

Essential Elements of CEC

There are a set of essential elements *required* to become a truly CEC-like institution. While there is room for some variation due to local circumstances, without the following elements the CEC experience cannot be matched. While many of the strategies listed below have been used in other innovative educational reform efforts, it is the complete package of elements implemented with fidelity that distinguishes CEC from other education reform experiences.

The essential elements must also be viewed in the context of CEC's mission—to ensure a viable, 21st century workforce—which they directly support. CEC serves both secondary and postsecondary students with the aim of producing accomplished citizens, meaning that graduates have the knowledge, skills, and information to be accomplished individuals, family members, workers, and members of society. (However, this manual focuses only on the secondary students served.) In particular, CEC strives to cultivate life-long learning and an exceptional work ethic in students. To achieve these ends, a joint venture among business and industry, the local school system, and the local technical college to launch a charter high school has been necessary.

Each of the essential elements is described below, drawing on the more detailed description of CEC in the previous chapter.

Essential Elements of CEC

Element 1: CEC is a SYSTEM

Follow a step-by-step process.

Element 2: CEC is a JOINT VENTURE

Ensure community-wide support with representatives of major stakeholders, particularly business and industry, serving on steering committee or board.

Element 3: CEC is NEEDS-DRIVEN

Develop course offerings and curriculum, including equipment and space, based on community/employer needs.

Element 4: CEC is SEAMLESS

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

Element 5: CEC is EXPERIENTIAL

Provide (1) project-based instruction, (2) performance-based instruction, and (3) work-based learning opportunities with local business.

Element 6: CEC has HIGH EXPECTATIONS

Cultivate an exceptional work ethic in students who are trusted and empowered to make their own choices.

Element 7: CEC is FLEXIBLE

Create a center for secondary and postsecondary education that is a non-immersion high school with organizational, staffing, financial, and legal flexibility.

Element 8: CEC requires and fosters LEADERSHIP

Hire a leader who manages the joint venture with a focus on culture, rather than procedure, and creates an environment where faculty members are empowered to lead and collaborate.

Element 9: CEC is RESULTS-DRIVEN

Provide performance-based assessment and ensure ongoing data collection and monitoring of satisfaction and of student performance for continuous improvement.

Element 1 **CEC is a SYSTEM**

Follow a step-by-step process.

Replicating CEC is not just about creating a physical plant and copying a curriculum. Any new endeavor should follow a step-by-step process (like the ADDIE process described in the next chapter) that engages stakeholders in analysis of needs, designing of solutions, development and implementation of a new entity, and continuous evaluation to achieve a clear set of outcomes for its graduates.

Element 2 **CEC is a JOINT VENTURE**

Ensure community-wide support with representatives of major stakeholders, particularly business and industry, serving on steering committee or board.

CEC is truly a joint venture of key community stakeholders. It requires commitment from the highest levels of secondary, postsecondary, and business and industry leaders, as well as vital support from parents, teachers and counselors, local government, and community organizations. Each partner has a specific role to play and is also willing to sacrifice some of its “turf” to accommodate the joint venture for the benefit of everyone. Each collaborates in planning, designing, implementing, administering, funding, and marketing the new institution.

- Business and industry representatives play the central role in identifying the outcomes for successful graduates through launching an assessment of local employer needs, developing programs of study and curricula, equipping technical classrooms, and identifying work-based learning opportunities.
- Secondary and postsecondary education collaborate to provide the physical structure and instructors. The local school district will need to engage in curriculum development, course scheduling, facilities development, fundraising, and charter development. The technical college must be part of developing articulation and dual enrollment agreements, facility provision, and staffing decisions.
- Parents, teachers and counselors, local government, and community organizations can assist by serving on the governing board, enrolling children in the school, advising students to take classes at the institution, supporting tax or bond measures that would finance facilities, advocating on its behalf at the state level, and “marketing” the institution to others within and outside of the community.

As discussed in Chapter 5: Analyze, there are several steps to creating and sustaining the interest and support of each stakeholder group. Often a champion individual or organization emerges to get the process started, but it is essential that all partners are engaged and committed as champions may move on. Numerous opportunities for discussion and debate should be offered before entities are formed. If the community agrees upon creating a CEC-like experience, initial

planning and discussion can progress to the formation of a steering committee and eventually to a board of directors who will maintain the partnership over time. Community involvement in a decision-making body leads to community ownership of the resulting school. Creation of a representative steering committee and board of directors and the roles of these entities will be more fully described in Chapters 5 and 7.

Element 3 **CEC is NEEDS-DRIVEN**

Develop course offerings and curriculum, including equipment and space, based on community/employer needs.

It is essential to success that a CEC-like institution address actual community needs. Community stakeholders will determine everything from whether a new entity is needed at all (see Chapter 1: Why Reconceptualize Education? and the section on Defining the Problem in Chapter 5) to the content of the curriculum, done through conducting a needs assessment. The details of administering a needs assessment along with a sample needs assessment are provided in Chapter 5.

Far from allowing traditional subject matter to dictate course content, proponents of CEC feel that curriculum should provide young people with knowledge and skills they need to succeed in a variety of settings including employment, postsecondary education, and as accomplished citizens in general. All stakeholders should therefore be involved in creating, administering, and analyzing a formal needs assessment to determine appropriate curricular content to accommodate local employer needs and students' plans for their futures. Course offerings and curriculum should be frequently reviewed by business and industry stakeholders to confirm their continued relevance. (See guideline on program advisory committees in Chapter 7: Develop, Section E. Develop the Educational Program.) Technical college staff can select college certificates to meet employer needs. Information required to meet state K-12 standards will also need to be incorporated into programs of instruction.

If done right, the new educational entity should feel much like a workplace. Students should be engaged in team work and problem solving around real-world tasks. In addition, the settings and equipment should be as similar as possible to those found in the relevant employment setting. Thus classrooms and laboratories that are set up as hospital or dental rooms, for instance, or contain the latest computer, welding, or printing equipment are essential to learning necessary skills. Local businesses are often key suppliers for the required equipment, donating that which their employees use.

Element 4 CEC is SEAMLESS

Focus on (1) integrating academics with career and technical education and (2) integrating secondary and postsecondary education, with an emphasis on dual-enrollment opportunities.

CEC advocates work hard to erase artificial separations between types of learning, through both horizontal and vertical curriculum integration.¹ Horizontal integration refers to erasing lines between academic and career and technical education taught at the same grade level. Vertical integration refers to erasing lines between secondary and postsecondary education. Both of these types of integration are described in detail in Chapter 3: The CEC Experience.

Horizontal integration of academics and career and technical education is accomplished in two ways: at the building level and in the classroom.

- *At the building level:* Students who attend CEC can take both technical courses and some of their core academics, such as English, math, and social studies, at the same facility.
- *In the classroom:* CEC technical education instructors, in particular, use their subjects to convey academic content. Academic instructors give some focus to workplace skills, such as technical writing, and at times collaborate with their technical education peers to provide applications of the content they are delivering. In general, students participating in curriculum integration initiatives such as this appear more motivated to learn and attain both academic and vocational knowledge, understanding, and skills.

Vertical integration of secondary and postsecondary education is accomplished through several means:

- *Co-location:* CEC is the co-location of high school career and technical education with the county campus of the technical college. Co-location allows high school and college staff to coordinate course requirements and content, schedules, and credentialing. For all of the technical courses offered at CEC at the high school level, WCTC offers corresponding coursework and certifications. Thus, even without being dually enrolled at the technical college, high school students can continue in any pathway they have chosen and enter postsecondary studies well prepared.
- *Articulation agreements* between the school system and technical college mean that college students may receive recognition for competencies achieved through their high school coursework, particularly in technical areas.

¹ Curriculum integration is defined as “a series of conscious and informed strategies used to connect academic and technical content so that one becomes a platform for instruction in the other over an extended period of time” by Amy Bell, Ivan Charner, and Robin White in *Curriculum Integration in Context: An Exploration of How Structures and Circumstances Affect Design and Implementation*. Minneapolis, MN: National Research Center for Career and Technical Education, July 2002.

- *Scheduling changes:* Specific changes in college scheduling allow the high school students to take technical college courses during the regular school day and to complete credentials during a single semester.
- *Dual enrollment:* Students with dual enrollment have the opportunity to obtain their high school diploma and a technical certificate of credit (TCC) from the college simultaneously. Most dually-enrolled CEC students earn one or more TCCs during their high school years, in areas such as patient care assisting or welding. Those CEC graduates who do go on to further postsecondary education have often reduced the time and cost of earning a credential and enter college with a clear idea of what they would like to study. Dual enrollment also has powerful social and psychological effects due to the intergenerational learning opportunities it provides. Graduates of CEC have commented on the value of having opportunities to interact with adult students while still in high school, claiming an increased comfort level in the adult workplace and an increased sense of self-confidence that is not generally derived from peer interaction.

Element 5 **CEC is EXPERIENTIAL**

Provide (1) project-based instruction, (2) performance-based instruction, and (3) work-based learning opportunities with local business.

Combining education with both classroom-based projects and work-based learning experiences also blurs the boundaries between school and “real life”—allowing students deeper learning and greater retention of what they learn. Elements 3 and 4 describe a curriculum that is needs-driven and an integration of academic and career and technical education. These goals can be furthered by projects that simulate real-life situations and opportunities for young people to spend time in actual workplaces. Such projects and opportunities can be specifically related to the knowledge and skills students will need in future situations. They can also involve both career-specific and general academic knowledge and practice. Students are especially motivated to learn when lessons pertain to real-life needs—and potentially to jobs—in the workplaces of local employers. They also relate to their future roles as active and aware citizens of their communities.

- *Project based instruction*, also called project-based learning, uses interdisciplinary questions anchored in real-world issues to create opportunities for student-centered active learning through investigations and application of information. Instructors guide, facilitate, and advise students in their work and offer resources. Among the benefits of project-based instruction is its ability to increase students’ self-esteem and motivation to attend and participate in school through allowing them to choose their own topics of study, use their individual learning styles, and creating a sense of ownership. In addition, project-based instruction prepares students for the workplace as it requires them to develop skills such as planning, collaboration, decision-making, time management, and problem-solving.
- *Performance-based instruction* refers to the practice of teaching to proficiency—what students can do with what they know. The foundation of performance-based instruction

is a curriculum in which the knowledge, skills, and information to be attained are clearly identified and a process for teaching each determined. The method requires building learning through student practice and mastery of each task or concept before moving on to the next. How to teach is very dependent on the content being taught and thus teachers use different tactics for teaching different concepts or skills, based on the evidence of what works best. In general, the sequence for any given unit is to preview it, present content in a series of lessons in which students can respond and receive feedback, and then practice-to-fluency in which students respond to real world applications at a higher level of speed. In order to aid students in making the link from classroom to real life, the content of courses should be as specific as possible.

- *Work-based learning* is a planned, supervised program of education and training which takes place in a workplace or simulated workplace setting and is linked to a series of coursework. It allows students to apply the knowledge, skills, and information gained in their courses, while developing an understanding of the workplace and the importance of performance and effort. The workplace provides a learning-rich and authentic environment, ongoing feedback and interaction with adults, and a chance to demonstrate competencies. Several types of work-based learning are described in Chapter 3: The CEC Experience.

More information on developing work-based learning is provided in Chapter 7: Develop, Section E. Develop the Educational Program.

Element 6 **CEC has HIGH EXPECTATIONS**

Cultivate an exceptional work ethic in students who are trusted and empowered to make their own choices.

CEC demonstrates its high expectations for young people by treating them as responsible young adults in a workplace. One of the key features of CEC is an emphasis on work ethic that would be required of any employee. Absenteeism, tardiness and general performance are treated as they would be at an actual job site and work ethic is specifically measured and formally recorded on transcripts, report cards, or as part of a students' classroom grade. CEC also shows its trust in the abilities of young people by allowing them to choose their own course of study and empowering them through participation on a student advisory board to CEC.

- *Work ethic*: "Work ethic" was the most frequent response of Coweta County employers to the needs assessment of what they were looking for in hiring employees. Therefore, CEC strives to cultivate an exceptional work ethic in students. In addition to academic grades, students receive a "work ethic grade" comprised of scores across ten factors or themes, such as character, productivity, and cooperation. These themes rotate on a weekly basis. All instructors are expected to work the themes into their curriculum and lesson plans. The work ethic grading rubric was adapted from that used at Georgia's technical colleges. At the technical college, which has measured work ethic for years, all students receive a grade of 0-3. By default it is set at 2 and goes up or down during a

class. At CEC work ethic grades are separate from class grades, but show up on report cards. CEC has produced a pamphlet to ask business leaders to request a transcript from prospective employees and look at the work ethic grade.

- *Students are trusted and empowered to make their own choices:* CEC is not a place where unmotivated students are relegated to complete their high school years without positive hopes for their future. On the contrary, all students in the county have the option to *choose* CEC in order to better prepare themselves for future endeavors. At CEC, students have the opportunity to follow a program of study, a coherent series of classes within a specific occupational area and leading to a particular career. Programs of study are created with the assistance of counselors and others. Students at CEC can choose to take courses within a number of career pathways or occupational areas, such as health and medical or technical and engineering. Depending on their goals, the chosen program of study will incorporate the necessary academic and career and technical courses, work-based learning opportunities, relevant technical college certificates, and continued postsecondary instruction as needed.

Students are generally empowered to take on adult roles, through interacting with adults in the technical college, practicing proper work ethic, making their own choices, and participating in a student advisory board that helps set CEC policy, led by a school counselor. CEC students and graduates provided the following testimony of their empowered roles:

“CEC has a mature atmosphere. People have more respect for themselves or their work when they’re here and they behave better.”

“It’s teaching me that when you get older, there is nobody there to tell you what to do and how to do it.”

“Put the burden of responsibility on students. Put it on us and we’ll respond.”

“At CEC, you have more freedom and responsibility comes with it.”

“There’s so much opportunity. You learn to respect and cope with one another here.”

“The attendance policy is tough, but it’s just like work. I work part-time after school. If I don’t show up, it’s my job I’m losing.”

“My friends ask me why I want to get up 15 minutes earlier to catch the bus to CEC. It’s a choice.”

“I was in class at WCTC with people my parents’ age. At first, in my IT classes, the high school and adult students were sitting on different sides. Eventually, the older students asked me for help. After graduating from high school and starting work, at 18 I was managing people my father’s age. Taking college classes taught me to work well with others.”

Element 7 **CEC is FLEXIBLE**

Create a center for secondary and postsecondary education that is a non-immersion high school with organizational, staffing, financial, and legal flexibility.

CEC has two organizational conveniences that allow it considerable flexibility in achieving its goals: it is a “non-immersion” high school and it is a charter school.

- *Non-immersion:* CEC is not a fourth high school in Coweta County, rather it is a non-immersion school open to students from all three county high schools. All high school students in the county have the option to attend courses at CEC, which are listed on the master high school schedule. Students who attend can choose to take only one class there or many and can follow a program of study—a coherent sequence of courses in a career or occupational area—of their choosing. As students remain enrolled in their base high schools, CEC does not need to replicate all aspects of a traditional high school. Considerable funds are saved on not duplicating sports programs, a cafeteria, or after-school activities. (The district also sees efficiencies from offering expensive technical courses or high-level electives in only one location.) CEC staff can also more fully devote themselves to perfecting the center’s curriculum and instruction.
- *Charter school:* Like 40 states and the District of Columbia, Georgia law allows for the creation of charter schools. Charter school status allows schools greater organizational, staffing, financial, and legal flexibility in return for greater accountability. To reach its goals, the CEC steering committee determined that it should apply for Georgia charter school status. The charter document lists CEC goals and indicators of success, while providing waivers from some Georgia public education laws, such as changes to seat time requirements for students attending both CEC and their base high schools.

Charter status also allowed CEC to choose its staff, including some instructors and a CEO from private enterprise who lacked formal teaching credentials. Traditional staff titles were also dropped in favor of more business-friendly titles. In addition, the role of a CEO in holding the technical college accountable for its responsibilities to the joint venture is not traditional for the leader of a public high school. Financially, CEC has the opportunity to diversify its sources of funding with few constraints. In addition, it has flexibility beyond that of other public schools in allocating its resources, such as determining salaries for non-traditional teaching staff.

Element 8 **CEC requires and fosters LEADERSHIP**

Hire a leader who manages the joint venture with a focus on culture, rather than procedure, and creates an environment where staff are empowered to lead and collaborate.

CEC’s unusual flexibility allows it to attract an accomplished business leader to serve as a CEO. This CEO sustains a culture that allows staff members to take on their own leadership roles.

- *The CEO* of CEC is the leader of a joint venture among the school district, the technical college, and business and industry. Hired by and accountable to the board of directors, s/he oversees the high school principal and the director of college operations and is responsible for oversight and integration of high school and college operations. The CEO's role includes reinforcing the vision and mission of the center, staying close to those inside the school while keeping in touch with the outside community, and pursuing continuous improvement. The CEO takes responsibility for communicating an exciting vision to all, building and strengthening connections between partners, acting as a mentor, developer, and facilitator, planning strategically, and attracting and retaining students, among other things. The CEO's role is critical, yet delicate as s/he has little direct control over staff members, who are employed by one of two partners, and the center has little budget of its own. This requires that s/he manage the center with a focus on culture, rather than procedure. The culture developed at CEC includes setting high expectations, creating a business environment, maintaining industry partnerships, and fostering a work ethic among students. In particular, the CEO values and encourages trust, team work, and communication among staff and students. Leadership at CEC involves a conscious commitment on the part of the CEO to extend a high level of autonomy and respect to the administrative directors, with an emphasis on professionalism that they in turn extend to the instructional staff.
- *Staff members at CEC are empowered to lead and collaborate.* Due to its charter school status and the foresight of its partners, CEC is able to hire administrative directors and instructional staff who are interested in the culture and mission of CEC, who want to be there, and who are uniquely skilled to reach CEC's goals. The CEO creates an environment where instructional staff members are empowered to take the lead in developing their own innovative curriculum, in keeping with the emphasis of CEC on employer needs and experiential learning. Teaching at CEC is a desirable position and there is a waiting list for teaching positions there. CEC also provides considerable planning and staff development time to teachers. CEC has an extended lunch period (1 ½ hours) to allow commuting time to base high schools. As no classes are held during this time, all instructors are available for common planning time, staff meetings, professional development opportunities, and sharing best practices. Common planning time allows collaboration between academic and career instructors, as well as between secondary and postsecondary faculty.

Element 9 **CEC is RESULTS-DRIVEN**

Provide performance-based assessment and ensure ongoing data collection and monitoring of satisfaction and of student performance for continuous improvement.

CEC measures achievement in meaningful ways for both students and the program itself. Students have performance-based assessments. The program is evaluated through data collection, satisfaction surveys and student performance. Continuous improvement is emphasized.

- *Performance-based assessment* techniques evaluate skills and knowledge based on authentic tasks, including class assignments, portfolios, performances, and projects. For example, a student learning a foreign language may be assessed through having a conversation with a fluent speaker of the language s/he is learning in order to determine proficiency. Performance-based assessment is connected to students' daily work and is thus more relevant, allows students to assess their own work, can help teachers improve instruction, and allows teachers to communicate more effectively with students and parents on progress and ways to improve. Performance-based assessment is just one of several measures of student success monitored at CEC. It is a particularly useful assessment technique for CEC's curriculum that is needs-driven, that integrates academic and career and technical education, and uses both project and performance-based instruction.
- *Ensure ongoing data collection and monitoring of satisfaction and of student performance for continuous improvement.* A critical step in developing a new entity is to evaluate it against its purpose and goals (See Chapter 4: The ADDIE Process). Careful evaluation leads to a cycle of continuous improvement. Student performance indicators measured at CEC include attendance and tardies, classroom and work-based learning performance, work ethic measurements, standardized test scores, high school graduation and dropout rates, postsecondary credit and credentials earned, and placement data that tracks students into postsecondary education and employment. Several of these indicators are measured at the school district level, such as dropout and graduation test pass rates. CEC also monitors student, parent, instructor, and employer satisfaction. Student and instructor satisfaction instruments are posted on the internet toward the end of each school year. These are important instruments in measuring the culture of the school, and provide feedback to administrators in particular about any changes that should be made. Results of the surveys have caused administrators to clarify the importance of accountability to students and to be more explicit about the consequences of failing to meet CEC standards. CEC uses a "red flag" system in order to monitor how it is doing. Red flags are benchmarks that CEC strives to meet. Failure to attain one of these indicates a need for action. Examples of these are a 90 percent student satisfaction rate or ensuring that 80 percent of students earn 80 percent or higher in the classroom and work-based learning grades (See Chapter 4: The ADDIE Process).