ISSUES&ANSWERS REL 2011–No. 101

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Regional Educational Laboratory
At SERVE Center UNC, Greensboro

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Prepared by

Amy Detgen
Academy for Educational Development

and

Corinne Alfeld
Academy for Educational Development

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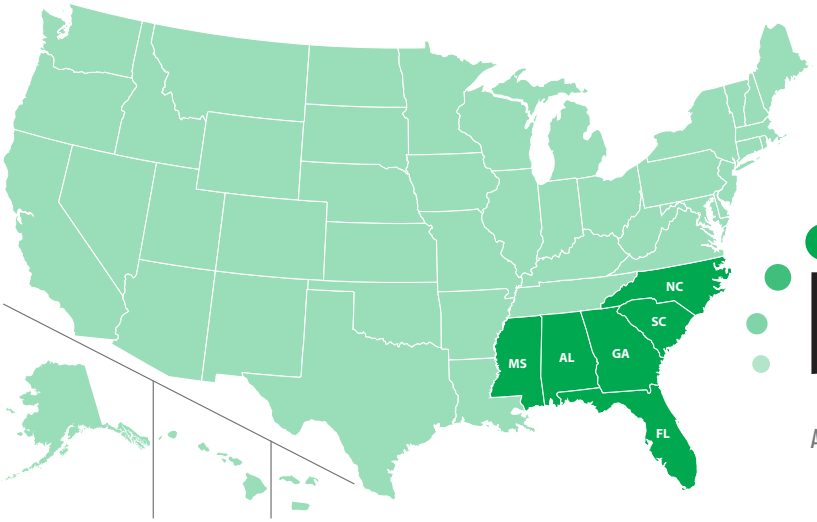
Institute of Education Sciences



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Summary

REL 2011–No. 101

Replication of a career academy model: the Georgia Central Educational Center and four replication sites

The study surveyed four career academies in Georgia that replicated the model of the Georgia Central Educational Center, which integrates technical instruction and academics at the high school level. The four replication sites adhered to the major tenets of the model. The model's flexibility helped the new sites meet community needs.

Integrating career and technical instruction at the high school level has gained prominence in recent years, with career academies springing up around the country. Policymakers, educators, and researchers have grown more interested in career academy models as they search for strategies to raise student performance, academic expectations, and graduation rates (Kemple and Willner 2008). An increasingly popular approach to high school reform, career academies strive to create more effective paths between high school and postsecondary education and the workplace.

First appearing some 35 years ago, career academies have been implemented in an estimated 2,500 high schools across the country (MDRC 2010). Partnerships with local employers are a distinctive part of the schools' planning and implementation. A major feature of career academies has often been the involvement of community partners, or stakeholders, seen as key to developing programs and curricula that train students for local career and employment opportunities. The most successful career academies have involved stakeholders from the beginning of program development.

The Georgia Central Educational Center (CEC), opened in 2000, is a charter career academy developed through a partnership of local employers, high schools, and a technical college in Coweta County, Georgia. Since 2004, Georgia has provided funding to other communities to replicate the CEC model. While some studies describe the CEC model, this study examines how selected elements have been replicated in four charter schools in Georgia. The aim was not to examine the effectiveness of the model but to see how three selected elements have been replicated and to compare the five schools. The three focus areas are:

- *CEC is needs-driven.* CEC develops courses and curricula based on community and employer needs.

- *CEC is a joint venture.* To encourage community support, CEC invites major stakeholders from secondary and postsecondary education and local businesses to serve on its steering committee or board.

- *CEC is seamless.* CEC integrates academics with career and technical education (horizontal seamlessness) and secondary with postsecondary education (vertical seamlessness), emphasizing dual enrollment opportunities that lead to postsecondary credentials.

Information on each replication site was collected through web searches for background information and interviews with a leader from each site. Site leaders reported that the three focus areas characterized each site. Site leaders also emphasized the importance of the CEC model's flexibility for enabling career academies to tailor their programs to community needs.

Site leaders reported the following common features:

- Operation as a shared-time facility—that is, students attend the school for part of the day, before or after attending their local high school.
- Curriculum development based on a needs assessment of area businesses. Health care was identified as an employment need in all five sites.
- Advisory committees composed of local business members that assist in initial curriculum development and regularly review the relevance of programs.
- Key partnerships with the business community, local technical colleges, and other community stakeholders.
- Support from business and postsecondary partners in funding, equipment, space, and curriculum input.
- Emphasis on the link between academic and technical skills.
- Academic classes, but fewer than in home high schools.
- Opportunities to earn course credits at technical colleges through dual enrollment. Four site leaders indicated that sharing physical space or colocating with a technical college was critical in facilitating vertical seamlessness.
- More challenges with horizontal seamlessness than with vertical seamlessness.

Site leaders reported the following variations:

- The program areas reflect differences in labor force needs in the community. (An exception was health care, a common employment need.)
- The composition of partnerships varied. In addition to local businesses and technical colleges, some sites partnered with local nonprofit organizations, government agencies, and other postsecondary institutions.
- The sites took various approaches to maintaining partnerships—from joining community organizations to sponsoring events.
- Two sites provided formal onsite planning time for career academy academic and technical teachers to work together.
- Two sites created opportunities for faculty to interact with students' home high school faculty, to align course content and end-of-course testing requirements.

The Georgia Department of Education Charter School Division, in discussion with Regional Educational Laboratory Southeast, suggested that a study of the CEC replication sites would help educators understand how CEC features are implemented and help the Georgia Department of Education better understand and anticipate inevitable variations in CEC replication.

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WHY THIS STUDY?

This report describes aspects of a charter career academy model first developed and implemented as the Coweta County, Georgia, Central Educational Center (CEC) in 2000. Features of the model were replicated by new career academies across Georgia, with support from the Georgia Department of Education. Policymakers, educators, and researchers across the country have grown more interested in career academy models such as the CEC, as they search for strategies to raise student performance, academic expectations, and graduation rates (Kemple and Willner 2008). Gathering information on the CEC, and on the sites where its model has been replicated, is important as states and school districts across the country consider adopting some of its strategies as a way to engage students and improve school performance.

A popular approach to high school reform, career academies have been implemented in an estimated 2,500 high schools across the country (MDRC 2010). Career academies emerged some 35 years ago as a way to align curriculum content and learning experiences more closely with potential careers. The schools reflect the goal of creating more effective paths between high school and postsecondary education and the workplace (Kemple and Willner 2008). Partnerships with local employers are a distinctive feature of the schools' planning and implementation (Stern, Dayton, and Raby 2000).

Through mandates, funding opportunities, and other methods, states have supported career academies as a high school improvement strategy. For example, Florida state legislation requires each school district to operate at least one career academy (Florida Office of Program Policy Analysis and Government Accountability 2008). In Georgia, the state offers grants to sites wishing to replicate charter school career academy models. For example, in a January 2010 presentation before the Georgia State Board of Education, the state superintendent noted the recent increase in the number of Georgia charter schools that are

The CEC model differs from many career academies in that it functions as a regional career technical education center, operating as a one-hub campus and offering technical courses to students from multiple area high schools

career academies (Cox 2010). And the lieutenant governor's office featured career academies prominently in its March 2010 "Innovation in Education Conference."

Although the Georgia Department of Education describes the CEC as a career academy, the CEC model differs from many career academies in that it functions as a regional career technical education center, operating as a one-hub campus and offering technical courses to students from multiple area high schools. The CEC focuses on career and technical instruction and partnerships with local businesses, but it is not a school within a school, nor is it structured around cohorts of students who move together from grade to grade. Instead, students from local high schools attend the CEC part-time for career-technical instruction and some academic instruction but spend the rest of the school day at their home school sites.

The CEC and the replication sites studied in this report are charter schools. School districts in Georgia and other states are following the CEC model, structured as both a regional center and a charter school, in developing their own career academies. CEC career academies are now operating or in development in nearly 20 Georgia counties (Abdul-Alim 2009).

Although researchers have evaluated the effects of school within a school career academies (American Institutes for Research and SRI International 2006; Bragg et al. 2002; Datnow et al. 2003; Dynarski et al. 1998; Karp et al. 2007; Kemple and Willner 2008; Warford, Beauman, and Kindell 2008), there is little research on the regional career technical education center approach. There is also little research on career academy replication. Studies of education reforms have found substantial variation in replications of particular reforms (Bodilly et al. 1998; Elmore 1996). Since the CEC opened, several articles have outlined its philosophy, origins, and guidelines for replicating the model (Chow 2006; Lakes 2003; MacAllum and Johnson 2002; Yoder and James 2006). However, these articles focus on the original CEC site. This study adds to the understanding of career academies by providing information on the approaches to replicating a specific career academy model in Georgia.

For educators in other states, this study will contribute to an understanding of selected features of the CEC and four replication sites, focusing on three key areas: needs assessment, joint venture, and seamlessness. Specifically, this report answers the following three-part research question:

- How do the CEC and the four replication sites compare with one another in:
    - Processes for identifying community needs and addressing them through curricula and course offerings?
    - Development and cultivation of key partnerships with stakeholders?
    - Approaches to developing and implementing horizontal and vertical seamlessness?

WHAT IS THE GEORGIA CENTRAL EDUCATIONAL CENTER?

Conceptually, the CEC is based on a model described by Harless (1998) in *The Eden Conspiracy,* which outlines an education reform approach called "accomplishment-based curriculum." Harless's model stresses high expectations, advanced technical training combined with more rigorous academic instruction than typical vocational education, daily hands-on projects, flexibility for students to determine their post–high school paths, seamless integration of secondary and postsecondary instruction, and opportunities for work-based learning outside the classroom in local businesses.

A partnership of local employers, high schools, and a technical college in Coweta County, the CEC opened in 2000 as a charter school. The charter is critical to the model because it allows flexible design, structure, and operation outside state and local education regulations (CEC's CEO, Mark Whitlock, personal communication, May 29, 2009). In partnership with the school district, employers, technical colleges, economic developers, county planners, and the community at large, CEC aims to benefit stakeholders by providing technical career and postsecondary training for opportunities in the local labor market. Specifically, CEC claims to offer "state-of-the-art technical and occupational courses to high school students with the opportunity for [receiving] . . . college credit while still in high school" (Yoder and James 2006, p. 1).

CEC was quickly recognized as a potential model for other charter career academies in Georgia. The Georgia Department of Education awarded the school a Charter School Dissemination Grant in 2004 to fund three school districts' (Whitfield, Walton, and Douglas) replication of the model. In 2007, the state launched a $16 million initiative ($1 million in grant funding and $15 million in bond funding) offering grants through the Technical College System of Georgia to develop high school career academies. That year, seven grants were awarded to new or existing schools, and another six were awarded in 2008 (http://www.georgiacareeracademies.org/announcements.php). The funded career academies were required to have approved charters, and 5 of the 13 chose to replicate the CEC model.[1]

To guide replication at new sites, CEC set up a replication team and developed a replication manual (Yoder and James 2006) that defined the model as a process of systematically and continuously analyzing community needs, designing solutions, and evaluating goals. Thus, the purpose of this study is to describe variations in the CEC charter career academy model as adapted to meet the needs of five communities rather than to describe fidelity to the CEC model across sites.

The process defined in the CEC replication manual incorporates nine core CEC elements (Yoder and James 2006):

- CEC is a system.
- CEC is needs-driven.
- CEC is a joint venture.
- CEC is seamless.
- CEC is experiential.
- CEC has high expectations.
- CEC is flexible.
- CEC requires and fosters leadership.
- CEC is results-driven.

Three of these nine elements were selected for study. In selecting these elements, researchers considered the input of the CEC replication team, which has extensive experience in replicating the model. The study describes variations across five sites (the CEC in Coweta County and four state-funded replication sites) in the following three elements of the CEC model:

- *CEC is needs-driven.* CEC develops courses and curricula based on community and employer needs.
- *CEC is a joint venture.* To encourage community support, CEC invites major stakeholders from secondary and postsecondary education and local businesses to serve on its steering committee or board.

To guide replication at new sites, CEC set up a replication team and developed a replication manual that defined the model as a process of systematically and continuously analyzing community needs, designing solutions, and evaluating goals

- *CEC is seamless.* CEC integrates academics with career and technical education (horizontal seamlessness) and secondary with postsecondary education (vertical seamlessness), emphasizing dual enrollment opportunities that lead to postsecondary credentials.

Five of the six sites operating at the time of the study agreed to participate. (Appendix A explains in more detail how the sites were selected.)

Box 1 defines some key terms for the study and provides background information on career academies, career academy model types, and charter schools; box 2 addresses the study methodology, described in greater detail in appendix A.

STUDY FINDINGS

The CEC model has been replicated in communities in rural and suburban Georgia, each with unique employment needs. The findings of this study indicate that each site adhered to the major tenets of the CEC model: conducting a needs assessment, developing partnerships with local

BOX 1

Background information

All five sites in the study are career academies that follow the model of the Georgia Central Educational Center (CEC), a regional career technical education center operating as a one-hub campus for students from multiple high schools. All are charter schools.

Career academy. The Georgia Department of Technical and Adult Education's Georgia Career Academies website suggests that all career academy grant recipients:

- Prepare students for college and career.
- Provide supportive atmospheres through small learning community environments.
- Sequence curricula and integrate academics and career-based learning.
- Give students the opportunity to earn high school and college credits through dual enrollment courses.
- Link high school to business, civic community, and higher education.
- Measure and show impact on student performance and achievement.
- Reflect the local economy in their career themes.

Three career academy models in Georgia. The Georgia Career Academies Project specifies three types of career academy models: comprehensive career academies, which students attend all day and where they take both academic and career or technical courses; career academy centers (such as the CEC model), where students take primarily career or technical courses and return to their home high school for academics; and "school within a school" career academies, which have a well defined structure within a larger comprehensive high school. All sites in this study follow the career academy center model. Students attend home high schools and come to the career academy centers part-time for career-technical instruction and for some academic instruction.

Charter school. According to the Georgia Charter School Association (2009), charter schools are public schools of choice operated according to the provisions of a charter, a contract that gives the petitioner the authority and the public funding necessary to operate the school and states how it will be run. A school that applies for Georgia State Board of Education career academy funding must comply with all charter school regulations (Georgia Department of Education 2008). Although the CEC replication manual (Yoder and James 2006) does not require CEC sites to be charter schools, all the replication sites in this study are public startup charter schools, so each collaborated with its local education agency to apply for the charter. One site not in the study, Tech High, is a startup charter school independent of its local education agency. The charter school format makes the schools eligible for state funding and allows them flexibility in design and structure.

BOX 2

Methodology

Study sample and data sources. This study focuses on CEC and the four operating replication sites that agreed to participate. (The response rate for the study is 83 percent; five of the six currently operating sites participated.)

Data was collected through Internet searches and key informant interviews with a leader from each site. Information from websites provided background information on each site's context and was used primarily in the site profiles (appendix C). Key informant interviews provided insights from site leaders on the study's three focus areas.

Information on CEC and the replication sites was collected through web searches of the Georgia Department of Education, the original CEC site, and the replication sites. The information was transferred to an Excel worksheet and the data were organized by research question. Researchers collected some additional items that provided context for the sites, such as grades served, number of students enrolled, opening date, and career academy history. Researchers used this information to create profiles for each site (see appendix C).

A list of site leaders, one at each replication site, was obtained from the CEO of the CEC. Each site leader had been working at the site since before it opened. The researchers jointly interviewed each site leader by phone, with one taking the lead and the other asking follow-up questions for clarification. In one case, researchers spoke to an additional key informant for information about the academy's history and needs assessment. Key informants were contacted again for clarification when necessary.

Data analysis. The interview transcripts were organized into the three focus areas: needs assessment, joint ventures, and seamlessness. Researchers then independently reviewed the transcripts and labeled text segments that corresponded to the interview question topics. The analysis consisted of describing the responses of the five site leaders to each interview question in each focus area. For open-ended and general questions (regarding replication considerations, for example), researchers reported all responses. The order of the interview questions determined the organization of the findings section of this report.

Protection of confidentiality. Key informant names and position titles are not included in the report, except for the CEO of the original CEC, Mark Whitlock, from whom permission was obtained. Key informants were not guaranteed confidentiality, however. Researchers sent each CEO or principal the sections of the report that mention their site so that they could verify the accuracy of the information or identify any concerns about sensitive information.

businesses and at least one technical college, and working toward seamlessness (for example, offering dual enrollment opportunities for students). Within the CEC framework, site leaders said that the flexibility of the model was critical in adapting it to their local community.

The replication process

A variety of reasons led to the decision to replicate the CEC model, according to leaders of the four replication sites (Floyd Country Schools College and Career Academy, Golden Isles Career Academy, Rockdale Career Academy, and Walton Career Academy). Site leaders at Floyd and Rockdale stressed the flexibility and adaptability of the model; site leaders at Golden Isles and Walton were strongly influenced by the vision of one or more members of a small group.

Each site submitted a charter application to the state, which required community partnerships for economic and political support. The time from the initial idea to the opening of the CEC sites took two years or less at Floyd and Walton, three years at CEC and Rockdale, and almost five years at Golden Isles.

Golden Isles and Walton share the same mission statement as CEC: "to ensure a viable workforce for the twenty-first century, based on targeted needs within our community" (table 1). The Floyd and

TABLE 1
Reasons for adopting the Central Educational Center model, timeframe to open, and mission statements

Site	Why the Central Educational Center model?	Date opened	Timeframe from outset to opening doors	Mission
Central Educational Center	• Original site	August 10, 2000	3 years	"To ensure a viable workforce for the twenty-first century, based on targeted needs within our community."
Walton Career Academy	• Part of initial dissemination initiative. • Career-technical education coordinator and small group saw opportunity in the model.	June 20, 2006	1.5–2 years	"To ensure a viable workforce for the twenty-first century, based on targeted needs for Walton County."
Rockdale Career Academy	• Tailored to local community. • Responsive to business needs. • Could adapt more readily than other models.	July 21, 2006	3 years	"To ensure students achieve academic, social, and career success by providing a supportive environment that identifies, encourages, and develops each student's interests and abilities to prepare tomorrow's workforce today for a fulfilling, productive career."
Floyd County Schools College and Career Academy	• Flexibility of the model. • Adaptability to their region.	Fall 2008	1–1.5 years	"To provide the opportunity for all students to acquire technological skills necessary for successful present and future employment."
Golden Isles Career Academy	• Local business owner interest in the model based on state superintendent's recommendation.	August 1, 2009	Almost 5 years	"To ensure a viable twenty-first century workforce for Glynn County, Georgia."

Note: See appendix C for extended mission statements.

Source: Authors' compilation based on key informant interviews and Internet searches.

Rockdale mission statements focus on students—in particular, ensuring that students receive the necessary preparation for career success—rather than on the workforce needs of the community.

Central Educational Center is needs-driven: how the sites compare in identifying needs and matching them with curricula

Because working to meet community needs is "essential to success," according to the CEC replication manual, citizens, employers, and secondary and postsecondary educators are encouraged to develop, administer, and analyze local needs assessments (Yoder and James 2006, p. 31). As high schools face increasing pressure to prepare their students for the workforce (Kemple and Scott-Clayton 2004), needs assessments may help them develop relevant curricula with input from local businesses. Schools—charter schools in particular—are looking more to business to improve the quality of graduates and meet employer demands (Institute for a Competitive Workforce 2007). Needs assessments are thus an ongoing aspect of the CEC model and of the continuing effort to produce graduates skilled for the local workforce.

Table 2 summarizes information on needs assessment for each site.

Initial needs assessment. As part of the initial needs assessment, CEC and the four replication sites surveyed local businesses. Working with the local chamber of commerce to obtain a business listing, the sites sent surveys to all area businesses that were chamber members. Four of the five mailed their surveys, while Floyd used an online questionnaire. Rockdale also surveyed students on their interests and found that students and businesses overlapped. Golden Isles hired a consultant to conduct the needs assessment. All sites asked businesses to identify their current economic needs, as well as the skill sets and any technical certificates they required of employees. Floyd also asked businesses to identify the types of jobs they will need to fill in the next five years.

To determine the main areas of need, each site summarized its findings. CEC, Floyd, and Rockdale, identified 3 areas of need; Walton identified 10–12 areas; and Golden Isles identified 18. According to the CEC site leader, the business community requested that a strong work ethic (now an integral part of the CEC model) be included in the desired student skill set.

Ongoing needs assessment. Beyond the initial needs assessments, researchers asked site leaders to describe whether and how they assess community needs over time. CEC and the four replication sites collect ongoing input from the community —some formally and others informally. The CEC, Rockdale, and Walton site leaders work with local technical colleges to determine business needs. The technical colleges regularly survey local businesses and the Georgia Department of Labor.

TABLE 2
Needs assessment process, by site

Site	Initial needs assessment process	Number of areas of need identified	Top 3–5 employment areas of need	Ongoing assessment process
Central Educational Center	Mail survey of all chamber of commerce members	3	• Health care • Traditional trades (such as welding) • Information technology	Technical college surveys, advisory committee meetings
Walton Career Academy	Mail survey of all chamber of commerce members	10–12	• Construction • Veterinary science • Business/computing • Health care • Automotive technology	Technical college surveys, advisory committee meetings
Rockdale Career Academy	Mail survey of all chamber of commerce members and students	3	• Auto services • Health care • Early childhood education	Technical college surveys, advisory committee meetings
Floyd County Schools College and Career Academy	Online survey of all businesses in region	3	• Health care • Manufacturing • Education	Advisory committee meetings
Golden Isles Career Academy	Mail survey of all chamber of commerce members	18	• Culinary arts • Cosmetology • Health care • Welding	Advisory committee meetings

Source: Authors' compilation based on key informant interviews.

CEC and the four replication sites collect ongoing input from the community—some formally and others informally

Since the technical colleges and the career academies serve the same communities, the academies can use that information rather than collect it themselves. All sites gather input on ongoing needs through their advisory committees—groups of industry leaders representing each major program area, such as culinary arts and engineering. These committees meet two to four times a year to review the relevance of the career academy programs. Floyd's site leader mentioned that its advisory committee also continually evaluates the site's five-year plan:

> *After we open a program we invite key business leaders in that program area to become part of an advisory committee . . . to review the curriculum in that program and make sure that it's still current and valid . . . [and to] review the training materials and equipment in the labs to be sure that we're on target with what we're doing.*

Needs assessment in curriculum development. The CEC, Golden Isles, and Walton site leaders discussed adjusting their curricula based on their informal needs assessments. The Walton site leader explained:

> *After we were in business a year or so, one of the things I kept hearing as I went to chamber of commerce meetings and other places, was a need for more service technicians in our heating and air conditioning industry. [I] finally went and talked to a number of [heating, ventilation, and air conditioning] industry folks and our technical college partner, and we realized that was a very valid need in our business community, and so we developed a program based on that need.*

All sites developed programs and curricula to meet the needs identified in the initial needs assessment. However, the replication site leaders described an approach to curriculum development that differed slightly from that of CEC. The CEC staff began curriculum development with the technical college curriculum because it was approved by business leaders. Teachers with industry experience then helped adjust for the high school level while considering the standards prescribed for the state's high school–level technical career curriculum. For example, the CEC site leader explained that the registered nurses who teach at the high school "know how to tweak curriculum because they're also working in hospitals part-time."

The site leaders at Floyd, Rockdale, and Walton, however, reported starting the process with the state high school curriculum and asking the advisory committees to make recommendations and revisions. At Golden Isles, program subcommittees were asked specific questions about the curriculum and to write recommendations on how to meet curriculum needs and what skills to list on teachers' job descriptions in the program area.

Reflecting on the process. When site leaders were asked whether they would do anything differently now, leaders at three of the five sites (CEC, Floyd, and Rockdale) initially said that they did not think they would change anything in the needs assessment process. The CEC site leader later suggested that conducting focus groups with industry leaders might add more detail to the data. The Walton site leader mentioned the desire for more community input to clarify the goals for the academy. He suggested emphasizing the expected returns to the business community so that businesspeople would understand how their input would be used.

The Golden Isles site leader was not involved in the initial needs assessment but believes that more engagement with the chamber of commerce and development authority[2] would have engaged more businesses up front.

Summary. All site leaders described the needs assessment process as integral to curriculum development. All sites used a needs assessment as an initial step to establish their academies and then based their programs and curricula on the identified needs. All sites also reported working

continually to meet community workforce needs over time. Site leaders' recommendations for gathering more input and for earlier engagement with the business community suggest that needs assessment information is critical to developing programs along CEC model lines.

Central Educational Center is a joint venture: how the sites compare in key partnerships

The CEC replication manual stresses the importance of securing the commitment of business and industry leaders, leaders in secondary and postsecondary education, parents, teachers, counselors, local governments, community-based organizations, and others (Yoder and James 2006). A successful career academy center will engage all stakeholders in everything from interactions with students and teachers to representation on the steering committee or board of directors (Smith 2008). Sustaining the support and participation of such diverse stakeholders requires buy-in from all parties and a belief that the partnership will be mutually beneficial (Epstein et al. 2008; Wohlstetter and Smith 2006).

Site leaders described partnerships between the career academy and its local business community and one or more technical colleges as the primary way of implementing sites as joint ventures. In applying for charters, the sites collaborated with their local education agency and worked with the local chamber of commerce as both partner and liaison to area businesses. Beyond these commonalities, there were variations in the number and type of partners, including parents and parent-teacher associations, local government, nonprofit organizations, and retirees. The Golden Isles site leader reported that some partnerships developed through academy fundraising.

Partner roles. To illustrate partner roles, site leaders discussed the governing group, the advisory committees, and the roles of individuals. At each site, a governing group or board of directors is made up of key community stakeholders who represent the programs of study, members of the chamber of commerce, technical college staff, high school staff, and parents. Golden Isles and Walton mentioned the need to have multiple stakeholders as members of the governing group to ensure a variety of perspectives representing the community.

The makeup of governing groups varied. CEC and Golden Isles had 9 members in their governing groups, while Walton had 13. CEC's governing group consisted of chamber of commerce, school system, and technical college representatives. Walton's consisted of school system, technical college, and business community representatives. And Golden Isles' consisted of chamber of commerce, development authority, and board of education representatives. It also included parents and a local health care system representative.

In all sites but Rockdale, the governing group is independent of the school district or technical college. The Golden Isles site leader emphasized that this independence allows the business community to build a relationship with the group without having ties to the local board of education or technical college. The Rockdale site, however, is housed in a facility sponsored by a school district, and the local school board is the academy's governing board. The Rockdale site leader emphasized that the academy has other partnerships but that it does not have an independent group that can lobby the local school board on its behalf.

All sites also have advisory committees of industry experts that provide input on each program area. The committees review curricula both during and after development, to ensure that programs reflect industry standards and needs.

The site leaders reported that partners make valuable contributions other than serving on boards and advisory committees. Postsecondary partners provide instructors, space, equipment,

Site leaders described partnerships between the career academy and its local business community and one or more technical colleges as the primary way of implementing sites as joint ventures

All site leaders reported that involving stakeholders in decisionmaking is key to maintaining partnerships

and course credits for students (through dual enrollment). Business partners contribute funding, equipment, space, and internship opportunities. The Walton site leader described a partnership with a local construction company that offers construction supplies, student internships, and job-placement opportunities. Table 3 outlines partner contributions by postsecondary and business partners.

Maintaining partnerships. All site leaders reported that involving stakeholders in decisionmaking is key to maintaining partnerships. The Floyd site leader stated:

> *The people who are going to be most heavily impacted by the decision need to be made a significant part of the decisionmaking process and probably the driving force behind the decision.*

All sites involve stakeholders through periodic meetings of the governing group and advisory committees. According to the site leaders, meetings allow for regular communication and exchanges of ideas. The CEC and Floyd site leaders explained that partnership maintenance is also part of the CEO's role, through both informal communication and formal memberships on community boards.

Golden Isles, Rockdale, and Walton site leaders suggested that career academies need to demonstrate that their partnerships are mutually beneficial. By inviting partners to become involved in the career academy, the academies can formally recognize partner contributions and allow partners to see the academy's accomplishments, thus reminding partners of the benefits of their investments. The Golden Isles site leader asserted:

> *Ultimately, it only works if . . . the students that we graduate have the skills that these businesses need and they're able to employ them and grow their businesses and become profitable. . . . If we don't generate the workforce or they don't hire them, then we're not closing the deal.*

Reflecting on the process. When the site leaders were asked what they might do differently in creating a joint venture, four of the five voiced no need for change. One leader stated that he would work to develop greater community support in the initial period of establishing a career academy, involving the community more in defining needs and curricula. Another leader would not change the site's process but suggested formalizing advisory committee interaction through scheduled meetings instead of using the groups on an ad hoc basis.

Summary. Each site followed the CEC replication manual recommendations of partnering with leaders of businesses, industry groups, secondary and postsecondary education, and other organizations. Site leaders reported making partnerships operational by inviting partners to review curricula as members of their governing group or advisory committees. While sites benefit from partner contributions such as funding, instructors, and facility space, the governing group and the advisory committees offer a structured way for stakeholders to benefit as well—by participating in the academy.

TABLE 3
Reported contributions of postsecondary and business partners in relationships with Central Educational Center career academies

Contribution type	Postsecondary partner contributions	Business partner contributions
Boards or committee member	✔	✔
Funding		✔
Facility space	✔	✔
Instructors	✔	
Course credits	✔	
Equipment	✔	✔
Student internships		✔

Source: Author's compilation based on key informant interviews.

Three sites stressed the importance, as mentioned in the replication manual, of demonstrating the mutual benefits of partnerships. Also mentioned was the importance of involving community stakeholders from the outset and having key industry experts regularly review the curricula.

Central Educational Center is seamless: how the sites compare in seamlessness

According to the CEC replication manual, "seamlessness" refers to a "focus on (1) integrating academics with career and technical education and (2) integrating secondary and postsecondary education, with an emphasis on dual enrollment opportunities that lead to postsecondary credentials" (Yoder and James 2006, p. 30). Seamlessness can also be described as "erasing the lines" between academics and career and technical education (horizontal seamlessness, also known as curricular integration) and between secondary and postsecondary education (vertical seamlessness). CEC site leaders stressed the importance of cooperating with area high schools and technical colleges to provide students with a seamless education across institutions and learner levels. Each site worked with its local education agency to obtain its charter, offers primarily career and technical courses, and serves students from home high schools, where students take most of their academic courses.

Analyzing horizontal seamlessness. Despite the career academies' career and technical focus, each site leader spoke of the need for students to understand the importance of academic skills as well. A site leader explained:

> *What [students] learned [in CEC technical courses] was relevant. It [connected to] the science curriculum, and the kids remembered the formulas and the calculations and the underlying theory more because they could see it applied.*

All sites but Floyd offer some academic classes onsite to accommodate students' schedules and allow them to be there for part of the school day without missing core courses (table 4). The CEC site leader explained that offering academic classes onsite also helps integrate academic and technical curricula.

CEC site leaders stressed the importance of cooperating with area high schools and technical colleges to provide students with a seamless education across institutions and learner levels

However, no site provides the full range of academic courses offered at students' home high schools; thus, onsite opportunities to create horizontal seamlessness are limited. Nevertheless, all site leaders reported efforts to infuse the technical curriculum with academic material, motivated by a recognition that career-technical courses need to be more rigorous to prepare students for today's technical careers.

Although Floyd does not offer academic classes, its site leader explained that academics are embedded throughout the technical curriculum and that all technical instructors are responsible for students' academic learning:

> *We don't teach science as a stand-alone subject. They take it at their home school, but all of our teachers are science teachers.*

TABLE 4
Horizontal seamlessness, by site

Site	Academic classes offered	Common planning time
Central Educational Center	Yes	Yes, free period
Walton Career Academy	Yes	No
Rockdale Career Academy	Yes	Yes, free period
Floyd County Schools College and Career Academy	No	No
Golden Isles Career Academy	Yes	No

Source: Author's compilation based on key informant interviews.

Two site leaders reported bolstering horizontal seamlessness by scheduling time for academic and technical instructors to collaborate (see table 4). CEC encourages common planning among instructors during a lunchtime period when no classes are scheduled. Such planning can involve collaboration between academic and technical instructors or between technical instructors in different areas focusing on how to teach a similar concept. Rockdale has campuswide professional development during first period for program planning.

Another strategy is to create opportunities for staff to plan with faculty from students' home high schools. The Rockdale staff works with area high schools on academic and technical integration by aligning the content in academic classes with related career and technical classes such as biology and health. Walton creates opportunities for its staff to interact with local academic high school teachers to better understand the content of state tests.

Although the site leaders find horizontal seamlessness important, they also acknowledge challenges, including the physical separation of instructors at the career academy and the local high schools. The Rockdale site leader commented:

> *I can just tell you from prior experience if you were a stand-alone facility . . . like a comprehensive high school model, it would be a lot easier to build those schedules and make that very, very efficient.*

To achieve horizontal seamlessness, both academic and technical teachers need to value interdisciplinary collaboration. Collaboration can be challenging because these teachers sometimes have different perspectives on what and how students should be learning.

While each site leader spoke of the importance of integrating academic and technical learning, only two strategies were mentioned: common onsite faculty planning time and interactions with faculty at home high schools

Summarizing horizontal seamlessness. While each site leader spoke of the importance of integrating academic and technical learning (horizontal seamlessness), only two specific strategies were mentioned: common onsite faculty planning time and interactions with other faculty at home high schools. Even for the sites active in curriculum integration, horizontal seamlessness remains a challenge.

Analyzing vertical seamlessness. The link between secondary and postsecondary education (vertical seamlessness) has become central to many high school reform models (Bailey and Karp 2003). Aligning curricula—ensuring that course content is complementary rather than duplicative—is critical to vertical seamlessness. Decisions on which courses can be offered for dual enrollment are usually made after vertical curriculum alignment. One way to allow for more collaboration between secondary and postsecondary faculty is colocation —locating a career academy on or adjacent to a technical college campus.

All four replication site leaders mentioned aligning academy and technical college curricula. At Floyd, the high school initiatives coordinator at the local technical college meets with the academy principal to develop matrices for all programs, showing a course sequence for each career pathway, including opportunities for dual enrollment.

The replication site leaders also described how they had changed their curricula or started new programs to meet economic needs and supply a local labor force. The Golden Isles site leader described how working with the postsecondary partner on this planning could improve vertical seamlessness:

> *If our business community said "here is something we recognize as valuable in the technical college arena," then it made sense for us to try and make that a dual enrollment program. Automotive is a great example. We certainly could have had a high school–based automotive program, but when we talked to our business community, they all said that we recognize . . . an industry technical college's certification and technical college courses*

as being valuable to folks that work in our service departments.

The CEC model gives students options. Both CEC and Golden Isles mentioned the benefit of obtaining a Technical College Certificate of Credit (TCC), given to students who complete a connected sequence of college courses through dual enrollment (also called "early college") in their technical curriculum. The Golden Isles site leader explained:

Our kids can excel in high school, excel at early college, can get a TCC when they graduate from high school, and can roll on out into work or roll on into the upper division of . . . postsecondary coursework. So we are directly connecting high school kids to three opportunities: work, technical college, or college.

Site leaders also described other student benefits of vertical seamlessness, including educational advancement, experiencing a college environment, gaining confidence, and becoming prepared for the workforce. One site leader explained:

Some of these high school students, perhaps they're first generation who've ever even sat in a college class. Maybe they're that student that didn't understand that he or she could be successful in a college environment, and yet here they are, while they're in high school, sitting in the classroom with an adult taking the same class. And they immediately begin to see that they can be successful here.

Dual enrollment. One approach to ensuring vertical seamlessness is establishing dual enrollment[3] programs, which give students the opportunity to earn high school and college credits simultaneously. All the sites offer dual enrollment opportunities (table 5) in some career and technical courses. The purpose of dual enrollment is to "provide Georgia high school students with the opportunity to earn technical course credit in a diploma or certificate program while they simultaneously meet their high school graduation requirements" (Georgia Career Resource Network 2008). For example, CEC offers dual enrollment courses in several programs: patient care technician, computer gaming, dental assisting, and culinary arts.

One approach to ensuring vertical seamlessness is dual enrollment programs, which give students the opportunity to earn high school and college credits simultaneously

One concern raised by three site leaders is how to determine which institutions should receive funding for students enrolled in dual enrollment courses. Through HOPE Grants[4] and the Quality Basic Education Act,[5] both the CEC site and the affiliated technical college receive funds for the same students when those students are dually enrolled. Key informants reported that some believe this constitutes "double dipping" and needs to be resolved. This issue is being addressed through discussions with a Georgia Department of Education working group.

Colocation. Efforts to promote vertical seamlessness at some sites were facilitated by their colocation with technical colleges. Colocation occurs at all sites but Golden Isles. (Golden Isles brings technical college faculty to its campus to teach college-level courses, which they call "early college.") The CEC site leader stated that replication sites with the closest fidelity to the CEC model are often colocated on a technical college campus.

TABLE 5
Vertical seamlessness, by site

Site	Dual enrollment	Colocation
Central Education Center	Yes, 8 programs	Yes
Walton Career Academy	Yes, 6 programs	Yes
Rockdale Career Academy	Yes	Yes
Floyd County Schools College and Career Academy	Yes, but limited	Yes
Golden Isles Career Academy	Yes, 4 programs	No

Source: Authors' compilation based on key informant interviews.

Each site has achieved some degree of vertical seamlessness through dual enrollment

Rockdale allows several area colleges to use its facilities at night. Courses taught to college students at the academy by college faculty are also taught to high school students for college credit. Walton doubles as a campus for a local technical college, with classrooms used by the academy and the college. The site leader explained:

> *One of the ways we work on that vertical seamlessness is by making the building seamless, in and of itself, very transparent about what goes on here in our building. We have classrooms that end up being dual use. At some point in time, they're high school classrooms, and then, you know, two hours later, they're a college classroom.*

Table 5 outlines how CEC and each replication site facilitate vertical seamlessness.

Summarizing vertical seamlessness. Each site has achieved some degree of vertical seamlessness through dual enrollment. Site leaders emphasized the importance of working closely with local technical colleges; four sites are colocated with a technical college.

Reflecting on the process. Two site leaders offered ideas when asked what they might do differently for horizontal and vertical seamlessness. The Rockdale site leader said that although he would not change anything in his academy's approach, future goals include reaching down to middle schools. The Golden Isles site leader said that if he could do it over, he would identify a technical college partner earlier in the process so that they could better align standards and policies.

The CEC site leader had the broadest view of seamlessness. He described the relationships between the key stakeholders as seamless and spoke of breaking down silos not only between secondary and postsecondary education but also between education and business. He also pointed to hiring teachers directly from industry as a form of seamlessness.

Considerations for future replications

At the end of the key informant interviews, after addressing the three research questions, site leaders were asked what they had learned that others considering replication should keep in mind.

Needs assessment. The CEC site leader emphasized adapting the model to each community's needs. Three replication site leaders asserted that flexibility is the model's greatest strength. The Floyd site leader stated:

> *The CEC model is really driven by economic development, but it also provides you the flexibility to do what meets the needs of your own community. Our community needs are different than those that exist [in the CEC] in Coweta County. We have some similarities, but we also have some differences.*

The Golden Isles leader urged that the CEO be hired early in the process to become "part of that needs assessment, part of the formulation process, and not come in after all that is done and have to try to catch up."

Joint venture. The CEC site leader contended that the joint venture principle of the CEC model is most important, and the Walton leader explained that the strength of the partnership between stakeholders was in collaboration. One issue discussed by site leaders was the relationship between the career academy and its board of directors. Unlike the other career academy sites, where the CEO reports to an independent board, Rockdale's CEO reports to the school superintendent. The site leader explained, "I don't have a separate board that can lobby on [the academy's] behalf to [the local] school board."

The CEO of CEC suggests that such separation is important:

> *I do not work for [a] technical college partner, and I do not work for our board of education. I work for an independent board of directors,*

even though that independent entity relies on the partners for funding and staff and other support. So that's kind of the first step in building that partnership, because that immediately gives our business community an entity that they can see is not directly tied into either one of those partner entities. It gives them an independent entity that they can look to build a relationship with.

Golden Isles set up a 501(c)(3) organization for which the CEO works, but the site leader encouraged others considering replication to specify ahead of time such details as lines of reporting and responsibility for paying salaries. He noted that although there is a CEC replication manual and that replication involves adapting to each community, it would help to have guidelines or examples of how to deal with organizational issues.

Communities must also decide where to house the career academy and whether to share space with partners such as technical colleges. The CEC site leader discussed how facility sharing can be a form of partnership. Many charter schools have to lease space from the school system. However, neither the CEC nor its college partner pays the Coweta County School System for the use of facility space.

Partners may play a role in determining whether facilities can be shared and in choosing their locations. Site leaders pointed out various considerations in selecting a facility used to house the career academy. For example, renovating an old school building may offer the advantage of providing services in a familiar location, but doing so can confuse the community if the purpose of the new school is unclear. Building new structures requires funding and can be controversial if the community and partners are not strongly supportive of those expenditures, but a state-of-the-art facility in a prime location with key partners nearby (such as an industrial park) can be an exciting and stimulating addition to a community.

Seamlessness. The CEC site leader stated that seamlessness is easier at sites that are colocated on the campus of a technical college or in a building not controlled or managed by a single high school.

The CEC site leader and three replication site leaders asserted that flexibility is the model's greatest strength

Three site leaders mentioned that funding for dual enrollment courses is a seamlessness issue. Because of the potential overlap in funding for dually enrolled students through the school system and a technical college, career academy sites may need to coordinate with the school system on a fair plan. For example, the Floyd site leader explained that Floyd's plan involves cost studies by the technical college partner of classes for dually enrolled students; the local school system then pays the cost.

Commonalities and differences

Following the CEC replication manual, all sites conducted surveys with local businesses to assess employer needs. All sites created programs to address the top needs (health care was a common need across all five sites), and committees with business representatives provided regular advice on curricula.

Also in accordance with the CEC replication manual, the four replication sites partnered with various community stakeholders such as a technical college, a chamber of commerce, or labor force organizations. These partnerships developed early in the state charter application process to allow for financial and political support. Business partners provided funding, equipment, space, and internships for students. Postsecondary partners provided instructors, space, equipment, and course credits. In turn, the replication sites shared their facility, prepared students for college and the workforce, and helped attract new employers to the area. All partners marketed the career academy in their communities.

Horizontal seamlessness was reported to be more challenging for the sites than vertical seamlessness, primarily because instructors at the sites

The study is descriptive; it does not provide information on the effectiveness of the model or highlight best practices

were physically separated from academic instructors at the students' home high schools (an issue also mentioned by Johnson, Charner, and White 2003). Vertical seamlessness was explained as working with local technical colleges to align secondary and postsecondary curricula and facilitating students' access to technical college credit via dual enrollment.

In addition to these shared characteristics, some sites took different steps. Though all sites conducted a needs assessment of local businesses, one site also surveyed students about their needs. One site added a question about future needs to its business survey. The number of top needs identified ranged from 3 to 18.

The number and types of joint venture partners varied across sites, from parents to local government to nonprofit organizations. A variety of approaches were described for involving stakeholders (such as sponsoring events and having site leaders serve as members of committees and boards for local organizations).

While all sites aim for horizontal seamlessness, not all sites offer a common planning time for academic and technical teachers nor do all sites offer academic classes. And although all sites offer dual enrollment opportunities as part of their effort toward vertical seamlessness, several collaborate with high schools and technical colleges to facilitate scheduling dual enrollment courses.

STUDY LIMITATIONS

This study has several limitations. Findings are based on only four sites that replicated the original model. Thus, the findings are limited, and reported experiences may be specific to these sites.

The study response rate was 83 percent. (Five of six currently operating sites participated in the study.) Because one site did not respond to researcher requests, the findings could be affected by nonresponse bias. A nonresponding site may differ from sites in the study: the site might have decided not to participate because of an unfavorable experience with the model, differing opinions on the three study focus areas, or another reason. A profile of the nonresponding site (Tech High School) is included in appendix C. One difference between this site and those included in the study is that it is a startup charter school independent of its local education agency. The sites in the study collaborated with their local education agencies to apply for their charters. Otherwise, there were no notable differences in the characteristics studied.

Researchers interviewed only one key informant per site. Interviews with additional informants might have provided differing perspectives. Self-reported data may also be biased.

Finally, the study is descriptive. It does not provide information on the effectiveness of the model or highlight best practices at any one site. Despite these limitations, this study offers insights for the Georgia Department of Education, as well as for educators in Georgia and elsewhere, on aspects of the CEC model across replication sites.

APPENDIX A
STUDY METHODS

The first step in this study was to determine which replication factors to consider. Researchers selected three factors to streamline the study and allow more in-depth examination. In selecting these factors, researchers considered the input of the Georgia Central Educational Center (CEC) replication team, whose members have experience in replicating the CEC model. The replication team consists of one member who helped create the original CEC site, its current CEO, and two external researchers. The team provides mentoring, professional development, and technical assistance to communities that want to replicate the CEC charter career academy model. Researchers asked the replication team to rank the nine core elements in the CEC replication manual, explaining that the focus of the study would be on three of the nine elements.

The following three elements were among the top five of all three members of the replication team who responded:[6]

- CEC is needs-driven.
- CEC is a joint venture.
- CEC is seamless.

Study sample

The research team contacted CEC and the six replication sites operating at the time (fall 2009) in Georgia. One replication site was delayed in opening. Another did not respond during the data collection timeframe. As a result, this study focuses on the original site and the four operating replication sites that agreed to participate (an 83 percent response rate). The nonresponding site differed from those in the study in that it is a startup charter school independent of its local education agency, while the sites in the study collaborated with their local education agencies to apply for their charter. Otherwise, there were no notable differences in the characteristics studied. (Appendix B lists the information used in the web searches. Appendix C provides site profiles resulting from the web searches for the six operating career academy sites.)

Table A1 lists background information on the five sites included in this study. All five are both charter schools and career academies, as defined by the Georgia Department of Education. All replication sites have received funding through a grant initiative available to charter career academies. Walton received funding through the CEC's dissemination effort in addition to state funding.

Data sources

Data were collected through Internet searches and key informant interviews. Websites provided background information on the sites. Information from web searches was used primarily for the site profiles (appendix C). Key informant interviews provided insights from site leaders on the study's three focus areas. Researchers conducted the web searches in advance of the interviews to avoid asking key informants for publicly available information. When information was sought on a particular topic from both the websites and the respondents (for example, the date the academy opened), similar information was obtained.

Internet searches. Information on the original and replication career academy sites was collected through web searches of the Georgia Department of Education, the original CEC site, and the replication sites. Appendix B describes the web search data, and appendix C describes the preinterview web search results for each site. One researcher reviewed the website for each career academy site and searched for each item on the website search data list. If the website had a search function, the researcher used it to locate each type of data on the protocol. If there was no search function, the researcher clicked on the links that seemed most related to the topics of interest. In addition to the career academy websites, Google searches were conducted using each site name as a search

TABLE A1

Background information on the five Georgia career academy sites included in the study, 2009

Site	Date opened[a]	Year received state funding[b]	Community type[c]	Number of students in district[d]	Percentage of students in district eligible for free or reduced- price lunch[e]
Central Education Center, Newnan (original site)	August 10, 2000	2000	Rural: fringe	21,790	33.7
Walton Career Academy, Monroe	June 20, 2006	2004 through CEC; 2007 through Georgia Department of Education	Rural	12,759	38.8
Rockdale Career Academy, Conyers	July 21, 2006	2009	Suburb	15,614	50.9
Floyd County Schools College and Career Academy, Rome	Fall 2008	2007	Rural	10,647	46.5
Golden Isles Career Academy, Brunswick	August 1, 2009	2007	City: small	12,630	47.9

a. Obtained from web search.

b. Obtained from key informant interviews.

c. U.S. Department of Education 2008a.

d. U.S. Department of Education 2008b.

e. U.S. Department of Education 2008c.

term. The information was cut and pasted into an Excel worksheet and the data were organized by research question.

For needs assessment, researchers collected information on mission statements, career tracks or pathways, and location. For joint ventures, researchers collected key academic or business partners. For seamlessness, researchers collected information on work-based learning opportunities, dual enrollment opportunities, and the types of certificates available on graduation. In addition, researchers collected some items that provided context for the sites, such as grades served, number of students enrolled, opening date, and career academy history. Researchers used this information to create profiles for each site (see appendix C).

Key informant interviews. A list of site leaders was obtained from the CEO of CEC. Each site leader began working at the site before it opened, and all but the Golden Isles site leader were involved before the needs assessment. At one site, researchers spoke to a second key informant to obtain information about the academy's history and needs assessment. The Golden Isles site leader, hired after the needs assessment, suggested a consultant who would be better qualified to answer questions on that topic. The researchers jointly interviewed each site leader by phone, with one taking the lead and the other asking follow-up questions. Interview questions were derived from the three-part research question. The key informant interview protocol is included in appendix D. Interviews took approximately 60 minutes, were recorded with the permission of the study participants, and transcribed to maintain accuracy, provide details, and include quotations in the report. Key informants were contacted with follow-up questions for clarification when necessary.

Data analysis

The interview transcripts were organized by the three main focus areas. Researchers then

independently reviewed the transcripts and labeled text segments that corresponded to the interview question topics as follows:

Site background information

Needs assessment

- Initial needs assessment
- Ongoing needs assessment
- Curriculum development
- Looking back at the needs assessment process

Joint venture

- Partner roles
- Maintaining partnerships
- Looking back at the joint venture process

Seamlessness

- Horizontal seamlessness
- Vertical seamlessness
    - College credit offered via dual enrollment
    - Colocation
- Looking back at the seamlessness process

Replication considerations

Two researchers organized the text segments of each transcript using these labels. Because the labels corresponded to the interview questions, there were no discrepancies in how the two researchers organized the data. The researchers then compiled a matrix of focus area labels to facilitate viewing the responses across sites. Each labeled text segment was entered in the appropriate cell. The analysis consisted of describing the responses of the five site leaders to each interview question in each focus area. The matrix was used to identify similarities and differences across the five sites, which the researchers summarized for the report. For open-ended and general questions (regarding replication considerations, for example), researchers included all responses in the report.

During analysis, the two researchers identified text segments or quotations for inclusion in the report to explain the descriptive results. The findings section of the report follows the same order as the interview questions, and the subheadings under the focus areas correspond to the interview question labels.

Protection of confidentiality

Key informant names and position titles are not included in the report, except for the CEO of the original CEC site, Mark Whitlock, from whom permission was obtained. Key informants were not guaranteed confidentiality, however. Sites are named, and respondents are referred to as "site leaders." The study reveals identifying information about sites and schools that is not technically publicly available, since information was gathered from interviews. The information describes implementation practices and site experiences. The study purpose was explained to respondents, who were asked to sign a consent form that clearly stated the possibility that they could be identified. Researchers sent CEOs the sections of the report that mention their site so that they could verify the accuracy of the reported information or to identify any concerns about sensitive information.

APPENDIX B
TOPICS FOR PREINTERVIEW WEB SEARCH DATA

The following are the topics reviewed in web searches of the career academies conducted before interviews with site leaders. They focus on background statistics on the career academies and student body and on the three key elements of the Central Educational Center (CEC) model:

Career academy description

- Grades served
- Number of students enrolled
- Number of faculty/staff
- Leadership: key individuals/governing board

Career academy history

- Date opened
- Background and history

Three elements of the CEC career academy model

CEC is needs-driven

- Mission statement
- Program areas and curriculum
- Physical location of academy: high school, college/university, etc.

CEC is a joint venture

- Key academic and business partners

CEC is seamless

- Dual enrollment opportunities and articulation agreements
- Graduation certificates or credentials
- Work-based learning opportunities

APPENDIX C
PREINTERVIEW WEB SEARCH RESULTS

The following tables present the findings of the web search for information on the career academy sites. Information that was not available online was requested from the site leader.

TABLE C1
Central Educational Center, Newnan

Background: statistics on career academy and student body	
Background/history	"The CEC was designed to be an educational joint venture among local high schools, the regional technical college, and businesses to create new opportunities for students. In 2004, CEC was named a national Model High School by a consortium of professional educational organizations including the International Center for Leadership in Education (ICLE), the Council of Chief State School Officers (CCSSO), High Schools that Work, and many others." "The development of the CEC was sparked by the demands of an expanding local economy driven by globalization and technology advancements. The CEC was also developed as a result of the need for all employees to have the basic skills necessary to be successful in this rapidly changing workplace. Other factors such as the need to attract new businesses while helping grow established businesses were impacting the community. The problems facing Coweta County were a combination of education and workforce development challenges and the CEC was created to address these problems. A primary goal of the CEC was to provide high school graduates with the opportunity to continue on to college and to the workforce with the skills necessary to be successful in today's rapidly expanding technological job market."
Date opened	August 10, 2000
Grades served	9–12
Number of students	1,440
Number of faculty and staff	41
Leadership	CEO, director of high school programs, director of operations, business/community director, 16-member board of directors.
Technical assistance	Received from Georgia Department of Education.[a]
CEC is needs-driven	
Mission statement	*Mission:* "To ensure a viable workforce for the twenty-first century, based on targeted needs within our community." *Purpose:* "To develop, implement, and offer innovative learning opportunities for residents of Coweta and surrounding counties to achieve economic and personal goals." *Goal:* "To create synergy among the educational, business, industrial and governmental entities that will favorably impact and enhance economic development and the quality of life in this region."
Program areas	Automotive; Aviation; Business; Business of the Arts; Communications Technology; Construction Technology; Cosmetology; Criminal Justice; Culinary; Drafting; Education and Teaching; Economics; Graphic Communications; Health Sciences; Horticulture and Biology; Heating, Ventilation, and Air Conditioning; Information Technology; Performance Learning Center; Pre-engineering/Robotics; Welding.
Academic courses offered	Junior and Senior English, U.S. and World History, Economics, variety of math courses (also college-level academic courses in biology and psychology).

(CONTINUED)

TABLE C1 (CONTINUED)

Central Educational Center, Newnan

Location	"The CEC building serves as the Coweta County campus for West Central Technical College, and houses the county's evening high school and a Performance Learning Center (PLC). The building was reconditioned and repurposed from an old high school located in the geographic center of the county."
CEC is a joint venture	
Key academic and business partners	East Coweta High School, Newnan High School, Northgate High School, West Central Technical College, and local businesses.
CEC is seamless	
Dual enrollment opportunities and articulation agreements[b]	West Central Technical College and in rare cases with Brewton-Parker College or the University of West Georgia.
Additional certificates or credentials available upon graduation	Advanced Placement (AP) courses, Governor's Honors Program (GHP), Technical certification in Advanced Dental Assisting, Automotive Electrical and Electronic Systems Technician (pending approval), Automotive Service Technician, Automotive Heating & Air Conditioning Technician, Basic Dental Assisting, PC and Network Repair Technician, Help Desk Specialist (pending approval), Game Development Specialist (pending approval), Residential Electrical Apprentice, Food Production Worker 1, Law Enforcement Technician, Patient Care Assistant, Patient Care Technician, Health Care Science Degree Certificate, Prep Cook, Cosmetology/ Barbering, Internet Specialist/Website Designer Assistant, Welding: (1. Flat Shielded Metal Arc, 2. Gas Metal Arc, 3. Overhead Shielded Metal Arc, 4. Gas Tungsten Arc).
Work-based learning opportunities	"Work-Based Learning (WBL) and Teacher Pipeline programs at Central Educational Center are courses that link job placement with career-related course work." "Hundreds of local business partners have provided work-based learning opportunities for more than 1,000 [students, aka] team members." "Students may participate in work-based learning in the following ways: • Job shadowing: students report to a job site to explore opportunities in that field of study. • Internship: students work either paid or unpaid at a job site that is in their field of study. • Cooperative education: students are enrolled in a cooperative class and work one or two class periods. • Youth apprenticeship: students may work as many as three blocks in their field of study. They also commit to work 2,000 hours on the job and to attend postsecondary education. • CEC work-based learning directors manage the program and have students with credentials in the program areas: Computer-assisted Design, Welding, Pre-engineering, Construction, Culinary Arts, Broadcasting/Video Production, Machine Tool Technology, Teacher Apprentice, Graphic Arts, Horticulture, Health Care Science Technology, Health Care Science Shadowing, Patient Care Assistant, Patient Care Technology, Dental Assisting, Computer Repair, Accounting, Financial Services, Office and Support Systems, Business Administration, Marketing, Information Technology."

a. Obtained from site leader interview.

b. Articulation agreements are officially approved agreements between colleges, or between colleges and school districts, that specify which and how many courses will be accepted for credit if students transfer between institutions.

Source: www.coweta.k12.ga.us/gacec/about.htm; www.gacec.com.

TABLE C2
Walton Career Academy, Monroe

Background: statistics on career academy and student body	
Background/history	Walton County took part in Central Educational Center's (CEC) original dissemination initiative, funded by the state of Georgia. A small group within the school system saw the request for proposal, and the career and technical education program coordinator applied. After Walton was accepted, the team expanded. The site leader first joined the team as a business community volunteer and then worked with the team for 18 months to open their facility. A former high school building in the community was empty, so Walton renovated it. While this was a well established high school location, it took several years for the community to change its thinking about the purpose of the facility.[a] "The Walton County School System was one of three communities in Georgia selected to receive technical assistance and create a national model high school and charter school based on the Central Educational Center (CEC) model."
Date opened	June 20, 2006
Grades served	10–12
Number of students	275[b]
Number of faculty and staff	15
Leadership	CEO, 12-member board of directors.
Technical assistance	Received from original CEC, Georgia Department of Education.[a]
CEC is needs-driven	
Mission statement	*Mission:* "To ensure a viable workforce for the twenty-first century based on targeted needs within our community." *Vision:* "To develop, implement and offer innovative learning opportunities for residents of Walton and surrounding counties to achieve economic and personal goals." *Goal:* "To create synergy among the educational, business, industrial and governmental entities that will favorably impact and enhance economic development and the quality of life in this region. WHY? More than 40 percent of Walton business and industry responded to a needs assessment survey which covered 80 percent of the manufacturing and technical jobs in the county. Critical employee concerns included life skills, work ethic, and basic math and reading skills. Walton will strive to develop those attributes in our students and will serve as a life-long learning center for the entire community."
Program areas	Construction, Information Technology, Public Safety, Engineering Drawing and Design, Precision Machining/Manufacturing Science Technology, Electronics Technology, Health Care Science Technology, Veterinary Assistant, Automotive Technology, Cosmetology. Walton has also "received state funding to develop a life science wing that will house a full-time health care education program and a life science/biotechnology program, beginning in fall 2009."[c]
Academic courses offered	English, language lab.
Location	Walton Career Academy is housed in a well established location in a renovated high school building.
CEC is a joint venture	
Key academic and business partners	Athens Technical College, Walton County School System, Walton County Chamber of Commerce, and local businesses.

(CONTINUED)

TABLE C2 (CONTINUED)

Walton Career Academy, Monroe

CEC is seamless	
Dual enrollment opportunities	Dual enrollment college certifications are offered through Athens Technical College, and some dual enrollment opportunities with Georgia Perimeter College.
Additional certificates or credentials available upon graduation	Technical certification from Athens Technical College Certificate program in Front End Alignment Brake Specialist, Automotive Heating and Air Conditioning Specialist, Digital Publishing, Industrial Mechanical Technician, Mechanical Trouble Shooting, Customer Service Specialist, Web Design Fundamentals, Patient Care Assistant, Drafting Aide; and technical college diploma from Athens Technical College in Cosmetology, Paralegal Studies, Medical Assisting. Students may also enroll in associate degree courses at Athens Technical College.
Work-based learning opportunities	Information not available.

a. Obtained from site leader interview.

b. Obtained from http://www.trulia.com/schools/GA-Monroe/Walton_Career_Academy.

c. Obtained from http://www.bio.org/local/battelle2009/GA_bio_09.pdf.

Source: www.waltoncareeracademy.org.

TABLE C3
Rockdale Career Academy, Conyers

Background: statistics on career academy and student body	
Background/history	Approximately 10 years ago, the local chamber of commerce became concerned that high school graduates going directly into the workforce did not have the requisite soft skills. In addition, the board of education determined that there was a decrease in the overall number of local students graduating from high school and in the number of students graduating and going directly to college. The local board began exploring options to address these concerns. Together with the chamber of commerce, the local superintendent pulled together a study group, which traveled around the Southeast Region looking for reform models to address those issues. They were impressed with the Central Educational Center (CEC) and decided to replicate the model because it was flexible and was a Georgia model, which could be adapted more readily within their community than other models found throughout the country. On selecting the CEC model, the career academy took approximately three years to open. The facility is located in an industrial park and was designed to look like a business center. It was funded through an Education Special Purpose Local Option Sales Tax, which yielded $25 million. In the second-smallest county in the state, the building is the largest career academy facility in the state.[a] "In August 2002, the board of education approved the framework for the development of a fourth high school in Rockdale County, which incorporated the planning committee's recommendations. Although more components could come out of committee work, specific components currently include: • Share facilities/equipment/materials (including maintaining and updating) with business and industry, as well as colleges and technical colleges. • Dual/joint enrollment/postsecondary credit can be earned. • Students can earn a high school diploma, a technical college degree/diploma/certificate, and a college degree. • Include teaching staff from industry and technical colleges, as well as from traditional certified teacher pool. • Available to full-time and part-time students in grades 9–12 (attendance zone would be entire county) with full-time status initially limited to juniors and seniors. • Grant diplomas. • Develop an application process that includes an interview. • Publicize program and begin recruitment in middle school. • Offer all courses needed for career/technology seal on the diploma. • Provide on-line learning opportunities for both secondary and postsecondary courses. • Offer Advanced Placement courses. • Include a School-to-Work component (internships, job shadowing, apprenticeships, etc.). • Include strong counseling/advisement/career support components."
Date opened	July 21, 2006
Grades served	9–12[b]
Number of students	1,250
Number of faculty and staff	56
Leadership	CEO, 13-member board of directors
Technical assistance	None received.[a]

(CONTINUED)

TABLE C3 (CONTINUED)

Rockdale Career Academy, Conyers

CEC is needs-driven	
Mission statement	"To ensure students achieve academic, social, and career success by providing a supportive environment that identifies, encourages, and develops each student's interests and abilities to prepare tomorrow's workforce today for a fulfilling, productive career by: • Offering programs of study designed by experts in business, industry, and education. • Providing customized work-based learning experiences. • Involving family and community stakeholders. • Offering industry certification in appropriate programs. • Teaching a rigorous and relevant academic and career curricula. • Cultivating a clear awareness of their rights, responsibilities, and obligations to be ethical, community-oriented citizens and productive members of the workforce and the global community. • Fostering a sense of responsibility and ability to plan their own personal and professional growth beyond high school. • Building a community of hope."
Program areas	Basic Agriculture, Marketing Principles, Fashion Marketing, Accounting, Health Care Science, First Responder, Operating Systems and Management (Cisco I), Networking (Cisco II), Digital Media Design and Production, Fundamentals of Design and Illustration, Broadcast/Video Production, Introduction to Auto Service Technology, Collision Repair, Production Technology, Introduction to Manufacturing and Engineering, Introduction to Engineering Drawing, Early Childhood Education, Human Growth Development, Fundamentals of Construction Technology, Culinary Arts, Fundamentals of Public Safety and Criminal Justice, Introduction to Law Enforcement and Patrol, Floral Design/Landscape Design, General Horticulture/Floriculture, Turf Production and Management, Equine Science.
Academic courses offered	World History, U.S. History, AP Government and Politics: U.S., Advanced U.S. History, English, Advanced English, Biology, AP Biology, Anatomy and Physiology, Physical Science, Advanced Physical Science, Environmental Science.
Location	"The Rockdale Career Academy is the largest career academy in the state at 165,000 square feet. It is located in an industrial park near the center of the county. The $25 million cost for the facility and 49-acre site was paid for by a local tax."
CEC is a joint venture	
Key academic and business partners	DeKalb Technical College, Georgia Perimeter College, Gwinnett Technical College.
CEC is seamless	
Dual enrollment opportunities and articulation agreements[c]	Articulation agreements for certain courses with DeKalb Technical College[d] and Gwinnett Technical College.[e] A partnership with Georgia Perimeter College enables students to enroll in "a full complement of courses from Learning Support classes through sophomore level classes in most programs of study."[f]
Additional certificates or credentials available upon graduation	Information not available.
Work-based learning opportunities	Information not available.

a. Obtained from site leader interview.

b. Obtained from www.greatschools.net/modperl/browse_school/ga/3819/.

c. Articulation agreements are officially approved agreements between colleges, or between colleges and school districts, that specify which and how many courses will be accepted for credit if students transfer between institutions.

d. Obtained from http://techprep.langineer.net/misc/english.pdf/.

e. Obtained from http://techprep.langineer.net/misc/Horticulture.pdf/.

f. Obtained from http://www.gpc.edu/newton/rca.htm.

Source: www.rockdale.k12.ga.us/schools/rca.

TABLE C4
Floyd County Schools College and Career Academy, Rome

Background: statistics on career academy and student body	
Background/history	Floyd County Schools College and Career Academy originated as a technical high school in 1975. When enrollment started to wane, administrators began to look for ways to update the school to a "twenty-first century" career technical program. A steering committee was developed, of which Russ Moore, a member of the Central Educational Center (CEC) replication team, was a part. The committee traveled around to look at different types of career academies. The CEC model was chosen largely because of the flexibility of the model and the committee's belief that the model would be most adaptable to the needs of their region. Upon deciding to replicate the CEC model, the process took approximately 18 months. The career academy is located in Floyd County's former technical high school, across the street from the technical college.[a] "The school was created with the challenge of reaching four goals: (1) design a school that will develop and sustain a highly skilled work-force for the community. (2) develop a program that will provide a seamless transition between high school and postsecondary training. (3) meet the needs of business and industry and improve the community's ability to attract new business and industry to the community. (4) impact the system's high school completion rate."
Date opened	Fall 2008
Grades served	9–12
Number of students	576
Number of faculty and staff	24
Leadership	CEO, principal, assistant principal, six-member board of directors.
Technical assistance	Received from original CEC, Georgia Department of Education, Technical College System of Georgia, Office of the Lieutenant Governor.[a]
CEC is needs-driven	
Mission statement	To "provide the opportunity for all students to acquire technological skills necessary for successful present and future employment. Qualified instructors will be responsible for recognizing the individual needs of students and providing a safe, secure environment for learning. The instructors will provide a technological curriculum to include training in problem solving, decisionmaking, teamwork and communication for entry into the world of work or additional training in postsecondary institutions."
Program areas	Automotive Service Technology, Cisco Networking Academy, Construction Technology, Education, Graphic Arts Technology, Health Care Science Technology, Horticulture, Industry Academy (Robotics and Engineering), Metal Working Technology. Grant and local funds have been obtained and will be used to add Automated Manufacturing and Industrial Systems programs.[b]
Academic courses offered	Not applicable.
Location	The Floyd County Schools College and Career Academy is located on the campus of the Floyd County's former technical high school located across the street from Coosa Valley Technical College.
CEC is a joint venture	
Key academic and business partners	Coosa Valley Technical College, Floyd County Schools, and the Greater Rome Chamber of Commerce.
CEC is seamless	
Dual enrollment opportunities	Dual enrollment opportunities with Coosa Valley Technical College.

(CONTINUED)

TABLE C4 (CONTINUED)

Floyd County Schools College and Career Academy, Rome

Additional certificates or credentials available upon graduation	Technical certification.
Work-based learning opportunities	Apprenticeship opportunities: "Over 160 businesses provide apprenticeships in Automotives, Banking, Child Development, Construction, Culinary Arts, Drafting, Electronics, Journalism, Graphic Arts, Health and Medicine, Horticulture, Legal Services, Manufacturing, Metal Working, Office Management, Radio and Television Production, and more."[c]

a. Obtained from site leader interview.

b. Obtained from http://www.georgiacareeracademies.org/ga_career_academy_project.php.

c. Obtained from http://cca.floyd boe.net/images/CCAbrochure.pdf.

Source: http://cca.floydboe.net/ and www.floydboe.net/information/CharterSchool/introCharter.cfm.

TABLE C5
Golden Isles Career Academy, Brunswick

Background: statistics on career academy and student body	
Background/history	Planning for Golden Isles started in February 2005 with a local businessman (electrical contractor) who needed employees with the right skills sets and ethics. He was referred to the state school superintendent to talk about the local schools' career training, and she suggested the Central Educational Center (CEC) model. The businessman took some others from Glynn County with him to visit the CEC, and they contributed funds to hire a consultant, Russ Moore, from the original CEC site. The consultant helped the community do a needs assessment and prepared a report that was presented to the board of education. Many business people were excited about the idea of a charter school, and the board agreed to support it. The local development authority donated land for the school, and an intergovernmental panel with representatives from the county commission, development authority, and board of education was established to manage the building project. When it was complete, the title was transferred to the board of education, with part ownership by the county commission.[a] "Golden Isles Career Academy (GICA) is a new public charter school located in Brunswick, Georgia. GICA was created to build a growing partnership between the Glynn County School System and the regional business and industrial communities of southeast coastal Georgia. GICA graduates provide a viable skilled workforce to businesses in a variety of occupational disciplines."
Date opened	August 1, 2009
Grades served	9–12
Number of students	745+
Number of faculty and staff	63
Leadership	CEO, nine-member board of directors.
Technical assistance	Received from original CEC, Georgia Department of Education, Office of the Lieutenant Governor.[a]
CEC is needs-driven	
Mission statement	*Mission:* "To ensure a viable 21st century workforce for Glynn County, Georgia. The Golden Isles Career Academy (GICA) is a new public charter school whose time has come—to effectively meet the educational needs of the citizens of Glynn County, as well as the employment requirements of businesses throughout southeast coastal Georgia. GICA graduates deliver a skilled, well-trained workforce to the community. Offering a broad spectrum of career learning programs, GICA's eighteen educational curriculums provide Glynn County's diverse business and industrial sector with the qualified job applicants needed to fulfill their ongoing employment requirements." *Goals:* "Help Glynn County High Schools increase the number of students graduating annually who meet the requirements of the new State Graduation Rule. Cause the percentage of Glynn County students dual-enrolled in career and technical postsecondary programs to increase by 2.5 percent per year. Increase the number of Glynn County students in work-based learning programs by 2.5 percent per year."
Program areas	Agriculture/Horticulture and Veterinary Science; Automotive Service; Broadcast/Video; Business Education; Collision Repair; Computer-aided Design; Construction; Cosmetology; Criminal Justice/Law Enforcement and Public Safety; Culinary Arts; Dental Assisting; Graphic Communications and Design; Health Care Science; Heating/Ventilation, Air Conditioning, and Refrigeration; Hospitality/Marketing; Manufacturing/Engineering; Precision Machining; Welding.

(CONTINUED)

TABLE C5 (CONTINUED)

Golden Isles Career Academy, Brunswick

Academic courses offered	Senior English, senior math, senior social studies.
Location	Built a new building.
CEC is a joint venture	
Key academic and business partners	Altamaha Technical College, College of Coastal Georgia, Embry Riddle Aeronautical University.
CEC is seamless	
Dual enrollment opportunities	Dual enrollment opportunities at Altamaha Technical College.
Types of certificates or credentials available upon graduation	Technical certification in Cosmetology, Culinary Arts, Criminal Justice/Law Enforcement/ Public Safety, Dental Assisting (offered in fall 2010), and Heating/Ventilation/Air Conditioning and Refrigeration.
Work-based learning opportunities	Work-Based Learning (WBL) "program of study that integrates school-based and work-based learning coordinated with business, industry, and labor and provides the students the opportunity to earn a high school diploma, postsecondary credential/diploma, and a certificate of occupational skills. WBL opportunities are available in most of the career pathway areas."

a. Obtained from site leader interview.

Source: http://www.gica.us/.

TABLE C6

Tech High School, Atlanta (not included in the study)

Background: statistics on career academy and student body	
Background/history	"Tech High School was created and designed as an innovative charter school, approved by the Board of Atlanta Public Schools (APS) in July 2003 and established by the State Board of Education in August 2003. Tech High was born out of the determination of respected, successful business, community, and educational leaders in the metropolitan Atlanta area to deal with the student performance needs of Atlanta and the shortage of highly skilled workers in Georgia. The idea and original concept for Tech High was conceived by the Georgia Public Policy Foundation based upon their research of successful schools. The Technology Association of Georgia, representing many of the leading employers in the state, quickly adopted the idea and offered their support. Don Chapman, a Georgia Tech graduate, Atlanta native, and entrepreneur, took the early leadership of the Tech High Foundation, and noted educator Dr. Barbara Christmas took the helm as Tech High's first Chief Executive Officer."
Date opened	2004[a]
Grades served	9–12
Ages enrolled	Information not available.
Number of students	233[b]
Number of faculty and staff	26
Leadership	CEO, dean of student services, executive assistant to the principal, interim student data manager and college advisor, media specialist, business manager, special programs coordinator, student support services, staff director, student support services.
CEC is needs-driven	
Mission statement	*Mission:* "Tech High School maximizes the learning of every student. It delivers a comprehensive, integrated curriculum with a focus on math, science, technology, and communication. Project-based activities and real world applications make learning relevant." *Vision:* "All graduates are prepared to succeed in college or in a technical career."
Program areas	Medical Science, Engineering, Information Technology, Entrepreneurship.
Location	"Tech High is housed in a historic school building, locally known as the Hubert Building."
CEC is a joint venture	
List of academic and business partners	Information not available.
Other committees	Tech High Parents Teachers Students Association ("Parent involvement is encouraged and expected by Tech High School. Parents are required to volunteer at least 20 hours per school year. Volunteer hours may be completed by helping during school hours or at school-sponsored events.")
CEC is seamless	
Dual enrollment opportunities	Dual enrollment partnership with Atlanta Technical College.
Additional certificates or credentials available upon graduation	Dual seal diploma through dual enrollment partnership with Atlanta Technical College.
Work-based learning opportunities	Internships, scholarships, youth programs, and summer programs with Earthwatch Expeditions, Inc., Cornell University, the Central Intelligence Agency, U.S. Senate, Alfred P. Sloan Foundation, National Association of Black Journalists, and U.S. House of Representatives page program.

Note: Tech High School is a comprehensive career academy. Students attend all day and take both academic and career or technical courses. The schools included in the study follow the career academy center model (Mark Whitlock, personal communication; see box 1 in main report).

a. Obtained from http://www.aecf.org/~/media/PublicationFiles/2Charters_r10.pdf

b. Obtained from http://www.trulia.com/schools/GA-Atlanta/Tech_High_School/.

Source: www.techhighschool.org.

APPENDIX D
KEY INFORMANT INTERVIEW PROTOCOL

Thank you for agreeing to participate in this study about how various sites in Georgia used the CEC model to create a career academy. We have reviewed your career academy's website to familiarize ourselves with your school. The questions we will ask in this interview are meant to supplement the information we were able to find on the website. At the end of the interview, you will have an opportunity to provide any important details that you feel we did not ask about.

Background

1. Please describe how [name of school] was established. [Probes: Who was the lead person, organization, or entity? Why was the CEC model chosen? How long did it take from its inception to opening the doors?] *Analysis label: Site background*

2. We understand that the charter career academies in Georgia have different models:

   (a) comprehensive career academy, (b) career academy center, (c) school-within-a-school career academy. What type of charter school is your career academy? Why was this type selected? *Analysis label: Site background*

3. How was the physical location of the career academy selected? *Analysis label: Site background*

4. How are participating students identified or selected? *Analysis label: Site background*

Needs-driven

5. We would like to hear about the processes you use to assess the needs of your community (both initially and over time). What are the formal and informal steps you have taken to assess the needs of the community, and how ongoing is the process? *Analysis label: Initial needs assessment process; Ongoing needs assessment process*

6. What have you discovered in the needs assessment? *Analysis label: Needs assessment findings*

7. How does your school use this information to develop and adjust its curriculum (career clusters, course offerings, etc.)? [Probe: Who was/is involved in the process, and how were/are they involved?] *Analysis label: Curriculum development*

8. When thinking about the whole needs assessment process, is there anything you would do differently? *Analysis label: Looking back at the needs assessment process*

Joint venture

9. We would like to know the ways in which you consider your site to be a "joint venture." How have you established critical partnerships? [Probes: with local businesses, other institutions, parent groups, community organizations, government?] *Analysis label: Joint venture*

10. Why were these particular partnerships established, and what are the partners' roles? *Analysis label: Partner roles*

11. How do you work to maintain these partnerships? *Analysis label: Maintaining partnerships*

12. When thinking about the process of creating a joint venture, is there anything you would do differently? *Analysis label: Looking back at the joint venture process*

Seamlessness

13. How does your site approach horizontal seamlessness (curricular integration)? [Probes:

This protocol was used as a basis for interviewing all informants, the site leaders who provided the bulk of the information for this study. Questions were asked by researchers working in pairs. Follow-up questions are provided as probes.

How are academic skills integrated with career technical content? What are the reasons for using this approach?] *Analysis label: Horizontal seamlessness*

14. [If horizontal seamlessness exists] What are the key ways faculty are supported in this area? (For example, how do academic instructors collaborate with technical education peers? Are there opportunities for common planning time?) *Analysis label: Horizontal seamlessness*

15. How does your site approach vertical seamlessness (colocation, articulated courses, dual enrollment, schedule changes)? How did you decide on which approaches to use? *Analysis label: Vertical seamlessness; Curriculum alignment; Dual enrollment and/or articulated courses; Colocation*

16. When thinking about establishing horizontal and vertical seamlessness, is there anything you would do differently? *Analysis label: Looking back at the seamlessness process*

General

17. What kinds of technical assistance have you received? [Probes: from the Georgia Department of Education? from the CEC replication team?] *Analysis label: Technical assistance*

18. In general, what have you learned that you think others who are considering replication of the original CEC model should know in terms of variations in implementation? *Analysis label: Replication considerations*

Note: May we contact you again should clarifying questions arise? Also, if other people at your site were consulted prior to this interview for further information, would you please provide us with their contact information should we need to follow up with them?

NOTES

1. One site, Walton, received funding from the CEC in addition to state funding.

2. According to the Brunswick and Glynn County Development Authority website, its purpose is to "promote new industry and existing industry expansion." Retrieved December 8, 2010, from http://www.georgias-goldenopportunity.com/aboutauthority.html.

3. Dual enrollment is a collaborative effort between the Georgia Department of Education and the Department of Technical and Adult Education "whereby high school students take technical college courses to receive both high school credit and postsecondary credit." (Retrieved December 8, 2010, from Georgia Career Resource Network website http://www.georgiacrn.net/ToolsInformation/PPTs/10thGradePowerPoint.pdf).

4. According to the Technical College System of Georgia website, HOPE Grants (Helping Outstanding Pupils Educationally) "reward students who have earned good grades by helping with the expense of continuing their education after they graduate from high school" (http://www.dtae.org/hope.html). Georgia residents attending a Georgia public technical college to earn a certificate or diploma are eligible for a HOPE Grant regardless of high school graduation date or grade average.

5. The 1985 Quality Basic Education Act "increased the total amount of money appropriated for K–12 education" and "introduced the 'student full-time equivalent' standard in funding . . . allocating state funding to local school districts not on the basis of the total number of pupils enrolled in the system but depending on how many hours students were in class during a school day" (http://www.georgiaencyclopedia.org/nge/Article.jsp?id=h-860).

6. The fourth team member was contacted but not available to participate.

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