Largely qualitative data were examined in the second year of a 5-year longitudinal study of the effectiveness of career and technical education (CTE)-based reforms in helping disadvantaged youth in grades 7, 9, and 11 succeed in school. Students were enrolled at three school sites with these differing program foci: (1) career pathways; (2) vocational-technical high school with shops; and (3) career academies. Preliminary findings and conclusions were as follows: (1) curriculum integration appeared easier to achieve when teaching was interdisciplinary in nature; (2) whole-school reform was closely associated with faculty professional development; (3) computer technology was commonly used in all the schools studied; (4) middle school reform focused on strong academic foundations and connection to feeder high schools; (5) strong leadership appeared crucial to affecting change; and (6) high schools organized by career pathways enable gender and racial equity more readily than schools divided into shops or academies. Issues of focus outlined for the next phase of the study were as follows: (1) quantitative analysis of student outcome data; (2) sustainability of ongoing reforms; (3) effect of transitions in leadership on reform continuity; (4) students' transitions to new schools; and (5) effectiveness of whole-school reforms in
these: (1) increased articulation agreements supporting student transition from high school to college; (2) increased funding for curriculum innovation to meet diverse student needs; (3) involvement of 4-year colleges and universities in Tech Prep curriculum reform; (4) avoidance of student tracking; (5) strengthened community college role in Tech Prep; and (6) enhanced program evaluation and outcomes assessment approaches. (AJ)
Helping Disadvantaged Youth Succeed in School: Effects of CTE-Based Whole School Reforms

In Essence: Key Findings from the National Research Center for Career and Technical Education

No. 3
The effectiveness of career and technical education (CTE)-based reforms in helping disadvantaged youth succeed in school was examined by analyzing largely qualitative data from the second year of a 5-year longitudinal study of cohorts of students in grades 7, 9, and 11 at three sites whose programs are structured as follows:

- Students organize their elective classes and senior projects around one of five career pathways.
- Students at a vocational-technical high school with more than a dozen programs (called shops) spend half their time in their chosen vocational concentration and half in academic courses.
- Students attend one of three career academies that include academy-specific English and social studies classes; math, science, and elective courses are open to students from any academy.

The longitudinal study is following the cohorts as they proceed through middle school, high school, and community college. One site also includes a regional vocational center.

Preliminary Findings and Provisional Cross-Case Conclusions

- Whole-school reforms and curriculum integration. Integration appears easier to achieve in schools that have reorganized into academies or some other structure defined by interdisciplinary teaching.
- Professional development. The following appear to be important to successful whole-school reform: faculty participation in multiple professional development activities, faculty teams or committees that monitor faculty members' professional development needs, faculty choice of professional development activities, and teacher collaboration across schools and across disciplines.
- Computer technology. All the study high schools are integrating computers into students' and teachers' lives by using to (1) assess students and meet reporting requirements; (2) teach students about computers and computer systems; (3) deliver regular and remedial instruction; (4) make teachers' work more efficient; and (5) help teach students how computers are used in the workplace.
- Middle school reform. Although CTE is not a driving force at the middle school level, all three study middle schools are involved in some reform effort aimed at providing students with a strong academic foundation and all maintain strong connections to their respective high schools (e.g., through common professional development, co-location on a shared campus, and/or regular contact between the two administrations and counseling services).
- The importance of leadership. Strong leadership appears crucial to effecting change. Although strong principals and other leaders could not have forced change, they proved critical in setting the agenda and tone for change.
- Student identification of program. Achieving gender and racial equity appears easier for the high school organized by career pathways than for the high schools divided into shops or academies because career pathways do not determine student scheduling to the same degree that shops and academies do.

Selected Issues of Focus in Next Phase of the Study

- Quantitative analysis of student outcome data—achievement, coursetaking, next steps after high school, and other measures of success (credentials, Tech Prep credits, etc.)
- The sustainability of ongoing reforms, especially in "high-stakes" testing contexts
- The effect of transitions in leadership on the continuity of reform
- Students' transitions to their new schools
- Effectiveness of whole-school reforms in narrowing the gap between disadvantaged and advantaged students

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