



National Center for Supply Chain
Technology Education

Successful Strategies for Implementing an Articulation Program from High Schools to Community/Technical Colleges



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Preface

The National Center for Supply Chain Technology Education (NCSCTE) is committed to assisting institutions develop 2+2 pathways from high schools to community/technical colleges. One successful process for establishing seamless pathways is to align curriculum and award college credits to high schools students through a process called articulation. This white paper was created as a reference to provide an overview of articulation and best practices currently employed in the field. The National Center encourages 2+2 pathways as a method for introducing supply chain technology to high school students, while simultaneously attracting students into this high-growth, high-demand occupation.

Introduction and Background

What is Articulation? Articulation is a term used to describe the process that facilitates the transition of students from one educational institution to another. Articulation from high school (secondary) to college (post-secondary) should ensure a smooth transition and align pathway content so as to avoid duplication of effort. At its best, secondary to post-secondary articulation provides students with the opportunity to complete college course work at no cost, saving them both time and money. This process is sometimes referred to as 2+ 2 articulation because it represents both high school and college work that awards credit at both levels.

Community colleges participate in articulation partnerships to enhance student success and increase access to advanced educational opportunities. The program provides a means for students to begin a program of study in high school which continues at the community college level. These programs combine academic courses needed for success in college with technical courses needed to prepare students for high-skill, high-wage, and in-demand careers. Successful students complete two years of community college coursework and earn a certificate or degree or prepare for transfer to a university.

Articulation programs provide many benefits to students including earning college credit while in high school, earning college credit without paying college tuition or fees, gaining skills and knowledge necessary to be competitive in the workforce and connecting their learning to career pathways through real-world learning experiences. Ideally, this process should also foster a smooth transition from school to work. Perhaps more than ever before, the education of the future workforce is a major concern across the nation, to students, families, educators and employers alike. Labor market data shows us that the jobs of the future require training beyond high school but not necessarily an advanced degree. Community colleges are an ideal place for students to get the technical training that is essential for success.

What is an articulated course? An articulated course is one in which both the high school teacher and college faculty have “formally agreed” that the high school course content, objectives and competencies are comparable to those in a course within the same major at the college. This requires that teachers and college faculty meet to review and discuss specific course content. When an alignment has been identified, an articulation agreement is established. Articulation agreements are formal written documents that serve as a contract between secondary and post-secondary institutions. The articulation agreement establishes the standards by which students will be evaluated and awarded articulated credit. These expectations should be clearly defined within the agreement paperwork since variations will exist from one educational institution to another. When done properly, these arrangements can guarantee enrollment at some institutions and eliminate delays in and duplication of coursework, thus resulting in a smooth transition for students from one educational institution to another.



Articulation Benefits

Articulation programs provide many benefits to all participants including students, teachers, faculty and educational institutions.

Benefits to Students:

- Saves money on tuition, fees, and books by allowing students to earn college credit while in high school
- Accelerates academic progress and prepares students for certificate or degree programs
- Increases student success
- Reduces duplication of courses and credit
- Improves job placement potential
- Increases the likelihood of students being college and career ready
- Provides students with an incentive to continue their education

It is also important to know that the benefits are not limited to students alone, educational institutions have much to gain from the administration of a successful articulation program.

Benefits to Educational Institutions:

- Promotes curricular alignment, and academic rigor, relevance and integration
- Facilitates communication among educational institutions, its faculty and administrators
- Eliminates duplicative instruction
- Ensures that secondary-level coursework represents the needs of industry
- Prepares students to be successful in college-level coursework
- Increases enrollment in articulated pathways at the college

Best Practices and Critical Components Essential to Success

Articulation Procedure: Before establishing agreements, it is important for a procedure to be established that outlines the college's articulation process and philosophy. Many community colleges develop articulation handbooks that outline this philosophy as well as the process and the expectations of the various parties involved in articulation. Input regarding this philosophy can be solicited from students, the secondary institution, the faculty, administration and from other post-secondary schools. It is essential for all involved to have a clear understanding of the process. A simple, efficient process will work best.

Creating Articulation Agreements: The development of a new articulation agreement can be initiated by either the high school teacher or college faculty. In some cases, administrators may initiate the articulation process based on plans they have for adding new pathways. After the

college faculty determines that the content of a high school course is well aligned to a college course, an agreement can be formed. An articulation agreement should contain key components. A cover page accommodating the signatures of key individuals and approvers at both institutions is essential. Course content, competencies and evaluation methods should be derived from the course outline. If the college uses a credit-by-exam process to award credit, details about the credit exam method and process should also be included in the agreement. If the exam has already been created, a copy should be included for reference. The agreement should also provide contact information for key contacts at both institutions. The California Statewide Career Pathways Project has developed templates that can be used to create agreements (<http://www.statewidepathways.org/>).

Periodic Review of Agreements: Provisions need to be made for the periodic review of agreements. This assures continued alignment, and is especially important if there have been changes to the curriculum; new textbooks have been adopted, or if there are instructional staffing changes. The renewal process should follow all of the same steps prescribed for the development of the initial agreement. The typical lifespan of an agreement is approximately two to five years. Either party can opt to terminate the agreement at the close of a school year or when a course is no longer offered. All of the various articulation forms should be included in the college's articulation handbook for easy reference.

The most common type of articulation is **competency-based**. In this type of articulation, competencies and performance levels (often called student learning outcomes) mastered in a high school course are compared with those of a postsecondary course. If these competencies and performance levels are well-aligned, the courses will easily articulate. If they are not, the high school may need to revise its curriculum to eliminate the gaps.

In order to determine alignment, it will be necessary for the high school teacher and college faculty to meet and review course outlines. The college faculty should make suggestions to the high school teacher for improving alignment. Articulating courses that are not well aligned can set students up for failure as they transition between educational institutions. That is why it is so essential for there to be collaboration and dialogue between the two prior to entering into an articulation agreement. Instructors should exchange detailed information regarding course content, competencies, achievement levels and evaluation methods. If an articulation coordinator is in place, they can assist with and coordinate much of the process.

Many two year colleges host articulation workshops to bring together secondary school teachers, counselors and administrators with post-secondary faculty and staff. Articulation meetings are the best way to create and maintain articulation agreements. One of the biggest barriers to success in this area can be the differences in personality and philosophy that exist between secondary and post-secondary instructors. Having all interested participants in the

same room for interaction, collaboration and dialogue provides an efficient and productive way to build an articulation program. Some colleges use these meetings as an opportunity to provide training to secondary partners regarding emerging trends in education, or to inform them of changes to articulation policies and procedures. In addition, it is a good opportunity to provide information about community colleges programs and services that can be shared with others at the secondary site, including students and parents. Clear communication and strong relationships play a very important role in establishing and maintaining effective articulation programs and practices. When community colleges host articulation days, they are showing the post-secondary partners that they value the relationship and interaction between the institutions. It also shows an interest in creating strong partnerships that lead to seamless transition of students between the educational institutions.

Articulation Meeting Planning: Planning and preparation for your articulation meeting should begin at least two months prior to the event to maximize its effectiveness. You should first identify goals for the meeting as well as the audience membership. Your invitation list may include career technical education teachers, counselors and administrators from local secondary feeder districts as well as faculty from your college. If you have existing articulation agreements, try to ensure the participation of the teachers who created those agreements. If your districts or high schools have a CTE Administrator or other relevant contact, that person can assist you in inviting the right staff. You might also invite key staff from local regional occupational programs, adult and charter schools. Scheduling to encourage maximum participation is important. Providing a list of the programs of study with articulation opportunities on your registration allows attendees to indicate their area of interest prior to the event and will be useful to you in assigning groups and preparing materials for the event. Smaller meetings/events should be held to accommodate follow-up efforts and for those who prefer to meet in a small group setting. If desired, laptops could be utilized to complete articulation forms and documents in real-time. Ideally, a half-day event works best and would accommodate both articulation training and development/renewal of agreements.



Articulation Coordinators: Assigning a program coordinator to manage articulation efforts will greatly improve the likelihood of success. This Articulation Coordinator will play a key role in marketing, communication and coordination efforts. Primary responsibilities would include acting as a liaison between the educational institutions, facilitating all activities and communication related to the collaborative process, and serving as a central clearinghouse for all information pertinent to the articulation process. The Coordinator should maintain a list of current agreements that includes the date the agreement was established and when it will expire or require review. Proactive notification should be made in advance and opportunities provided for collaboration in the renewal process. Although agreements can be renewed or created electronically, periodic articulation meetings are highly recommended. A dedicated person can prevent potential problems that arise when communication breaks down. If a teacher's questions or concerns are not addressed in a timely manner, frustration may result and the desire to articulate dampened. Frustration will greatly reduce the likelihood that you will be successful.

Effective Outreach and Marketing: Programs that have a dedicated articulation coordinator have an advantage over programs that do not. Coordinators can dedicate their time and efforts to improving your program and ensuring that all participants are engaged in the process. Articulation coordinators should use all available resources to develop an effective marketing campaign that provides information and support to students, parents, counselors, teachers and faculty. The better you educate and inform potential participants, the more they will be able to engage and assume ownership of the process and its outcomes. Part of this outreach might involve a college's outreach specialist, who can promote the benefits of articulation while attending career fairs, and visiting high schools. The outreach specialist can assist high school students in obtaining a college identification number, which is required in order for the college to generate a transcript and post the (articulated) credit earned. The process of obtaining the identification number can be a challenge for high school teachers and students, thus, having properly trained outreach specialists assist with the process can remove one large obstacle in the process. Outreach specialists can also assist students in completing the college application (required to get the college ID) and if a data management system is used, provide assistance in creating the required accounts. This extra assistance is very important to your program because it will ensure that as many eligible students as possible are awarded the credit earned.

Granting Articulation Credit

Credit for successful completion of articulated courses can be granted to students in a variety of ways. Regardless of the method, students who meet the criteria will earn college credit for completion of a high school course.

Automatic Credit: Some colleges award credit to students automatically after successful completion of the articulated course. Automatic credit assumes that the student has mastered the content based on the satisfactory grade received. This is the most convenient process for both the institution and the student. However, some college faculty will not articulate courses if automatic credit is provided because the process does not include a mechanism for determining if the student has actually mastered the course content. Since there is then, some uncertainty involved, this is not the preferred method for awarding credit.

Credit by Examination: Credit can be awarded to articulation students through a credit by examination process so students can demonstrate course mastery. This could take many forms, including having the student complete the course with a specific grade, and then demonstrating through the taking of an exam or a performance based activity to prove they mastered the course material. “Credit by exam” means that the student has successfully passed an exam that has been approved by the college; oversight for the exam is provided by the college faculty. The exam method should be determined when the articulation agreement is established. Credit by exam does provide the college faculty a measure of control in this process. This can be especially beneficial when college faculty members are skeptical about articulation. A written exam is only one possibility. Business plans, skills demonstrations, projects or presentations are also valid options. The exam should be designed so that students can demonstrate that they have mastered the learning outcomes and learned course content.

Some colleges will approve the articulation credit only after the student has completed a specific amount of coursework at the college. This is referred to as a residency requirement. Although established with good intention, this requirement often creates an unnecessary barrier for students and many colleges have moved to eliminate it. It is the recommendation of this author to not require residency at the college before the awarding of articulation credit. After time passes, students often forget that they took the course or to complete the request for credit. In either case, students may end up repeating coursework, which defeats the whole purpose of articulation.

If possible, establish a policy that provides qualified articulation students with a “transcripted” letter grade in lieu of a pass/no pass or credit/no credit notation. This provides greater incentive and adds credibility to your articulation program and increases the probability that the course will transfer to another institution. Students who do not earn a letter grade in

courses required for some industry certifications, licenses and permits may have to repeat coursework. For example, the State of California requires a letter grade in all coursework required for Child Development permits. If a student has a “credit” or “pass” notation on their transcript for a course required for the permit, the course will not count.

Effective Data Management: Colleges should utilize a good data management system that will store, compile and report data related to articulated classes, students and awards. A system that provides secondary school partners with access is even better. A system that is preferred by many states is the STATco™ Career and Technology Education Management Application (CATEMA®). CATEMA is specifically designed to manage articulation credit information relevant to courses, classes, school districts, high schools, teachers, counselors, college registrars, college advisors, and students.

The web application is designed to provide a simple method to enter, update, display and report course articulation outcomes and Career and Technology Education related information. The web-based interface allows students, teachers, counselors, and school administrators to establish and maintain their own user accounts. Teacher recommendations for credit are available to college counselors and registrars. The System Manager and staff can manage the web site and database through the web interface. Data access, entry and update can be performed from any web-enabled computer, from any location where the Internet is available. The system provides a permanent record of the articulation credit for the educational institutions and students.



Principles implemented in the CATEMA system

- Make the system easily accessible to everyone in education
- Validate all data at the point of entry to reduce entry errors
- Minimize the effort required of students, teachers, and system staff
- Provide easily accessible and printable data in detail and summary reports
- Assure data is accurate and secure, with separation of student, teacher, and school information

Having a system that provides data management and reporting options for all participants, such as CATEMA, is essential to a successful articulation program. Be sure to find a system that will store, compile and report accurate data for all aspects of your program. Documenting the success of your program should be an essential component of your marketing efforts!

Overcoming Potential Barriers to Success

There are many potential barriers to implementing a successful articulation program. If it requires an excessive amount of time, involves difficult procedures, or lacks acceptance from faculty, teachers, students or parents, it will not be utilized. Community colleges and technical schools interested in having a successful articulation program must be willing to dedicate the necessary time and effort. Managing articulation agreements, maintaining ongoing communication with participants and marketing your program all take a substantial amount of time and attention. To assist with program management, colleges should identify an articulation coordinator whose primary responsibility is the successful implementation of your program. Programs that lack a dedicated coordinator are much more likely to fail because they lack the personal attention to the many steps involved in the process.

Colleges and technical schools should establish a simple, efficient process for students to obtain articulation credit. Reduce unnecessary steps, including residency requirements. Programs that require the students to enroll in the course, master the content and prove what they have learned are simple, yet effective. These are the programs that result in high numbers of successful students. The fewer bureaucratic steps you require a student to complete, the better. The primary participants should be the coordinator, the high school teacher and the college faculty. The students then can become the beneficiary of everyone's hard work! And that is the primary reason for providing articulation opportunities to begin with!

To ensure support of your program be sure you provide training opportunities so potential participants understand the process, terminology, and expectations. Be sure to clearly articulate the benefits of the program and eliminate misconceptions. Develop a variety of materials to educate and inform each distinct audience about your program. As you establish policies and procedures, seek feedback from students, parents, high school teachers and

college faculty. They will assist you in developing a seamless system and if they feel like they are an important part of the process, they are more likely to be supportive.

Successful implementation is the result of a combination of activities including identifying an articulation coordinator, building and nurturing relationships with key participants, actively marketing your program, evaluating activities for success, and establishing a simple and effective articulation process.

Summary of Effective Practices

Community and technical colleges are an excellent place for students to get a jump start on their post-secondary education. These colleges provide an affordable, flexible environment for students who want to prepare for transfer, learn technical or vocational skills or refresh their skills. Community and technical colleges that offer opportunities for students to complete courses while still in high school are providing valuable opportunities for students as well as the educational institutions involved.

Establishing and maintaining an articulation program is a very ambitious, yet beneficial, endeavor. You can establish a successful program if you includes the following key components:

- Ongoing communication
- Strong collaborative relationships
- Clear policies and procedures
- Clear process for creating agreements
- Regular articulation meetings or alternative method for bringing together interested participants
- Dedicated articulation coordinator who serves as a clearinghouse of information
- Effective outreach and marketing plan
- Simple and efficient process for awarding articulation credit
- Comprehensive data management system

There are many variations to successful articulation programs, but these key components are essential to them all.

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