

University of California at Berkeley



Planning Guide

for Career Academies



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Chapter I

What is a career academy?

The first career academy began in 1969 at Edison High School in Philadelphia. It enrolled 30 students, was called the "Academy of Applied Electrical Science," and was supported in part by the Philadelphia Electric Company. From that small beginning has grown an estimated 10,000 academies today in approximately 7,000 high schools, with upwards of 1 million students enrolled. Several states have academy networks, as do many individual districts. And there are now several organizations working at the national level to support career academies; these are described in Chapter VI.

While the U.S. Departments of Education, Labor, Justice, and Health and Human Services have all shown interest in career academies, there is no federal agency that officially oversees them. A national survey conducted in 2004 by the National Center for Educational Statistics found 4,800 high schools with at least one career academy. The Small Learning Community grants program administered by the U.S. Department of Education reports that career academies are the most common variety of program implemented under that initiative in the ~1,500 high schools receiving such grants (through 2007). Current estimates place the number of career academies in the United States at somewhere between 6,000 and 10,000.

Definitions of career academies have evolved over the years. In 1984 the State of California passed legislation defining what a *California Partnership Academy* was, since updated several times, providing a precise definition in that state. In 1999 the Career Academy Support Network (CASN) at UC Berkeley gathered the various definitions of career academies from the states and organizations supporting them and merged these into a "common definition." And in 2004 this was expanded into the *Career Academy National Standards of Practice* (contained in an appendix). Two years later the National Career Academy Coalition (NCAC) developed a set of rubrics to accompany these standards and offers accreditation like reviews of academies.

This common definition arrived at has three features (detailed on the next page):

- A small learning community within the larger high school
- A curriculum that combines a career focus with meeting college entrance requirements
- Partnerships with supporting employers, community members, and institutions of higher education

A Small Learning Community

A career academy is a small learning community within a high school, which selects a subset of students and teachers for a two-, three-, or four-year period. Students enter through a voluntary process; they must apply and be accepted, with parental knowledge and support. While academies vary in size, they usually have from one to five sections of students at each grade level, or 100-400 students in all. Academy classes are often blocked back-to-back in the daily schedule, and students attend as a group, what is often referred to as "cohort" scheduling. Students are able to complete academy and graduation requirements within the regular school day, with the exception of work internships and possible concurrent enrollment in college classes.

A career academy involves teachers from different subjects working together as a team. This team manages the program, with one member usually serving as the coordinator or lead teacher. Teams usually participate in professional development, particularly in implementing the key features of the model and gaining exposure to the career field. Team members have shared planning time, usually a daily common planning period, and often release time. The joining of a group of students for several periods each day with teachers who they come to know well provides a family-like atmosphere, nurturing close student-teacher ties. Academy students also participate in required and elective classes outside the academy, as well as other activities such as clubs and sports. An academy requires administrator and counselor support.

College preparatory curriculum with a career theme

Students in a career academy have a mixture of career (usually one) and academic (usually two or three) classes at a time. These classes meet entrance requirements for

four-year colleges and universities. They are linked to academic and industry standards, encourage high achievement, and show students how their subjects relate to each other and the academy's career field.

The career classes develop knowledge in a broadly defined field. They are designed to expose students to the full vertical range of careers in that field. Projects require students to bring together academic skills across their subjects and apply these to community and work settings outside the school. Usually the sophomore year involves a series of speakers from employers and nearby colleges. The junior year includes job shadowing and/or a mentor from a supporting employer or college. The summer following the junior year and/or senior year includes work experience, a paid or unpaid work internship or community service assignment. Students are provided with college and career counseling, forming a post-graduate plan that usually includes at least some college (broadly defined), leading to a productive career.

Partnerships with employers, communities, and higher education

The academy career theme is selected locally, based on an industry that is healthy and can provide a cadre of partners interested in supporting the program. Employers from a group of companies in the selected field, and two- and four-year college representatives, work as partners in the academy, serving on a steering committee (along with teachers, administrators, and often parents and students) that oversees the program's development and operation. This committee helps to plan the various activities in which partners participate: as speakers at the school; as field trip and job shadowing hosts; as mentors, career-related "big brothers and sisters"; and as work internship or community service supervisors. College partners, most often community colleges, also often arrange dual enrollment classes for juniors and seniors to give academy students a head start on postsecondary education, and employer partners often hire graduates.

This three-part definition can be viewed in either chart or graphic form by visiting CASN's website: casn.berkeley.edu. While there are still variations and gaps in the way this approach is implemented in various places around the country, this is an agreed upon

definition of what a successful career academy should include. The full ten-part *Career Academy National Standards of Practice* document is contained in an appendix.

Who says?

Following are the organizations that have agreed on the national definition of career academies:

- The California Partnership Academies based in the California Department of Education
- The Career Academy Support Network (CASN), based in the Graduate School of Education at UC Berkeley
- The Center for the Social Organization of Schools (CSOS), sponsors of *Talent Development High Schools*, a school-wide application of academies, at Johns Hopkins University in Baltimore
- MDRC, a leading national evaluator of academies, based in New York City and Oakland, CA
- The National Academy Foundation (NAF), with the largest national network of academies (over 500), focused in finance, travel & tourism, information technology, and engineering, based in New York City
- The National Career Academy Coalition (NCAC), a membership organization that sponsors an annual national academy conference
- The Philadelphia Academies, Inc., with 28 academies in 12 career fields in 19 high schools, and nearly 7,000 students
- The Southern Regional Education Board (SREB), sponsor of *High Schools That Work*, the largest high school reform effort in the country, with over 1,000 high schools, based in Atlanta, Georgia

Chapter II

Why start an academy?

One reason why growing numbers of states, districts, and high schools have decided to start career academies is that they have been found to be effective in improving students' performance. Studies of several different types have been done. What follows is a brief recap.

Several studies in California have found that academy students perform better than similar students in the same high schools who are individually matched with academy students on demographic characteristics and ninth grade records of grades, absenteeism, and disciplinary problems. An evaluation of the first two academies in California in the early 1980s found that academy students in grades ten through twelve had better attendance, earned more credits, obtained higher grades, and were more likely to graduate than their comparison groups (Reller 1984; additional citations in Stern, Raby, and Dayton 1992; see also Raby 1995). From 1985 through 1988 a similar evaluation of the first ten state-funded academies in California showed substantial and statistically significant advantages for academy students in attendance, credits earned toward graduation, grade point averages, and retention through high school (Dayton et al. 1989; Stern et al. 1989).

Annual data collected from state-funded academies in California continued to show improvement after students enter an academy and while they are enrolled in it (Dayton 1997; Warren 1998). High school dropout rates in academies averaged about seven or eight percent over three years — about half the rate in the general population of California students, despite the fact that state-funded academies are required to recruit a majority of students who are economically or educationally disadvantaged. Although these data describe only the performance of academy students, without comparison groups, they are consistent with the comparison-group evaluations.

Maxwell and Rubin (1997) surveyed former high school students from a large California school district one or two years after their graduating year. They found that students who had attended career academies were at least as likely to be enrolled in four-year colleges as students who identified themselves as having been in the academic track

in high school. Both the career academy and academic track graduates had significantly greater likelihood of enrolling in four-year college than graduates who classified themselves as having been in the high school general track. This was in spite of the fact that academy students had lower average scores on sophomore reading tests in high school, and they were less likely to be native English speakers, compared to students in the general track.

Maxwell and Rubin (2000) also analyzed school district records on academy and non-academy students. They found that students in career academies obtained significantly better grades. This was not due to easier grading standards within the academies: Maxwell and Rubin found that courses within most of the academies actually awarded *lower* grades than non-academy courses in the same subjects. Furthermore, when Maxwell and Rubin divided students into high, middle, and low groups according to tenth grade math and English test scores, they found in each group that academy students obtained higher grades than non-academy students. The higher grades of academy students appear to be the main reason for their higher rate of college attendance, compared to non-academy students.

Maxwell (1999) extended the Maxwell-Rubin study to follow graduates of career academies and other graduates from the same school district that enrolled at a nearby campus of the state university. She found that the academy graduates were more likely to come from high schools with large proportions of low-income minority students. After taking this into account, the academy graduates were less likely to need remedial coursework at the university, and they were more likely to receive their bachelor's degrees, compared to the other graduates from the same district. These findings suggest that academies help low-income students finish not only high school, but also college. They imply that the improvement in high school graduation rates was not accomplished by lowering academic standards in the career academies.

MDRC began a 9-site study of career academies in 1993 by creating a list of students who applied to the career academy at each site, and choosing at random those who would be admitted to the academy and those who would not. The latter constituted the control group. Unlike the matched comparison groups in earlier studies, all students in the MDRC control group had taken the initiative to apply to the career academy. They therefore shared the same unmeasured motivation, ambition, or other traits that might characterize the academy student.

MDRC found that academy students overall earned a larger number of course credits needed for graduation, and were more likely to have positive developmental experiences such as working on a volunteer project. The strongest and most pervasive differences were found among students at highest risk of school failure. Among this subgroup, the academy students attended school more regularly, earned more course credits, were more likely to participate in extracurricular activities and volunteer projects, and were less likely to be arrested. The dropout rate for the high-risk subgroup was reduced from 32 percent in the control group to 21 percent among the academy students (Kemple and Snipes, 2000).

MDRC continued to track the students in its study for eight years after high school graduation. Data from this follow-up showed that academy students graduated at the same rate as non-academy students, and attended post-graduate education at the same rate, although in both cases the rates were substantially higher than national averages for similar students. However, employment rates for academy graduates were higher, as were earnings, especially among young men. In addition, rates of stable family formation were higher among academy students (Kemple, 2008).

In the March 2007 ConnectEd, the California Center for College and Career, issued a report in cooperation with the Career Academy Support Network at UC Berkeley entitled *A Profile of the California Partnership Academies 2004-05*. This study involved approximate 33,000 students enrolled in these 290 academies in 2004-05. They came on average from high schools with below average state test scores and 50% of whom were required to meet at-risk criteria to qualify for academy entry, were passing the state's high school exit exam at higher rates than state averages, graduating at higher rates than state averages, and meeting the state's a-g college entrance requirements at higher rates than state averages.

While this body of research (and other studies not cited here) provides good evidence of the effectiveness of career academies, there are certain results they have *not* been shown to accomplish. For example, most studies have not shown an academy effect on standardized test scores. As cited above, the MDRC study showed reduced differences over time between academy and non-academy control students, especially by the point of high school graduation (Kemple, MDRC, 2001). Yet no study has shown

any negative effect from career academies, and virtually all have shown some benefits. There are few if any high school reform approaches that can match this record.

Why *shouldn't* you start a career academy?

With the evidence in support of career academies, and their rapid and continuing growth, this may seem like a strange question. Yet there are good reasons not to start an academy. In fact, one path to avoid is to get caught up in the enthusiasm of this approach thinking it will solve every problem in high school, without looking at the difficulties involved in launching academies or what they probably won't accomplish. Here's a brief summary of what to be cautious about.

Academies are a great deal of work. They require substantial changes in the way high schools operate internally. Administrators, counselors, and teachers all have to be ready to change their practices. Scheduling has to be done differently. Curriculum needs to change. Employers, college representatives, other community members, and parents need to be involved and have a stronger role in the way the school functions. All this requires substantial work and involves going through a difficult and sometimes contentious change process.

Not all academies succeed. On average, academies cause improvements in student performance. Within these averages are academies that failed. It is a complex approach, and if poorly implemented, may cause more problems than it solves. Academies that are well implemented account for the positive results that have been found, but the quality of implementation and the results for students are correlated. Simply deciding to go this route, without doing the hard developmental work and carefully monitoring results, probably won't help.

Academies can cause new problems. While academies generally have positive effects on student performance, and most students and teachers like them better than more traditional high school structures (Kemple, 1997), they often cause new problems. Scheduling becomes more difficult, due to the need to group students together across

several classes. Including AP, IB, honors, language development, and special education classes in the schedule is more difficult. Teachers who teach upper level classes and don't want to relate their subject to other subjects or a career field may not like academies. Teachers who like being a "sage on the stage" rather than a "guide on the side" may not like academies, which tend to be student centered. Parents are likely to become more involved, bringing pressure on the high school for high quality instruction. Employers are likely to become more involved, bringing pressure on administrators for better prepared graduates.

Academies probably won't change standardized test scores. Evidence to date suggests that career academies are unlikely to have impact on such scores, unless combined with improved teaching and learning methods within their small learning communities. Academies can improve motivation and the indicators that reflect that, such as attendance, retention, and grades, but there is little evidence that they will improve test scores. Their academic effects also seem to fade over time, after students leave high school, which while understandable, may lessen their appeal.

There are lots of good reasons to start career academies, but they are not a panacea for all the problems of high school. They should be approached cautiously, and if attempted, implemented carefully and thoroughly. There is guidance and help available in this process, some of it covered in the next three chapters, but don't begin an academy expecting quick, easy, sure-proof results.

Chapter III

How do you begin?

Academies usually start with one or a few teachers or administrators learning about this approach and deciding it would be a good idea for their high school. This leads inevitably to the question: what next? How do we get from thinking this is a good idea to actually starting an academy?

While there is no pat formula, usually the next step is sampling interest more broadly in the school and community. Share the information that has made you interested with other teachers, the principal and other administrators, and members of the school board. Others to talk to are employers, institutions of higher education, parents, and students. Experience suggests that while an excited teacher or two can provide good leadership, they cannot make an academy successful by themselves. All the stakeholders listed above need to be on board.

One of the first and most important decisions in starting a new academy is the choice of career field. Academies draw on the inherent interest students have in learning about some feature of the world of work to motivate them to take seriously their core academic subjects as well. Thus the field needs to be one that holds interest for students. It also needs to be one with interested employers in the community who will provide the support needed for an academy: Advisory Committee members, speakers, field trip hosts, mentors, and internships. It helps if there are post-secondary programs in nearby colleges students can advance to following high school. And it needs to be an industry that is healthy and growing, so there will be opportunities available when academy students complete their education and are ready to seek them.

The career field also needs to be well defined in terms of breadth. Too narrow a career field will limit employers and stunt student interest. "Radiation technician" for example is too narrow; "health" is better. On the other hand, too broad a career field

makes it impossible to identify relevant employers or curriculum. "Computers," for example, is too broad; they have applications in all fields.

Economists usually categorize economic activity into industries or clusters. A national project of the state directors of career and technical education, called "Career Clusters", has been helpful in defining those useful for instruction. These 16 Clusters are displayed below. They are accompanied by "Plans of Study" for the several Pathways in each Cluster, a total of 79. These Plans of Study are based on the knowledge and skills identified for each Cluster and Pathway. Detailed information can be obtained about all this at www.careerclusters.org.

Taxonomy of Industries/ Career Clusters

Agriculture, Food & Natural Resources

Arts, A/V Technology & Communication

Business, Management, and Administration

Architecture & Construction

Education & Training

Finance

Health Science

Hospitality & Tourism

Human Services

Information Technology

Law, Public Safety, Corrections & Security

Manufacturing

Government & Public Administration

Marketing, Sales & Service

Science, Technology, Engineering & Mathematics

Transportation, Distribution & Logistics

California uses a slightly different taxonomy, with 15 industries. If you'd like to see a chart that crosswalks the two, including a list of pathways within each, take a look at CASN's *Career Academy Course Sequences* guide (available at casn.berkeley.edu).

California's Taxonomy of Industries/ Career Clusters

Agriculture & Natural Resources

Health Sciences and Medical Terminology

Arts, Media, and Entertainment

Hospitality, Tourism, and Recreation

Building Trades and Construction

Information Technology

Education, Child Development, and Family Services

Manufacturing and Product Development

Energy and Utilities

Marketing, Sales, and Service

Engineering and Design

Public Services

Fashion and Interior Design

Transportation

Finance and Business

Once the stakeholders to be affected by an academy have been involved and the industry or career field identified, a more precise set of planning tasks can be undertaken. It usually takes from eight months to a year to effectively plan a career academy from this point. The set of planning tasks and schedule on the next page define the key steps in this process and the time frame in which they need to be accomplished. It can be elaborated and varied to fit individual circumstances.

Career Academy Planning Schedule

<u>Tasks</u>	<u>Timing</u>
Form an Advisory Board (aka Steering Committee) Identify school, employer, higher ed., and parent representatives; establish a schedule of meetings and define members' roles and responsibilities; form task forces (e.g., expanding partners, technical curriculum, facilities, equipment)	January-February
Identify/Prepare Academy Staff Select Lead Teacher, other teachers (career and academic), school & district administrators, counselor; provide career academy professional development	January-February
Coordinate the Academy with the High School Inform entire high school staff, orient counselors, arrange cohort scheduling, schedule academy classes, coordinate with union leaders	March-June
Develop Curriculum (especially grade 10) Have the teachers lead, draw on employers for technical input, examine related state standards, conduct Internet search, visit other academies, develop integrated curriculum ideas	March-August
Recruit and Select Students Distribute information to all freshmen, accept and screen applications, hold interviews and parent meetings, identify and schedule students, plan summer activity	March-May
Prepare Facilities and Equipment Adapt a classroom as "home base," prepare necessary space, obtain and install necessary equipment	April-August
Plan Motivational Activities Identify activities that will make the academy appeal, types of student monitoring and rewards to be used	June-August
Plan Business Speaker and Field Trip Program Explore what companies will participate, topics of most interest, schedule for the year. Develop a calendar of events for these activities.	July-August

One of the best aids in the planning process is to visit successful operating academies. Each of these tasks has many details to consider and discussions with those who have gone through this process can be immensely useful. There are directories in various places to locate such academies. Membership agencies (NAF, NCAC), states, and districts with career academies each have their own directories. CASN maintains a national directory of academies on its website (casn.berkeley.edu).

Related costs, sources of support

Career academies do require additional work, and therefore entail additional expense. The biggest expense comes from the time needed to coordinate the various elements of the program: for the team of teachers to meet regularly, develop integrated curriculum, coordinate employer involvement and the program elements they support (particularly the mentor and internship programs), and organize links to college programs.

These costs can be covered by reallocating existing funds, securing additional funding, or a combination of the two. The lead teacher(s) need to be provided release time, at least one teaching period, or a stipend for additional time outside the regular schedule. A high school administrator can help. Employers that support an academy can often help with coordination of the speaker, field trip, mentor and internship programs, by assigning a liaison to the academy. They may bring other resources that can support the cost of the academy also, such as equipment, materials, and curricular expertise. Sometimes an intermediary can play an important role, such as a chamber of commerce or other education-business alliance.

Many high schools have funding outside their mainstream support, such as Title I funds, those for vocational education (federal Carl Perkins Act funds, state CTE funding, technology, staff development, or district initiatives). Often some part of these may be used to help support an academy. There are also state and federal grant initiatives that can sometimes be used for academies (e.g., federal Department of Education Small

Learning Community grants). And there are private foundations interested in educational improvement, sometimes applicable to career academies. A list of possible sources of funding for academies is included in CASN's *Getting Connected: A Resource Guide for Career Academies*, including links to more information for each (casn.berkeley.edu). The academy steering committee can often be helpful in identifying and seeking outside support for the program.

Chapter IV

Who needs to do what?

There are many stakeholders involved in establishing a successful career academy. A stakeholder is anyone with an interest in the success of the academy. Among the central ones who need to play a role are the administrators at the district and high school level, the teachers to be involved, and the employers and higher education representatives who will provide support. There are several roles each of these groups will have. There are also other stakeholders who have a role. What follows is a summary of each and what they need to do.

Board of Education. The Board should know of the developing academy and be in support. There will be a number of necessary changes in the way the high school functions and implications regarding the directions the school is taking. Questions may be raised in the community. If Board members are informed and knowledgeable they can be supportive of these changes and directions and able to respond to any concerns raised. The Board can also set policies that will support student success, such as with scheduling, facilities, and post-secondary links.

District superintendent. The superintendent is the CEO of the educational "company" in which the academy is housed. As such, he or she can play a helpful role by making initial contact with high level representatives of the employers and colleges the academy would like involved. Such initial contacts are most successful if they are "CEO to CEO" rather than through teachers. Someone who can make commitments and send the message down the line that this is something the company is behind is more effective than requests from below. The superintendent can also play a constructive role by giving strong public support to the academy and the principles it fosters. While he or she rarely has time to follow up on all the details or be a member of the Steering Committee, another district administrator can take on this role.

High school principal. The high school principal needs to be the "project leader," the administrator who provides the variety of support an academy needs. She or he can be a spokesperson to the entire staff; encourage support from other administrators, as well as counselors and teachers; commit funding, equipment, and materials; oversee adaptations of classroom space; help remove impediments and resolve problems; encourage teachers; and ensure that the academy has a chance to succeed.

Other administrators. Usually the principal identifies a vice principal or other administrator to handle the day-to-day matters related to implementing an academy. This person can join the academy teachers in relevant meetings; attend Steering Committee meetings when the principal can't; make sure adequate supplies are provided; help in coordinating the involvement of those from outside the school; ensure that scheduling is done properly, including cohort scheduling for students and a common prep period for teachers; and make clear to the academy teachers that the school administration is behind their efforts.

Lead teacher(s). Usually one or two teachers are identified to be the lead for the academy. This gives them the responsibility for organizing meetings of the staff; orienting new teachers; coordinating the roles other teachers will play; overseeing curriculum development; helping to manage contacts outside the school; overseeing the budget; helping with student recruitment and scheduling; sitting on the Steering Committee; serving as liaison to the school administration; and being the chief trouble shooters. While an academy can't be successful without support from all the positions discussed here, the lead teacher is the single most important actor in the academy drama.

Other teachers. An academy requires teachers across several academic subjects (usually English and social studies, often science, and occasionally math) and a career field to work together as a team. They need to meet regularly to plan cross curricular projects, discuss problem students, plan special activities, and provide one another with support. Usually each teacher also takes on responsibility for certain activities beyond their teaching. Examples:

- Student recruitment and selection
- Coordination of the speaker/ field trip/ mentor/ internship program
- Parent contacts
- Student monitoring, rewards
- Special activities (e.g., social events, graduation ceremony, summer events)

Counselors. Counselors help in handling students' academic and personal problems, advising them about post-graduate options, and helping seniors apply for college and/or work. They can hold meetings with students and their parents to help in such planning. Counselors are also usually responsible for scheduling students into their classes, and have a critical role to play in this respect. It is impossible to have an academy unless students are grouped together in their classes, and these classes are restricted to academy students. As simple as this sounds, it is a frequent problem, partly because this isn't easy to do, and partly because too often counselors are not part of the academy team and don't understand the essential role they play.

Employers. While all the above roles are essential and require new forms of behavior, it is where employers and others outside the high school community become involved that academies cause the biggest change in high schools. Employers play a number of essential roles:

- As members of the Steering Committee
- As speakers, teaching sophomores about their company, jobs, and training
- As hosts of field trips, and perhaps job shadowing, usually for sophomores
- As volunteer mentors, usually for juniors
- As managers of internships, usually summers after the junior year or for seniors

In addition, employers can help develop the career field curriculum, showing teachers current technology and what their employees need to know; provide "externships" for teachers, summer positions that let them learn about the field; host special events such as Steering Committee meetings, social events, and graduation

ceremonies; recruit other companies; provide equipment and materials; and lend their credibility to the academy. Often an involved employer will identify one employee to be the liaison to the academy.

Community representatives. Often others from the community can support the academy as well as private employers, such as: public officials (e.g., mayors and other city officials, employees of federal and state government agencies); organizations with relevant missions (e.g., Chambers of Commerce, Rotary/ Soroptomists/ other service clubs); quasi-public businesses (e.g., power/ phone/ water/ waste companies); and organizations of retirees. Sometimes leading citizens who don't fall into any of these categories get interested and lend their energy, resources and contacts to the program.

Higher education representatives. Successful academies need ties to local technical and two- and four-year colleges. This lets them develop their career related curriculum to fit with post-secondary programs, and often to offer courses for juniors or seniors that grant credit at the college as well as the high school (usually called dual enrollment). Such ties also provide speakers to talk to academy students about post-secondary opportunities, and for students to tour college campuses and learn of their entrance requirements and application procedures. College representatives belong on the Steering Committee.

Parents. Parents are usually more involved in a career academy than in ordinary high school structures. They need to be involved in the student's decision to apply for the academy, attending an orientation and declaring their support. They need to be available when problems occur, discussing these with academy teachers and their son or daughter, and agreeing on a course of action they will monitor along with the teachers. They are also often involved in relevant academy activities, serving as chaperones on field trips, organizers of social events, and attendees at reward and graduation ceremonies. Often one or two parents sit on the Steering Committee.

Students. Students, of course, are at the center of an academy. They should be canvassed before the career field is selected to determine their interests. They often form an academy student government to help in its functioning. Juniors and seniors can help in the recruitment for their academy and serve as buddies to new students. Successful graduates can come back and provide inspiration to younger students who follow. Often one or two students sit on the Steering Committee to be sure their concerns and viewpoints are represented.

Chapter V

How can you measure progress?

Mention program evaluation and a lot of people's eyes glaze over. Who wants to deal with questionnaires, student records, columns of data, statistical analyses? Everybody knows you can lie with statistics anyway. If the teachers and students are happy, if they're coming to school regularly and seem engaged, what more do you need to know?

In a simpler world that attitude might fly. In today's schools, given their reputation for doing more poorly than schools in other countries, the high drop out rates of many high schools, and the often poor quality of graduates (at least in the view of many colleges and employers), numbers are important. They're especially important for an approach that is new and claiming to improve student performance.

But evaluation need not be hopelessly complex and onerous. The simple theory behind high school reform in general and career academies in particular is that if you change to a new approach, and implement it well, student performance will improve. So what do you need to measure? Whether you've implemented the academy well, and whether student performance is improving.

These two questions are fundamental to assessing your progress. And it's important to focus on both from the start. You can't measure student progress if you don't have a baseline against which to measure it. That baseline is best determined before you begin to implement the academy. And you can't expect success if you don't gauge how well the academy is implemented. That also needs to happen from the start.

These two forms of evaluation are sometimes called "process" and "outcome." Another way of stating them is as "means" and "ends." Implementing an academy is a

process. Improved student performance is an outcome. The first is a means to the second. While it is important to assess both, the emphasis changes over time. Initially the most important matter is high quality implementation. Over time the focus becomes whether this leads to improved student performance.

How do you assess how well you're implementing the academy? One method is through a guide that has been developed for this purpose, called the *Self-Assessment Guide for Small Learning Communities and Career Academies* (see the *Resources* section at casn.berkeley.edu). This guide lists the key elements under each of the three defining structures of an academy (small learning community; college prep curriculum with a career theme; and partnerships with employers, community, and postsecondary education). There are a total of 25 such elements. A scoring guide accompanies each element, indicating what should be in place. Each can be rated along a four-point scale, with a perfect score being 100. Thus teachers can go through this guide and determine where their academy is strong or weak. This can lead to a plan for improving the weak aspects.

There are several other ways to assess how well your academy is implemented also. Probably most evident, for California Partnership Academies, is the annual report due each October on the previous year's performance. This is framed around the requirements of the State Education Code as it applies to CPAs. It can be found on the CDE website devoted to academies, www.cde.ca.gov/ci/gs/hs/cpagen.asp. The National Career Academy Coalition (NCAC) also has a rubric designed to assess academy implementation against the elements of the Career Academy National Standards of Practice (www.ncacinc.com). More recently, ConnectEd CA has developed a certification tool that encompasses the elements of CPAs (www.connectedcalifornia.org).

How about student data? What should you collect, and how should you analyze it? At the back of the above-mentioned CASN guide is a section on *Analyzing Student Data*. This suggests three types of student data to collect:

- Demographics
- Academy experience measures
- Outcomes

The first of these lets you assess the student makeup of the academy, and whether it reflects the profile of the host high school. The evidence suggests that academies do best when they do reflect this profile, rather than focusing exclusively on students at one or the other end of the spectrum. The second category lets you assess whether academy classes are restricted to academy students, and whether academy students are taking the full complement of academy courses. Experience suggests that academies do better when they meet these goals. These are both measures of implementation available through use of student data.

The third category pertains to student outcomes, or using student data to measure whether the academy has had an impact on student performance. Suggested indicators offered in the *CASN Self-Assessment Guide* include: attendance, retention in school, credits earned toward graduation, grade point averages, standardized test scores, on-time graduation rates, and college admission. This is followed by a section of ways such student outcome data can be analyzed. Three suggestions are offered:

- Compiling snapshots over time, for an individual academy. This indicates whether the *program* is improving from year-to-year.
- Comparing year-to-year changes for individual students or cohorts of students. This indicates whether *students* in the academy are improving over time.
- Relating academy program characteristics to student performance. This indicates whether variations in the program elements lead to improvement or not.

Fuller explanations of each of these are offered in the *Self-Assessment Guide*, as well as additional categories of data that might be collected.

Chapter VI

Where can you get help?

The short answer to this question is many places. The issue is sorting through all the information to find what you need. Since this *Planning Guide* was developed by CASN, we'll start with what CASN has to offer. This section then offers a list of the other state and national organizations that support career academies, a brief summary of what materials they have, and a list of the annual conferences each sponsors. *All* are linked to the CASN website (casn.berkeley.edu) if you want more information.

The best place to review CASN's materials is at this website. On the home page you will see several options you can click on:

- About CASN—an overview of the organization and its work
- National Career Academy Directory—how to find academies other places
- Collaboration—CASN's work with other academy national organizations
- Resources—CASN's guides and handbooks & Took Kit of shorter documents
- Curriculum—curriculum that fits well in academies

Most of this is self-explanatory. The sections that may need some elaboration are *Resources* and *Curriculum*. There is a *lot* of stuff here, most of it viewable, printable, and downloadable, the rest obtainable through original sources outside CASN. The categories in *Resources* include: Theory and Research, Academy Structures, Partnerships with Employers and Community, Connections to Higher Education, Tracking Progress, Career Resources, Curriculum (which takes you to that section), and Other Resources (things we couldn't figure out where else to put).

Here's a list of some of our most popular guides (all viewable and printable from the website):

- *Career Academies: Building Blocks for Reconstructing American High Schools* (their history, growth, a summary of research findings)
- *Self-Assessment Guide for Small Learning Communities and Career Academies*
- *Scheduling Guide for Small Learning Communities and Career Academies*
- *Career Academy Course Sequence* guide
- *Partnership Guide for Career Academies*
- *Web-Based Curriculum* guide
- *Getting Connected: A Resource Guide for Career Academies* (Internet guide for everything but curriculum)
- *Mentor Handbook for Career Academies*
- *Internship Handbook for Career Academies*

The California Department of Education (CDE) also offers many resources for the California Partnership Academies, at www.cde.ca.gov/ci/gs/hs/cpagen.asp. This CDE-based CPA website contains the State Education Code as it impacts CPAs, a program overview, a state directory of CPAs, grant competition information and forms, annual report forms and directions, conference and institute information, and various additional documents. There is also a section on the CASN website (casn.berkeley.edu) devoted to the CPAs, with all the sections defined above, plus a set of 5-8 minute video vignettes of well run academies, and a forum through which academies can talk with each other electronically.

The following two pages provide an overview of most of the organizations with an interest in and resources useful to career academies. Sketches of each and URLs for each are included. As this will illustrate, there is a great deal of interest in career academies in the country, and many resources available to help them succeed.

Career Academy Support Organizations

- Buck Institute for Education (BIE), Novato, CA (www.bie.org). Focuses on making schools and classrooms more effective through the use of problem and project based learning, providing curriculum and training materials, professional development, and research.
- Career Academy Support Network (CASN), UC Berkeley (casn.berkeley.edu). Provides a series of free guides and handbooks for various components of the academy approach, a national directory of academies, a tool kit of materials useful in implementing academies, professional development to support teachers/ administrators/ counselors implementing academies, and research related to this approach.
- Center for the Social Organization of Schools (CSOS), Johns Hopkins University, Baltimore, MD (web.jhu.edu/csos). Works with over 100 high schools in its Talent Development High Schools network, mostly in the east and central parts of the country, built on a ninth grade program designed to raise the performance of at-risk students leading to grade 10-12 career academies.
- ConnectEd California, the California Center for College and Career, Berkeley, CA (www.connectedcalifornia.org). Sponsor of the Linked Learning Alliance, active in CA state policy work, develops extensive integrated curriculum, is sponsoring a district-wide approach to linked learning pathways in selected CA districts.
- Ford Partnership for Advanced Studies (Ford PAS), Newton, MA & Dearborn, MI (www.fordpas.org). FordPAS offers an inquiry- and project-based interdisciplinary curriculum program that provides students with content knowledge and skills in such fields as business, economics, engineering, and technology, linking learning in traditional academic subjects with post-secondary education and the workplace.
- Institute on Education and the Economy (IEE), Teachers College, Columbia University, New York (www.tc.columbia.edu). IEE is an interdisciplinary policy research center that focuses on the interaction between education and the economy, including research, technical assistance, and evaluation, particularly related to high school/ community college connections and dual enrollment programs.
- MDRC, New York City and Oakland, CA (www.mdrc.org). A series of reports on their 15-year experimentally designed national longitudinal evaluation of career academies, which showed substantial employment gains eight years after high school graduation for academy graduates compared with their non-academy control groups.
- National Academy Foundation (NAF), New York City and Berkeley, CA (www.naf.org). Works with over 500 academies in 40 states, sponsors a conference each July for all NAF affiliates and smaller versions at other times for academy leads. Technical curriculum/ lesson plans in four career fields—finance, engineering, hospitality & tourism, and information technology, and various other materials.

- National Career Academy Coalition (NCAC), Philadelphia, PA & St. Louis, MO (www.ncacinc.com). A membership organization, sponsors a national career academy conference each fall, conducts certifications of academies using the Career Academy National Standards of Practice and its rubric built around these.

- National Center on Education and the Economy (NCEE), Washington, D.C. (www.ncee.org). Focused on standards and programs that help to meet them, NCEE conducts research, analysis and advocacy while providing training, professional development, technical assistance, and materials.

- National Educator Program (NEP), Denver, CO (www.neponline.org). NEP focuses on leadership and sustainable school improvement to raise student achievement, particularly around career academies, high school redesign, and small learning communities, offering professional development workshops and conferences.

- National Partnership for Careers in Law, Public Safety, Corrections and Security, Annandale, VA (www.ncn-npcpss.com). With regional centers and partner agencies around the country this network supports the development and certification of career academies in these fields with various materials and workshops.

- Education Northwest (formerly Northwest Regional Education Lab), Portland, OR (educationnorthwest.org). Focused nationally but especially on northwestern states, Education Northwest provides an assortment of materials and services related to issues such as low performing schools, small learning communities, parent involvement in schools, math and science programs (especially for girls), and literacy coaching.

- Southern Regional Education Board (SREB), Atlanta, GA (www.sreb.org). Works with over 1,000 high schools in 16 states in its *High Schools that Work* network, mostly in the southeast, many of which have academies. Sponsors a large conference in July each year, plus a series of smaller regional and state workshops. Works in grades P-20, with a variety of reports and materials to support its 12 “Challenge to Lead” goals.

- Stanford School Redesign Network, Stanford, CA (www.srnleads.org). This research-based organization is designed to help secondary schools and districts support equity and intellectual rigor, and all students to master the knowledge and skills needed for success in college, career and citizenship.

- WestEd, San Francisco, CA (www.wested.org). Nationally focused but especially on California and other western states, WestEd provides an assortment of materials and services related to educational policy issues such as literacy/ reading, English language learners, charter schools, youth development, assessment and evaluation, small learning communities, and community building.

CAREER ACADEMY NATIONAL STANDARDS OF PRACTICE

I. Defined Mission & Goals

The career academy has a written definition of its mission and goals. These are available to the administrators, teachers, students, parents, advisory board, and others involved in the academy. These include at least the following elements:

- a. To focus on college and career. A career academy's aim is to prepare students for college and careers. Academies enable students to complete college entrance academic requirements while exposing them to a vertical segment of the occupations within a career field, encouraging them to aim as high as they wish.
- b. To raise student aspirations and commitment. An academy seeks to increase the level of students' motivation while in high school. The biggest limiting factor in many youths' future plans is not their ability, but where they set their sights.
- c. To increase student achievement. An academy provides support to its students to increase their achievement in high school. This comes through close relationships with teachers and fellow students; rigorous and relevant curriculum; and exposure to career and educational options outside the high school.

II. Academy Structure

An academy needs to have a well-defined structure within the high school, reflecting its status as a small learning community.

- a. Cross-grade articulation. The academy incorporates at least two grade levels, ending in the senior year, with articulation in its teacher team, curriculum and instruction across grade levels.
- b. Student selection. Entry to the academy is voluntary. The recruitment/selection process is written and widely available. New students are provided an orientation to the academy. Parents participate in this process and approve of their son or daughter's choice. Academy enrollment reflects the general high school population.
- c. Cohort scheduling. Academy classes are limited to academy students, who take a series of classes together each year.
- d. Physical space. Where possible, academy classrooms are near each other in the high school building. The academy Coordinator has access to communication outside the high school.
- e. Small size, supportive atmosphere. The academy maintains personalization through limited size, teacher teamwork, and a supportive atmosphere.

III. Host District and High School

Career academies exist in a variety of district and high school contexts, which are important determinants of an academy's success.

- a. Support from the Board of Education and Superintendent. The district Board of Education is aware of the academy and its mission and goals, and is on public record in support. Likewise, the Superintendent publicly endorses the academy and offers active support. Both serve as academy liaisons to the broader community.
- b. Support from the principal and high school administration. The high school principal and other administrators are knowledgeable of the academy, public advocates for it, and are actively involved in its funding, staffing and support. They contribute to a positive academy profile within the high school.
- c. Adequate funding, facilities, equipment and materials. District and high school administrative support results in adequate academy funding, facilities, equipment and learning materials. These reflect a serious commitment from the district and high school to the success of the academy.

IV. Faculty & Staff

Appropriate teacher selection, leadership, credentialing, and cooperation are critical to an academy's success.

- a. Teacher Leader(s)/ Coordinator(s). One teacher (sometimes two) agrees to take the lead, serving as the academy Coordinator(s). This includes attending advisory board meetings, interacting with administrators and board members, managing the budget, helping to coordinate teacher professional development, and helping to coordinate employer, higher education, and parental involvement. Release time and/or a stipend is provided for this role.
- b. Teachers are credentialed in their field, volunteers in the academy, and committed to its mission and goals. Since a career academy's success rests on good teaching and good teamwork among a cross disciplinary group of teachers, they must be well qualified and willingly involved in this role. They understand and support the philosophy and purpose of the academy, work together as a team, teach a majority of their classes in the academy, and cooperatively share the duties of operating an academy.
- c. Counselors, non-academy teachers, and classified staff are supportive. Non-academy staff is also important to its operation. Counselors understand the need for cohort scheduling and provide this for academy students. Non-academy teachers understand the value of the academy and help in recruiting students for it and providing departmental support. Classified staff helps support the academy facilities, equipment and learning materials.

V. Professional Development

Since an academy places teachers and other adults into roles not normally included in their previous training, providing adequate professional development time, leadership and support is critical.

- a. Common planning time. Academy teachers are provided regular common planning time within the regular high school schedule for purposes of program coordination, curricular integration, and resolution of student problems.
- b. Teacher professional development. Academy teachers are provided with training in the academy structure, curricular integration, student support, and employer involvement, where necessary by experts from outside the high school.
- c. Employee & parent orientation. Employee volunteers are adequately prepared for their roles as speakers, field trip hosts, mentors and internship supervisors. Parents are adequately prepared for their involvement (if any) as classroom aides, field trip chaperones and social event organizers.

VI. Governance & Leadership

The academy has a governing structure that incorporates the views of all stakeholders.

- a. Advisory board with broad representation. The advisory board has members from the district and high school administration, academy teaching staff, supporting employers and institutions of higher education. It may also include community representatives, and academy parents and students. The board incorporates viewpoints from all members.
- b. Regular meetings. Meetings of the board are held at least quarterly, with defined agendas and outcomes. The board helps to set policies for the academy. It also serves as a center of resource development.
- c. A healthy partnership. Both through the advisory board and other interactions, there is evidence of a partnership between the academy/ high school and its host community.
- d. A student voice. Students have avenues through which they can provide input to the academy policies and practices.

VII. Curriculum & Instruction

The curriculum and instruction within an academy meets or exceeds external standards and college entrance requirements, while differing from a regular high school by focusing learning around a theme.

a. Meets external standards. The academic curriculum is framed around state or national standards, and the career curriculum around industry and SCANS standards.

b. Learning is rigorous and meets college entrance requirements. Coursework reaches high levels of English and math, generally four years of each, in addition to substantial coursework in science and social studies. Graduates are qualified to attend four-year colleges and encouraged to do so.

c. Curriculum is sequenced, integrated and relevant. Curriculum articulates from the beginning of an academy through the senior year, with a defined course sequence and at least two core academic classes and one career/theme class each year. Curriculum is integrated among the academic classes and between these and the career class. Learning illustrates applications of academic subjects outside the classroom, incorporates current technology, and includes authentic project-based learning.

d. Post-graduate planning. Students have access to career and college information, are provided counseling in these respects, and develop a written post-graduate plan by the end of their junior year.

e. Dual credit options. The academy has articulation agreements with local two- and four-year colleges, offers dual credit courses and/or college credit for upperclassmen, and articulates its upper level curriculum with relevant college programs.

VIII. Employer, Higher Education & Community Involvement

A career academy links high school to its host community and involves members of the employer, higher education and civic community in certain aspects of its operation.

a. Career theme fits the local economy. The academy career field is selected to fit with the community industries and employer base, to allow for adequate involvement of volunteer employees in certain of its activities.

b. Community involvement. Representatives of employers, higher education, and the community help to guide the academy's curriculum, and provide speakers, field trip sites, job shadowing opportunities, mentors, student internships, community service opportunities, college tours and teacher externships.

c. Incorporates citizenship. The academy fosters a culture of respect for others and encourages student contributions as citizens.

d. Work/community based service learning. The academy offers work and/or community based service learning opportunities for all interested students either through paid internships or community service.

IX. Student Assessment

Improvements in student performance are central to an academy's mission. It is important to gather data that reflects whether students are showing improvement and to report these accurately and fairly to maintain the academy's integrity.

- a. Student data are collected. These data include those necessary to describe the student body within the academy (e.g., grade level, gender, race/ethnicity) and its relationship to the high school in general, as well as student performance on a variety of outcome measures.
- b. Multiple academic measures are included. Measures include a variety of accepted indicators of performance (e.g., attendance, retention, credits, grade point averages, state test scores, graduation rates, college going rates).
- c. Technical learning is assessed. Measures include knowledge of the field's terminology, technical concepts, and ability to apply English, math, and other academic skills to authentic real world projects. Where appropriate, industry certification is incorporated.
- d. Accurate reporting. Analyses of these data are reported accurately and fairly, regardless of the results.
- e. Evidence of impact. These measures show whether, and how much, the academy improves student performance.

X. Cycle of Improvement

No new academy functions perfectly. Even well established and operated academies benefit from self-examination and refinement. Ensuring and improving the quality of a career academy requires engaging in a regular cycle of improvement.

- a. Academy implementation is examined. Program leaders regularly assess the academy's functioning, studying its strengths and weaknesses. This involves gathering feedback from key stakeholders, including students.
- b. Academy refinements are planned. These reviews lead to plans to address any problems. Such plans include timetables and benchmarks for improvement.
- c. Changes reflect the academy's mission and goals. The refinements refer back to the academy's underlying mission and goals.

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