10. Conclusions

As stated in the introduction, the central question was: What is the impact on student work when arts specialists bring high quality "arts plus arts integration" portfolios into their classroom learning culture? This report conducted its investigation into the results of the PDP project by looking carefully into the training of music and visual arts specialists who were mentored by CAPE teaching artists who guided the construction of each classroom portfolio system throughout the three years of the project.

Teacher responsiveness to the PDP professional development program was evaluated through the analysis of self-assessment surveys and by confidence and exit survey ratings that measured teacher levels of comfort with arts integration and the portfolio systems in their classrooms. The quantity of student portfolio work artifacts demonstrated teacher effectiveness in administering the PDP program, and the teacher level of reflective understanding of the PDP program and their ability to interpret student performance portfolio conference work provided the basis for assessment of student arts and arts integration learning.

The complexity of factors involved in this arts integration intervention did not deter the CMAIE researchers from using research methods that can detect strong associations among the program elements and learning factors that would substantively indicate the success of the program model. Once it became clear that the PDP treatment schools outperformed the control schools on standardized academic tests and arts/arts integration performance assessment interviews by the final year of the project, the researchers pressed for the determination of significant positive correlation of each factor in the chain of evidence that might provide evidence of the positive causal links between each aspect of the program with each "link" predicting results into the next as represented by Table 1, Table 21, and Figure 13 of this report.

If several factors in a sequential chain of program events can be understood as highly associated causal links, teacher variables can be structured and statistically tested as part of a single regression equation. This stepwise procedure allowed researchers to determine the relative "degree and pattern of association" among these variables in relation to academic test scores. Furthermore, stepwise regression factor analysis allows researchers to "tease out" the strongest predictive factors in the chain of evidence framework for the positive impact of arts integration practices on both teacher and student learning as represented by Table 21.

This report presented statistically significant evidence that, over the three years of project implementation, teacher PD outcome substantially influenced student arts, arts integration, and academic learning outcomes. While the measure of academic improvement was incremental from year to year, the overall positive pattern of academic improvement indicated persuasively that PDP had an increasingly strong impact on student learning in both the arts and academic subjects. Several factors influenced student learning, but stepwise regression techniques revealed that PDP teacher participation in, and self assessment of, their professional development experiences predicted student ISAT scores when comparing baseline to final year results. Furthermore, by the final year of the project, it was the quality of arts plus arts integration student portfolio work along with

teacher positive attitudes about PDP practices that are more deeply linked with academic achievement in the final year of the project in comparison than any other student learning or demographic factor other than family income in the treatment schools.

The comprehensiveness of this study was limited by not having larger number of teachers, such that comparisons between music and visual arts applications of PDP practices were not conclusive. In addition, the loss of longitudinal data from the PAI and PC assessment tools in the early years of the project prevented the researchers from tracing the pattern of influence of PDP on arts learning prior to the culminating year of PDP.

Nonetheless, CMAIE comprehensive data analysis processes indicate persuasively that high quality arts/arts integration portfolio systems—bolstered by ongoing professional development events, mentoring from experienced teaching artists, self report of confidence in PDP processes, and the developing ability to teach, document and assess student work from the perspective of arts integration with other subjects—enhances both arts and academic learning throughout the later years of elementary school education.