

such programs. In future studies, a more robust sample size of participation of teachers in professional development programs may provide statistically significant evidence of the impact of differentiated levels of reflective awareness or understanding of music-integrated literacy programs on student performance in both domains.

TEACHERS SURVEY/PERFORMANCE EVALUATION DATA COLLECTION AND ANALYSIS

For the purpose of analysis, composite variables representing regions of survey data results were created to organize the items into the following four broad categories:

- (1) *Music Ventures Classroom Management*
Familiarity and comfort with Music Ventures classroom management, materials, large group sessions, and small group centers activities.
- (2) *Diversity of Teaching Approaches, Processes, Standards*
Familiarity and comfort with diverse teaching approaches to interdisciplinary learning and their possible compatibility with literacy instruction integrated with music.
- (3) *Comfort with Music Skills*
Comfort with standards-based music learning fostered through the Music Ventures professional development program and its application to the classroom.
- (4) *Comfort with Arts & Music-Integrated Teaching*
Familiarity and comfort with all Music Ventures tasks designed to focus both on music learning and its connection with language learning in a sequential curriculum of lesson plans aligned with music and language arts standards.

Evidence That Teachers Have Increased Their Capacity to Integrate Music into the Language Arts Curriculum

The baseline and follow-up survey results reported here [Figure 7] were used to measure the effectiveness of the profes-

Overall Gains in Pre-Post Overall Gains in Pre-Post Teacher Survey Topic/ Musical Skill Ratings (Mean Score Differences within a Four-Point Scale Rubric)		Key Prob> Rho No Asterisk = > 0.05 * = <0.05 ** = < 0.01 *** = < 0.001 (n=13)	
Survey Self Evaluation/Music Skill Composite Variable Ratings	Pre-Post Mean Score Differences	Survey Self Evaluation/Music Skill Composite Variable Ratings	Pre-Post Mean Score Differences
<i>Familiarity/Comfort with Music Ventures Classroom Management</i>		<i>Familiarity/Comfort with Arts & Music-Integrated Teaching</i>	
Know Music Ventures Classroom Management	0.5606*	Teach Discrete Music Skills	0.8737***
<i>Familiarity/Comfort with Alternative Teaching Approaches, Processes, Standards</i>		Know Approaches & Standards for Arts & Arts Integrated Learning	1.2121***
Know/Use Alternative Teaching Approaches	1.0893***	Know/Use Arts & Music Integrated Learning	0.5903**
Know/Teach Structured Inquiry	1.0000**	Know/Teach Rhythm & Integration Skills	0.8176**
Know/Foster Creativity	0.9091**	Know/Teach Pitch & Integration Skills	0.7014**
<i>Familiarity/Comfort with Music Skills</i>		Know/Teach Melody & Integration Skills	0.7755***
Prior Music Background	NA	Know/Teach Timbre & Integration Skills	1.1061***
Music Ventures Music Education Training	0.5909***	Know/Teach Dynamics & Integration Skills	0.7757**
Know Discrete Music Skills	0.8333***	Know/Teach Auditory Discrimination & Integration Skills	0.7058*
		Know/Teach All Music Ventures Integration Connections	0.8626***

Figure 7: Display of overall gains in teacher survey attitude/musical skill ratings within the two years of the Music Ventures professional development program. The survey results suggest that teachers acquired new skills and comfort with the program content and processes in the context of their ongoing professional development training and its application to their classrooms practices.

sional development program as indicated by both an increase in level of skill comfort and knowledge and, at the same time, a decrease in the 'gap of understanding' among the teachers as a whole.

Evidence of professional development outcomes obtained from the comparison between the baseline and the follow-up survey results suggests that teachers drew on both their emergent musical literacy skill development obtained in the Music Ventures program and their expanding knowledge of language literacy teaching methods to understand and support the integration of these subject areas in their classroom practice. Of particular interest

are the relatively strong gains in the survey results in teacher knowledge of diverse teaching methods¹³ featured in the Music Ventures program and their relationship to arts learning standards. This finding confirms that the teachers expanded their expertise in their field of alternative teaching methods as they made the connection of literacy to the arts and music.

What is particularly germane to the validity of this music integration program is that these teachers also significantly improved their knowledge of discrete musical skills and their confidence in using these skills to complement literacy instruction. Crucial to determining the

OVERALL, THESE FINDINGS SUGGEST THAT AS TEACHERS GAIN FLUENCY WITH DEMONSTRABLE MUSICAL SKILLS, THEY TAKE A PROPORTIONATELY MORE POSITIVE AND PRODUCTIVE VIEW OF MUSIC INTEGRATION.

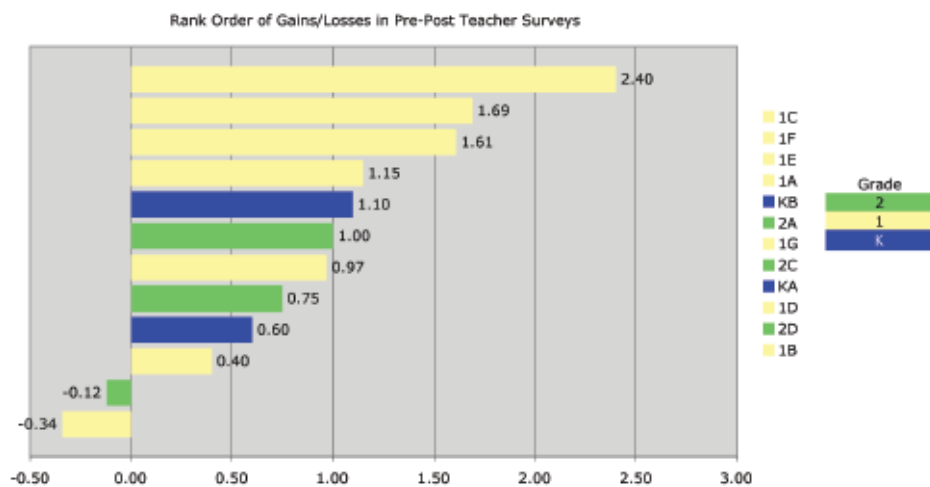


Figure 8: Rank ordering of teacher professional development outcomes according to changes in the average pre-post survey attitude responses and skill ratings. In this measure, it is clear that the first grade teachers, despite their initial doubts reflected in the interview ratings (Figures 5 and 6), demonstrated the highest change toward positive attitudes about their professional development and personal skill development.

effectiveness of the professional development program, survey results indicate that Beaumont teachers felt increasingly confident of their ability to make the Music Ventures connections to their literacy instruction, although relatively less confident about managing the activities in their classrooms.

The baseline/follow-up (pre-post) survey data gains displayed above provide statistically significant evidence (*despite* the small sample size) that the Music Ventures program has changed teacher capacity and attitudes in a relatively short amount of time. Music Ventures teachers are now more confident in their abilities to teach music and to reinforce language literacy learning through music. If we later discover a significant positive relationship between music and language literacy student learning outcomes, it now can be linked in part to a teacher preparation and implementation program designed to improve teachers' music skills and to provide music integration 'teaching for transfer' strategies throughout the course of the Music Ventures professional development program.

Evidence That Teachers Have Different Levels of Comfort with Music-Integrated Literacy Teaching and Learning in their Classrooms

The chart presented in Figure 8 displays highly differentiated pre-post gains in survey ratings and ratings provided by the professional development workshop leader, indicating individual differences in response to the Music Ventures program in terms of understanding and comfort in implementing the program. Survey responses are rank ordered by the 'degree of change' in teacher attitudes expressed as gain/loss values.

Results displayed here suggest that the function or relevance of the Music Ventures program shifts according to grade level. Although the majority of teachers demonstrate significant gains in survey ratings, the first grade teachers appear to have transformed their practices the most based on the professional development program and teaching experiences throughout the final year of the project. If this differential effect is replicated elsewhere, then it may turn out that, for example, the program is best designed for building the capacity of first grade teachers to 'teach for transfer' while reinforcing literacy skills through music skill development. Kindergarten teachers may be less inclined to see the effect of the connection of music literacy skills to students just beginning formal instruction in language literacy.

Second grade teachers may perceive the Music Ventures program more in terms of broadening their students' understanding of literacy or using music-integrated literacy as an intervention for the population of children at risk for failure. Note as well that the improvement in ratings did not occur only with a small minority of teachers, another phenomenon worth investigating further in future studies.

Patterns of Correlation as Evidence for Growing Understanding and Comfort with Music Integrated Learning

From the viewpoint of the teachers, six patterns of correlation among teacher survey topics and skill ratings provided information critical to understanding the growing coherency of the program's effectiveness over two years. Patterns of correlation among interview ratings revealed the following:

- (1) A deep connection exists between teachers' positive professional development experiences and their ability to articulate their understanding of the connections between, and the classroom management of, music and language literacy learning.
- (2) Comfort and familiarity with discrete