What Do Programs of Study Look Like? Mandated and Supporting Components of CTE POS Observed in a Mixed-Method Longitudinal Study

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The Study: Design and Methods

• *Longitudinal*: following 2008-2009 ninth-graders through high school (and beyond if funded)

• *Experimental*: uses district-run lottery results
  – Also includes quasi-experimental strand with well-matched comparison group

• *Mixed-method*: achievement outcomes are analyzed in the context of our field research at treatment and control/comparison sites

• *Now in its fourth and final funded year*
Participating Study Districts and Schools

**West District** – Three POS high schools:
- **Navy**: new specially designed facility with PBL focus (e.g., pre-engineering, hospitality, culinary)
- **Sky**: former career center with upgraded academics (e.g., construction, graphic design, automotive)
- **Azure**: wall-to-wall tech-focused academies (e.g., computer science, legal studies)

**East District** – One POS high school:
- **Blue**: wall-to-wall tech-focused academies (e.g., health sciences, pre-engineering, IT)
Mandated Components of POS in Perkins IV

• Incorporates secondary education and postsecondary education elements
• Includes coherent and rigorous content aligned with challenging academic standards and relevant career and technical content in a coordinated, non-duplicative progression of courses that align secondary to postsecondary education
• Leads to an industry-recognized credential or certificate at the postsecondary level or an associate or baccalaureate degree
• May include opportunity for secondary education students to gain postsecondary education credits through dual or concurrent enrollment programs or other means
Secondary-Postsecondary Elements

• Formal and informal relationships at secondary, postsecondary, and industry levels

• Relationships institutionalized as joint technical skills committees (JTSCs) in West District; formal steering committees in East

• Tech prep also supports secondary-postsecondary alignment
Academic/CTE Content in a Non-Duplicative Progression of Courses

• POS progress in sequences from broad to more intensive courses
• Students required to complete POS sequences
• AP and related courses encouraged
• Sequences start in different grades across schools
• Budget, enrollment numbers leading to fewer capstone/senior-level courses at Blue

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Opportunity to Acquire Postsecondary Credits

**West:** College credit available if students pass with A or a B
- Students apply junior/senior year to receive credit
- Immediately transcripted, transferable to state Uni system

**East:** Get B or better, pass exam at 80% or better
- Noted on HS transcript; must be presented to college
- Must attend CC within 2 years
- State budget crisis impact on opportunities
- Rise of online courses as alternative
Industry-Recognized Postsecondary Credential, Certificate; AA or BA

- All POS lead to either industry-recognized postsecondary credential or AA or BA programs
- Many industry certifications earnable in HS
- Time, personnel, and funding cited as problematic
- Students bear many costs
- Districts no longer cover exams
10 Supporting Elements of POS*

- Legislation and Policies
- Partnerships
- Professional Development
- Accountability and Evaluation Systems
- College and Career Readiness Standards
- Course Sequences
- Credit Transfer Agreements
- Guidance Counseling & Academic Advisement
- Teaching and Learning Strategies
- Technical Skill Assessments

Legislation and Policies

West District leads its state in developing POS
• Magnet-style CTE HS as basis for POS
• Tech prep “taken to the next level”
• JTSCs institutionalize partnerships between secondary, postsec, and business and industry

East District implements state-mandated POS
• Industry guides CTE curricula in secondary, postsec
• Mandated articulation between sec, postsec courses
Partnerships

**West:** Integral to POS development, implementation
• Function best when personal relationships become actively maintained institutionalized partnerships
• Some schools fund school-community partnership liaisons

**East:**
• Academy teachers with industry backgrounds promote partnerships
• CC reported scheduling conflicts between HS and CC
• Limited return on investment: HS students receiving CC credits attended universities on scholarships
Professional Development

West:

• Statewide POS training workshop
• Support for teachers from business and industry
• Support for guidance counselors
• Training specific to needs of POS schools

East:

• School-specific PD
• Workshops to improve students’ technical literacy
• Trainings on state’s career clusters focus
Accountability and Evaluation Systems

- Both **West** and **East** use data to improve programs
- Interim assessments provide immediate feedback
- East’s state uses online comprehensive assessment system
- Increasing use of teacher-led online assessment systems (e.g., Quia)
College and Career Readiness Standards

All POS schools preparing students to graduate ready for postsecondary without the need for remediation

West:
- High-level academics and enriched CTE
- POS, PBL help students synthesize academic and technical content knowledge/skills and solve real-world problems
- All HS moving toward POS model

East:
- New graduation reqs mandate college prep for all students
- Extra resources to help students meet expectations
Course Sequences

All POS schools offer sequences progressing from broad-based intro courses through more advanced courses to senior-level capstones or culminating experiences

**West:** Most POS start in 10\(^{th}\) grade
- Students expected to carry college credits into aligned programs at local CC or university

**East:** POS start in 9\(^{th}\) grade
- POS courses approved by state
- Locals encouraged to develop new courses, seek approval
Credit Transfer Agreements

West:
• Articulation agreements established by district for courses eligible for tech prep credit

East:
• State articulation agreement between CCs, HS
• Local articulations also possible
Guidance Counseling and Academic Advisement

Guidance counselors do academic, not career-related planning; career advising happens at program level

West: POS/CTE faculty do informal and formal advising about postsecondary, careers, professional standards

East: Mandated career guidance component in all CTE curricula
• Many POS teachers from industry
• Career coordinators handle career exploration, internships, TSA system, dual enrollment, and often online courses
• Post-recession, most HS share career coordinators
Teaching and Learning Strategies

**West:**
- Curriculum integration desirable but difficult to implement due to staffing, scheduling issues
- Strategies: technology integration, PBL, school-based enterprises, out-of-school WBL/internships

**East:** Mandated integration of academics and CTE
- Curriculum integration techniques (i.e., team teaching, joint lesson development) not mandated, difficult to implement

**Both:** CTSOs are popular in both districts
Technical Skills Assessments

West:

• Working to develop a TSA system
• State plans to use third-party assessments; budget issues have delayed pilot

East:

• CTE programs required to assess technical skills using state-developed curriculum-based assessments
• CTE teachers required to embed academic skills and assess hands-on skills
Conclusions and Next Steps

• POS “upgrade,” amplify CTE compared to control/comparison sites
• Rigorous, engaging academic and technical instruction
• Career exploration, real-world experiences, college credits, community and business connections

Next Steps:
• Continue analysis of 11\textsuperscript{th}-grade data
• Complete site visits; collect and analyze 12\textsuperscript{th}-grade data
• Final report writing - Summer 2012
• Secure funding for post-graduation cohort follow-up (e.g., postsecondary education, careers, military)
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