classes, we need too be cognizant of how we're working with the time available. In the interest of empowerment, we also need to bring students into the conversation about the choices made in regards to time.

## Meditations on Time

*Attitudes are the real disability.*

---a bumper sticker

Victor Frankl (1985) said that a person's last human freedom is the ability to choose one's attitude in any given set of circumstances. So what happens if teachers apply this philosophy to the pressures of time felt in the schools?

Time traditionally controls teachers. How many times do we hear, "*I don't have time to read,*" or "*I've always wanted to keep a journal, but I don't have time to write,*" or "*I'd like to do that in my classroom but I don't have time to cover anything new*"? In many ways, all three of these statements are fictions. They are learned limitations and can be equally unlearned. But there has to be a willingness to change.

In Stephanie's class, students started by reflecting on their relationship to standard American time using the *proprioceptive* writing habit of writing freely and then critically reflecting back on what's been written (Metcalf & Simon, 2002). *Proprioceptive* writing requires a small stack of blank white paper and a commitment to write for twenty-five timed minutes. They were given the following guidelines:

1. WRITE WHAT YOU HEAR: To do this "*sloooow down*" and turn up the inner ear. If you're feeling overwhelmed, full of worry, or worn thin with exhaustion, the important thing is to describe your feelings or thoughts without the censoring influence of an inner-critic.
2. LISTEN TO WHAT YOU WRITE: Listening is activated by this practice. This is extraordinarily important because learning to listen to one's self is the first step toward learning to become a better listener of others.
3. BE READY TO ASK: "*What do I mean by \_\_\_\_\_?*" Pick one word or phrase or expression that catches your attention and study it. This is called an "attention-focusing tool." Ask this question as many times as you want. It will lead you into deeper conceptual waters (Metcalf & Simon, 2002, pp. 33-35).

In addition, her students considered the following prompts: *What have I learned about time from watching my parents move through the world? How has my conception of time changed? What has changed it? What have I learned from living in other countries, or other cultures with different relationships to time? Does my sense of time change based on what I'm doing? When I feel rushed, what does this feeling stem from?*

If you'd like to try this strategy, we suggest making a commitment to do this once a day for a week. Ideally, carving out time for this *proprioceptive* writing will become a "practice," a contagious habit, if only because this can be life-raft writing, keeping you afloat in a potentially overwhelming environment. It can be addictive to feel "the

moment of uplift and expansion” that comes from nourishing a “famished brain in this way” (Metcalf & Simon, 2002, p. xxiii). Consider this as collecting invaluable internal “data” that you will return to and reference.

Meditating on the general concept of time, though, is just a beginning. After having taken time to write some meditations on the concept of time and your particular autobiography of time, more focused questions need to be asked: *how are my conceptions of time shaping my work with students? How is time utilized in my classroom? What relationship exists between time and learning? What are students’ perceptions of time in school?*

### **“The Mess:” Moving from Reactionaries to Artists-in-Residence**

*“Expression isn’t enough; reflection is also required.”*

---Metcalf & Simon (2002, p. 18)

Studying “messes” as action researchers is one way to diminish their powerful hold. It’s a wide-awake way to imagine structural changes in the current setting or curriculum. It also invites students into the critical and creative process of coming up with alternative solutions that are at the heart of empowering education. “Teachers throughout the world are developing professionally by becoming teacher-researchers, a wonderful new breed of artists-in-residence. Using our own classrooms as laboratories and our students as collaborators, we are changing the way we work with students” (Power & Hubbard, 1999, p. xii).

Asking the questions (above) and then going about the reflective process of observing the current moment, gathering “data,” and examining it is the beginning of action research. “Action research is any systematic inquiry conducted by teacher researchers...to gather information about how their particular schools operate, how they teach, and how well their students learn” (Mills, 2003, p. 5).

We began with two separate vignettes about the way time is experienced in this profession and how a temptation to slip into a *pedagogy of coverage* stems from feeling like a slave to time. Both Carla’s question and the story of the Statistics professor reveal a “mess” or a situation within an educational space that needs attention. We’d like to conclude by offering an action research strategy for approaching “messes” productively and creatively to avoid feeling swallowed whole. This process of reflection also embodies the principles of *empowering education* and is intended as a tool to incorporate in your classrooms *with* your students. This is a creative, critical, collaborative enterprise. In modeling and repeating this cycle of inquiry, you will be offering students more than knowledge of content. Reflecting on a mess is offering a way of thinking-through-crisis which can last a lifetime.

To begin, we’ve found that it helps to approach a mess with an attitude of curiosity. Too often, we see a mess and feel personal failure. Train your mind to view “a mess” as something full of potential for growth. Messes are creative chaos incarnate (Wink,

2005; Skutnabb-Kangas, 1993; Berthoff, 1981), and we offer the following questions as a step-by-step framework for combating a *pedagogy of coverage*.

1. *Name & define a mess* (any problem, contradiction, or difficult situation). For example, “*How are my feelings about a lack-of-time affecting the timeline for this writing assignment? Is this the best use of time? Are students really being given the time needed to thoughtfully revise their writing and develop their ideas? What would be the worst thing that could happen if I extended the timeline?*”

2. *Learn more about it*: How can we learn more about this? Who has written about this?<sup>2</sup> How will we share information with the group?

3. *Collective approaches*: What might work to change the situation, problem, or contradiction? What utopian possibilities can we imagine? Which approach do we want to approach first?

4. *Execution, and evaluation*: What are the roadblocks? Is it possible to anticipate them? What ordered actions are we going to take? How do we evaluate the results?

5. *Commitment statement*: What intentions are we willing to commit to on paper?

6. *Begin again*: Are there other messes we can see from this new, more critical vantage point (adopted from Wink 2005)?

Each step is fundamental to the cyclical process. The progression from one step to another is not as clean as it may appear. They can be morphed according to the group’s needs. Nevertheless, when you finish, each participant will have made a commitment to change, and each participant will leave with new questions. In all fairness, we must mention that this process does not lead to smaller messes; it leads to more critical questions. This is the process of empowering, timeless education---getting to better and better questions.

## Teachers as Agents of Change

“*Action research is done by teachers for themselves; it is not imposed on them by someone else*” (Mills, 2003, p. 5).

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<sup>2</sup> Raymond E. Callahan’s (1962) *Education and the Cult of Efficiency* looks at the shift in education to a business paradigm in the 1910-1930’s. Michael Agar (1994) coined the phrase *languaculture* to describe how language is permeated with dominant cultural beliefs, in expressions like “time is money.” John Taylor Gatto’s (2003) essay “Against School” offers additional information about why and how we have structured our schools in their current formation. Finally, students enjoy James Gleick’s *Faster: The Acceleration of Just About Everything* (1999, 2000) because he explores our quintessentially American need-for-speed in a collection of short, fast-paced essays that comment on how our everyday language is saturated with notions of time.

“Meditations on Time” (the practice of *proprioceptive* writing), the reflective cycle, and learning to collaboratively study the “messes” brought about by the inherent time pressures in school are three powerful methods for educators to adopt in order to enact a critical pedagogy that reflects on coverage and time.

Shifting the emphasis to teachers as researchers or “artists-in-residence” is one small step in reinventing the profession. Action research leads teachers to become leaders in curriculum, instruction, school redesign, and professional development (Lieberman, 2004).

Students and teachers are hurting. We in education mirror a society that is more and more polarized, but these three processes offer a way through the distress caused by the crunch of time. In the poem, “In the Short Term,” the Pulitzer Prize winner Carl Dennis (2001) writes, “There’s no denying that the only joy/ Likely to last lies in our power completely, /as the Stoics say, not in the power of others”...“the joy for example.../of doing our work as it should be done---/No cutting corners to speed delivery,/ No rushing to finish the job before closing time./ No closing time, in fact, so long as the work is pleasing” (Dennis, 2001, p. 65).

*The paradox:* By looking hard at the concept of time, by carving out time to write for yourself, and by reflecting on time in the curriculum *with* your students, you will have positioned yourself as a teacher researcher rather than a lesson coverer---the former of which is a generative, creative, spacious, powerful, time-expansive realm in which to critically live and work.

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## Processing Feelings about Hurricane Experiences through Art Making

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### *Abstract*

*Last summer's hurricane season left many Florida students repeatedly experiencing the stress of reintegrating into school. Stress factors observed in pre-service teacher education students prompted the inquiry into the effects of post traumatic stress disorder (PTSD) on elementary students and led to the development of an art integrated lesson simultaneously addressing expressive art processes and the emotional processing of the traumatic events. This article discusses salient points from the literature on children and PTSD, art and expressive therapy processes, and integrative art education. It presents an art experience involving Teacher Education students attending a South Florida university and suggests implications for curriculum development.*

### **Introduction**

*The School Year Begins: Charley, Frances, Ivan, and Jeanne Arrive*

As the school year began in mid-August, students in South Florida were experiencing what the news media called the worst hurricane season in 40 years. By the end of what should have been the first month of classes, four major hurricanes, Charley, Frances, Ivan, and Jeanne had threatened the state. The economic devastation was estimated at over \$18 billion. The emotional toll was, perhaps, even more consequential due to disrupted routines, financial burdens and general anxiety.

In this age of media and technology, residents found themselves bombarded with desperate warnings for preparation, and hour by hour tracking of the system. Sound bites and newspaper captions from the Palm Beach Post included "High Fran-xiety", "Officials fear the worst from Frances", and "Frances and her big, threatening cone of terror"; the national news coverage ran 24 hours a day. And then in a matter of hours, residents went from sensory overload, to sensory deprivation, save the ominous sound of the wind howling through the aluminum shutters and that of the piercing rain striking the rooftops.

*Impact on Pre-Service Teachers*

When classes resumed, students voiced concerns about adjusting to the semester in light of altered living situations. Some were unable to return to their evacuated

homes; many others remained without water and power two weeks or more. Students worried about getting to class and making up missed assignments. It seemed that students were compounding the naturally occurring extrinsic pressures with the intrinsic pressures of performing their tasks to the letter of a syllabus. They, like all of us, were looking to authority figures, in this case their professors, to provide some order of what had been a severe abstraction from the normalcy of their lives.

In those next few weeks, I found myself in the dual role of teacher and counselor, reassuring my students that the most important thing was that we were safe and that we would work through the curriculum together. My concern quickly shifted to the younger students. I pondered the question: If these pre-service teachers were having this type of reaction to reintegrating into school, how was this event impacting the children they would soon be educating? What learning episodes could be developed that would simultaneously address the content of the course, while assisting learners in processing these events and model behaviors students could use in their future practice? As with any other teaching experience, merely lecturing to listeners is not always best practice. If my course was to effectively model art integrative practices for pre-service teachers, then I needed to explore curricular experiences that could teach process in the art form and process of the post-hurricane emotions.

The following is a discussion of the literature on disaster-induced trauma and art education, and an integrative art lesson presented to teacher education students. Through the multi-arts processes, students expressed their emotions toward the event and processed some of their feelings through visual arts, movement, collaborative dialogue and shared reflection.

## **Review Of Literature Supporting Rationale For Integration**

### *Traumatic Stress and Natural Disaster*

According to Cook-Cottone (2004) hurricanes are among the naturally occurring phenomena producing traumatic stress. It goes without saying that those individuals directly impacted by a hurricane suffer life-changing stressors. However, Florida residents who were fortunate enough to be spared the experience of major life changing events, still suffered from the anxiety of waiting and watching and the repeated stresses of preparing their homes, and themselves for impending disaster. Among these stressors was the state of limbo as schools and campuses, faced with major clean-up efforts and power outages closed and re-opened numerous times. These 'false-starts' to the academic year, in and of themselves, threatened the continuity of learning and became, instead, sources for teachable episodes. The local supermarket prepared hurricane tracking worksheets that quickly became part of the school curriculum as students learned about weather patterns and geography. Lessons about previous hurricanes were infused into science and history plans. Current events discussions focused on the virtually unfathomable concept that a violently swirling

mass of air, larger than the state of Texas, was making its way toward the Florida coastline.

#### *Impact of Natural Disasters on Elementary Learners*

A review of literature suggests that although a general definition of what constitutes trauma is somewhat illusive, natural disasters are among the numerous events known to have a significant probability of producing trauma in school-aged children (Falasca and Caulfield, 1999). Cook-Cottone (2004) states that the impact of traumatic stress is largely intrinsic to the individual child. Studies involving children who have experienced hurricanes indicated that there is a significant increase in psychological problems including post-traumatic stress disorder (PTSD) following the natural disaster (Delamater and Applegate, 1999; and La Greca, Silverman, Vernberg, and Prinstein, 1996).

Traumatic stress may render children academically at-risk, negatively affecting their ability to focus and engage in reflective analysis (Cook-Cottone, 2004). Furthermore, Lazarus, Jimerson, and Brock (2003) suggest that a unique factor of natural disaster is that it affects the entire community, exacerbating the impact of the child's sense of safety and well-being.

#### *Meeting The Emotional and Cognitive Needs of Students*

Falasca and Caulfield (1999) suggest that memories are an important factor in shaping a child's feelings of security and perseverance. The therapeutic cognitive restructuring requisite to integrating the events and returning to a state of normalcy and control must be facilitated in a non-threatening manner so as to minimize the re-living of the trauma. Play therapy and art therapy allow children to express themselves through a "rational-emotive/cognitive approach" (Falasca and Caulfield, 1999). Activities providing opportunities for children to discriminate through all of the sensory experiences are an important part of this cognitive functioning (Oaklander, 1988). Processing through an art form can help students understand and articulate what they have sensed and what they are feeling.

The arts, taught properly, encourage divergent response and individual, creative vision. Certain conditions must be established in the art room or classroom to facilitate the generation of this creative investigation. Rogers (1942) detailed conditions necessary for therapeutic change as including: (a) establishing of a supportive, non-judgmental atmosphere in which to define problems and work out solutions, (b) encouraging freedom of response, (c) neutral affirmation and reflection of feelings, (d) respect for the individual's ability and responsibility to solve problems (e) self-directed initiation of plan of action, (f) establishing expectations. As art is a vehicle for self-exploration and self-expression, it is not surprising that the parameters delineated by Rogers parallel conditions for creative, expressive development in the discipline-based art education curriculum.

### *The Arts at the Intersection of Disciplines*

Art investigations combining formalistic and qualitative components develop students' art skills while simultaneously contributing to the cognitive and emotional development of learners and are made more valuable when connected to feeling and meaning. (Simpson, et al., 1998; Wachowiak and Clements, 2001). One of the primary purposes for art is to provide students with the opportunity to develop in depth, meaningful self-expression through the organization of thinking abilities, the development of perceptual abilities and consideration of emotional capabilities (Lowenfeld and Brittan, 1987). Through art experiences, individuals learn to recall and process schema from past experiences and express their feelings in concrete representations. Art can be seen as an extension of pre-existing internal processes; a drawing as a visual sketch of thinking (Harth, 1999). Art combines intuitive and rational thought uniting emotions with cognition in the process of thinking, feeling and knowing (Simpson, et al., 1998).

Learning in the arts develops visual literacy, the ability to communicate ideas through symbol systems designed by the student artist. The processes intrinsic to the arts may provide a safe environment for processing some of the stress-management and cognitive restructuring necessary for reintegration into school following a natural disaster such as a hurricane.

### *The Role of the Arts in Emotional Processing*

Loock, Myburgh, and Poggenpoel (2003) suggest that the art making process involves projection of human expression led to initial relief from past trauma. In a study using art as a projective medium to address unresolved trauma experienced by students, researchers found that the art processes facilitated empowerment over the stress evoking events and aided in mental well-being. "This was because they had the opportunity to share their experiences in an empathetic environment – where they were allowed to give expression to their emotions in a concrete way consisting of symbolic meaning" (Loock, 1999, p. 100 as cited in Loock, et al.; 2003). In describing the Gestalt therapy model for working with children using art, Oaklander (1988) referenced the attention to sensory experience to help students strengthen awareness of what they are actually sensing in order to develop productive emotional and social functioning.

Life is a process of meaning making through expression. To share life experiences we must learn to communicate those expressions in ways that are meaningful to others. Through cognitive restructuring, cognitive distortions are systematically addressed; the child is helped to co-construct more useful attributes to the memories. (Cook-Cottone, 2004). Expressive therapy involving the arts can help children to visually and verbally articulate feelings regarding traumatic events.

## The Integrated Lesson

### *Processing experience in the process of art making*

Consistent with Oaklander's (1988) model and the current art education theory (Wachowack and Clements, 2001; Simpson et al, 1998), I began the hurricane art lesson by initiating a discussion about how the students were feeling, and how the clean-up efforts were going for them personally and in their various communities. Simpson et al. (1998) suggest that children are great collectors of materials and often find unique and specific meaning in the materials they use for their art projects. I wondered if my students had collected any items after the hurricanes. I asked them if they had taken the time to look at some of the interesting shapes and textures of the natural debris, leaves, limbs and pieces of bark that had been defoliated from the trees. I shared that I had noticed that many of the palm branches resembled faces.

I instructed the class that we were going to make masks from the debris that we would collect. The masks were to reflect our feelings about the hurricane. As a part of our lesson, the class would express their feelings and develop a skit. They would wear the masks while acting out the event, safe behind the shelter and anonymity of their artwork.

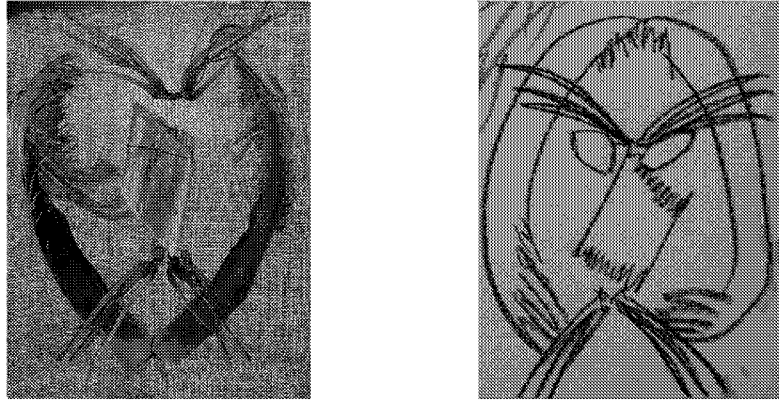
We left the classroom and walked around the injured landscape, salvaging materials for our creative endeavor. Students commented that it was helpful to get out in the fresh air and look at the material from another perspective. We returned to the classroom and looked at our materials. It is important to engage in the pre-meditative process of organizing materials before making art (Simpson et al., 1998). The students then sketched ideas for the masks they were to construct.



Preliminary Sketches for Masks. Student work used by permission.

When the sketches were completed, they shared their visual information and began a dialogue about which images would work best for the enactment of the hurricane drama. Through the critique of the sketches the students outlined the storyboard for their skit. Next began the work on the individual masks.

The process followed Harvard's Project Zero: The Knowledge Arts format of creating, communicating, organizing, and acting (Perkins, 2004). During the construction of the masks, I dialogued with the students about the choices they were making. One future teacher constructed the mask from an intact palm frond. After explaining the aesthetic considerations for her choice, she explained that she was taking the perspective of the tree trying to withstand the forces of the wind and rains, unprotected, exposed. The eyes of her mask were made out of palm seeds. They were protrusive and opaque. In the dramatization, she partnered with a student who had constructed her interpretation of the angry wind, blowing mercilessly.



Detail of Angry Wind Mask and Angry Wind Sketch.  
Student work used by permission.

*My mask is of the angry wind. The eyebrows are angled in with slanted eyes. There is a big aggressive nose to symbolize power or core strength. The mouth is in a disapproving stance. The hair comes in like claws...Nature was mad; I saw that.*

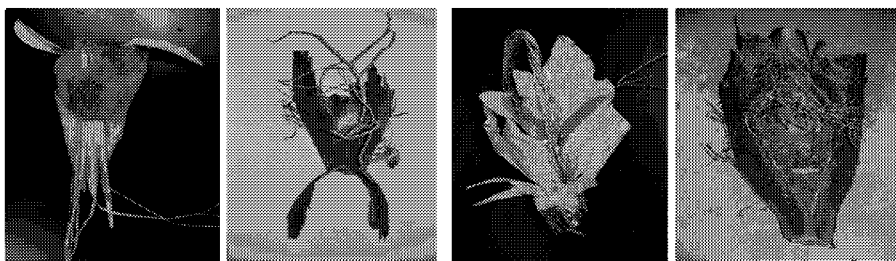
*Student quote used by permission.*



Student enactment of the angry winds of Hurricane Frances attacking the defenseless landscape.  
Photo used with permission.

Another student constructed her mask solely from royal palm bark. The minimalist piece articulated her idea that there is little one can do in the face of natural disaster. Unlike the tree, however, this piece did not communicate helplessness. The simply carved eye holes communicated the reflection of the student's inner strength, expressing a strong yet peaceful resignation.

Still another student chose to construct a mask with layer upon layer of materials. During the art making process, the student was directed to consider the aesthetic issues of complexity, variety and balance. How does the artist know when to stop? When is the piece finished? When does it cross the boundary between organized principles of design and chaos? But, of course, the piece is completed when the artist feels he/she has successfully expressed his/her ideas, when the thoughts are sufficiently communicated. This student was compelled to communicate the chaos of the experience. Layering of art elements paralleled the layering of protective elements that sheltered her from the storm. This mask had small opaque eyes; this student expressed her desire to protect herself from the sensory experience of the hurricane.



"Animals have a heart" "Strength and Resignation" "The Calm After the Storm" "Chaos"  
Student masks used with permission

*My mask represented the calm after the storm. When we think that all is destroyed and there is no hope, we see through nature's resilience, that we too as individuals can heal and grow again. Student quote used by permission.*

After the completion of the lesson, the students reflected upon other ways that the integration could be used in the elementary classroom. Among the suggestions were sand paintings that blow away with the wind and prints made from the bark of trees. Perhaps the most salient suggestion was the idea of sketching fieldtrips staggered throughout the rest of the school year. In these proposed exercises students could observe and depict the changing landscape, re-growth and the resilience of life.

#### *Implications for Pre-service Teacher Education: Teachable Moments or Preparing for Probabilities*

According to the American Psychiatric Association, symptom of PTSD can occur immediately following the event or, in many instances, will surface 3-6 months after the event (Cook-Cottone, 2004). In developing curriculum to address and process these traumatic events, teachers need to strategically plan to revisit the content to

assist in this on-going process. Of special significance to Florida educators, the sixth month marker coincided with the administering of the high stakes Florida Comprehensive Achievement Test (FCAT). This mandated state assessment is believed by many educators, school psychologists and parents to be a significant source of anxiety for students. Last year the anxiety may have been coupled with hurricane related PTSD for many Florida learners.

It is also important to consider that weather forecasters predict that the conditions that led to last year's hurricane season may be the norm in the decade to follow. While we act upon these teachable moments, revising science curriculum to accommodate hour by hour hurricane tracking and social studies lessons to include episodic lectures about hurricanes throughout Florida history, it is prudent to consider what we as educators can do to assist students in processing the emotional effects of these natural disasters. Vernberg, La Greca, Silverman, and Prinstein (1996) found that a significant predictor of PTSD symptoms in children correlated with access to supportive social relationships. Support from teachers and classmates offered unique effects that were of more significance than support from parents or close friends (Vernberg, et al., 1996). Models for PTSD recovery education indicate the importance of professional development on topics of reintegration and coping skills for teachers and other school personnel (Cook-Cottone, 2004). Research findings thus support the need for pre-planning of integrative lessons to teach academic discipline concepts while fostering expression and emotional processing in the supportive environment of the classroom. Arts education and collegial partnerships with guidance counselors, art teachers and classroom teachers offer unique opportunities for such integration.

Modeling of integrative processing strategies is particularly significant to pre-service teacher education. Reform efforts are oftentimes focused on professional development for in-service teachers as related to learning outcomes for current students. Rather than focusing on unlearning and relearning, colleges of teacher education would be wise to modify curriculum to address changing needs; for educators in South Florida, helping students to cope with hurricane induced anxiety may be one of those needs. By developing and modeling processing strategies through integrated arts teaching and learning, teacher educators can contribute to preparing future teachers who are capable of adapting curriculum to address the spontaneous occurrences that are likely to impact their students.

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