

INTEGRATION OF ACADEMICS AND VOCATIONAL EDUCATION

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PRETEST

True or False

- _____1. The criteria for the use of Carl D. Perkins funding has remained relatively unchanged since 1984.
- _____2. Integration can help students gain advanced academic competencies.
- _____3. Integration can help ensure that vocational education is not a second- class track within schools.
- _____4. Integration involves teaching only one or two competencies from each academic area.
- _____5. Increased collaboration and coordination among academic and vocational teachers is a benefit of integration reform.
- _____6. Teaching academic knowledge in a vocational context increases motivation.
- _____7. The administration doesn't need to be involved with the integration process.
- _____8. Team building and collaboration can happen quickly.
- _____9. Joint staff development and structured joint planning time are examples of team building.
- _____10. Career exploration/assessment is a new concept to VPI programs.
- _____11. The Division of Community Colleges and Workforce Education has a Product Catalog of academic learning modules in vocational contexts.
- _____12. Integration applies only to vocational programs.

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- _____13. VPI Programs have no place in integration reform for schools.
- _____14. Integration is a form of “watering down” academics for a narrowly defined occupation.
- _____15. Most of the work on integration of academics and vocational education in secondary and postsecondary schools has been done.

Multiple Choice

- _____16. Which of the following should be included in the integration team?
- (a) Vocational teachers
 - (b) Academic teachers
 - (c) Business/industry reps
 - (d) VPI instructors
 - (e) All of the above
- _____17. The Product Catalog of the Division of Community Colleges and Workforce Education contains how many academic learning modules in vocational contexts?
- (a) 15
 - (b) 50
 - (c) 85
 - (d) 61
- _____18. Which of the following is not one of the key features of integration?
- (a) Curricula that encompasses all academic areas
 - (b) Basic and advanced academic skills
 - (c) Less collaboration and coordination among academic and vocational teachers
 - (d) Academic knowledge taught in vocational contexts
- _____19. Some of the benefits of an integrated curriculum include:
- (a) Increased learning
 - (b) Enhanced career opportunities

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- (c) Decreased dropout rates
- (d) Enriched critical thinking skills
- (e) All of the above

____20. What are some of the action steps VPI instructors can take to facilitate the progress of integration reform?

- (a) Be part of the team
- (b) Find additional funding sources
- (c) Help write curriculum
- (d) Get the administration "on board"
- (e) All of the above

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THE INTEGRATION OF ACADEMICS AND VOCATIONAL EDUCATION: OVERVIEW AND BACKGROUND

Overview

Traditional education has separated academic education from vocational courses in American schools since the turn of the century. There is the growing recognition that the global workplace of the future will require different skills of all workers; not only job-specific skills, but also transferable, generic skills that will help them acquire further education and training throughout their careers. This separation has come under serious criticism. In 1990, the amendments to the Carl D. Perkins Vocational Education Act of 1984 mandated explicitly that programs fully integrate vocational and academic education. The 1991 Secretary's Commission on Achieving Necessary Skills (SCANS) report addressed the need for schools to develop a new set of competencies and foundation skills to be taught in an integrated manner that reflected workplace contexts. This concept of integration was then further supported by the 1994 School-to-Work Opportunities Act.

Although costly and time consuming, integration can and should be a powerful process to help students gain advanced academic competencies by showing them why academics are important and how academic ideas work in the real world. It can help students understand different types of information and how to use that information to solve problems and make decisions. It can also help ensure that vocational education is not a second-class track within schools by providing basic and advanced academic skills to improve students' education and career opportunities, and help them transition into the community.

Background

Historically, Vocational Preparatory Instruction (VPI) programs have provided academic support to secondary and postsecondary vocational students who were, for a variety of reasons, academically disadvantaged in one or more of the basic skills areas. Some of the adult students who were returning to postsecondary education for specialized career training also had undiagnosed learning disabilities. Many of the adult students had time constraints because they were raising families and working, while trying to complete career training. Because of their past struggles with academics, they lacked the basic skills foundation necessary to be successful in the pursuit of their vocational goals.

Understanding the need for academics is critical to the success of these students. Allowing them to see the connections between the academic curriculum and its use in the vocational fields they are pursuing creates the motivation for them to apply themselves and provides the needed relevance for the academic instruction.

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INTEGRATION CURRICULUM

Benefits

Providing an integrated curriculum accomplishes the task of engaging the student so that learning and outcomes are connected to their occupational goals.

An integrated curriculum has the following benefits:

- Increased learning due to student motivation
- Decreased student dropout due to students being engaged in the learning process
- Enriched critical thinking skills
- Increased mastery of technical skills
- Enhanced career and/or educational opportunities

Key Features

Integration requires more than simply identifying what academic competencies are already addressed in a vocational program or teaching one or two competencies from each academic area. It requires taking the entire content of academic and vocational curricula and developing methods to align, sequence, and mutually reinforce academic and vocational concepts.

Although the Perkins amendments did not explicitly define integration, there are certain themes that can be said to define integration. These include:

- A richer, better sequenced curricula that encompasses all academic areas: reading, math, writing, science, and social studies
- Both basic and advanced skills in each of the academic areas
- Increased collaboration and coordination among academic and vocational teachers
- Teaching academic knowledge and skills in a vocational context, not just in a vocational education class, to provide the skills and knowledge the students need to transition effectively from school to work and college.

Administrative Support

In order to accomplish the integration of academics with vocational education, support and commitment from the school administration are critical. The administration plays a key role in effecting the process. Barriers such as existing regulations, the reluctance of faculty or instructors to change, and lack of leadership and resources can be removed if the school administration supports the effort.

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Instructors need time, resources, and guidance to develop materials and also need to be trained in the use of teaching techniques that support activity-based learning, hands-on problem solving, cooperative/team-based projects, lessons requiring multiple forms of expression, and projects that draw on knowledge and skills from several domains.

Team Building/Collaboration

Integration involves collaboration and team building. Team building and collaboration take years to institutionalize because each teacher must develop the expertise to teach the integrated curriculum to a diverse group of students, in addition to developing or adapting integrated curricular materials. Lack of funds for collaboration also present a barrier, but some the following are examples of activities that can be instituted with limited costs:

- Joint staff development
- Joint curriculum development
- Revising course objectives
- Structured joint planning time
- Team teaching
- Providing experiential work sites where students can use academic as well as vocational competencies

Indian River Community College has used funds from school-to-work and tech prep legislation, as well as general funds, to attend conferences on integration, thus improving communication and collaboration across the different disciplines in the general education area. Teacher externships, supported through school reform legislation, has afforded teachers opportunities to learn how academic and vocational concepts can be applied on the job and how to tie curriculum to the broader social purposes of the community. Employers also benefited from these externships by providing input and helping guide curriculum development.

VPI instructors can and should play an integral role in the team effort. They can collaborate with vocational instructors, curriculum specialists, academic instructors and business/industry representatives in staff development, planning and curriculum development meetings. They can also participate in the development and delivery of curriculum in vocational contexts and supplement the curriculum with materials developed through state projects.

Career/Occupational Assessment

The development of student assessment instruments that demonstrate how students link ideas and relate academic concepts to vocational goals is also important to the integration process. There are a number of student assessment instruments available

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commercially that measure and relate academic concepts to vocational goals.

Career exploration was an important component of early VPI programs, called Individualized Manpower Training Programs (IMTS), in the 70s and 80s. This type of assessment was useful at the secondary and post secondary levels of education because it helped students understand their skills, aptitudes, and interests. They could then translate that information into possible careers and training programs where they could be successful. The career information was and is especially helpful to students with disabilities or other special needs.

Although not present in all VPI Programs, this component has been developed and expanded in some programs, like Seminole Community College's, to provide an important resource, vocational assessment, to community agencies like the Division of Vocational Rehabilitation (DVR). The vocational assessment provides valuable information for VR counselors to help their clients make viable education and training decisions. The vocational assessment has served as a form of recruitment of special populations into vocational education. Additionally, most One-Stop Centers have incorporated a career assessment component into their service delivery system for their clients.

Vocationally Specific Curriculum

Teaching academics in a vocational context is one of the key features of integration. VPI programs have been involved for years in developing learning modules to present academic concepts in specific vocational contexts. In 1990, the Florida Department of Education, Division of Vocational, Adult & Community Education, funded a statewide project for the development of basic skills materials related to vocational program areas. A series of statewide workshops were held in Tampa, Deland, Panama City, and Miami to recruit writers for the project and give them instruction on the basic format for the materials. Special Needs personnel from all areas of the state participated in the writing effort and the materials developed were disseminated to VPI programs around the state.

Since then, the state has continued to fund projects to develop learning modules in vocational contexts. The Florida Department of Education, Division of Community Colleges, and Workforce Education has a Product Catalog which contains 61 academic learning modules in vocational contexts developed by Special Needs personnel that can be ordered. These materials include learning modules in the following vocational areas:

- Business Education/Office Systems Technology
- Secretary/ Receptionist
- Health Occupations
- Licensed Practical Nurse

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- Nursing Assistant
- Patient Care Assistant
- Industrial Education
- Air Conditioning, Refrigeration, & Heating
- Auto Body Repair
- Automotive Mechanic
- Carpentry
- Cosmetology
- Diesel Engine Mechanic
- Drafting
- Gasoline Engine Mechanic
- Machining
- Plumbing
- Welding
- Public Service Education

The web address for the Product Catalog is
www.firn.edu/doe/workforce/publicat.htm.

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RESULTS/PROGRESS

Looking at the lessons learned from studies done on early schools that had made the investment to integrate vocational and academic education programs before the Perkins amendments, several conclusions could be made to help guide educators and educational policymakers seeking to integrate vocational and academic education:

- Integration can apply to all high schools and should not be viewed as applying only to vocational programs
- Integration should be approached as a school improvement effort because it touches on all aspects of the school—curriculum, pedagogy, organization, and relationship to the community
- Integration flourishes in a permissive regulatory environment when state and local regulations do not impede local reforms and, preferably, support them.
- Integration can take years to implement and requires committed leadership, stable staffing, stable funding to induce change and build new capacities, and full support for continuing staff development and collaboration.
- Integration complements other current systemic reforms such as site-based management, mission-oriented schooling, increased teacher participation in decision-making, and reforms to increase teacher professionalism.

Although little progress has been made in the reform effort to integrate academics with vocational courses, the integration of academics is important. Integration has the potential to create a more flexible, equitable, and effective American school. The team building and collaboration between academic and vocational teachers has had the added benefit of helping to overcome the undervaluing of vocational teachers and students common in secondary and postsecondary education programs. Still, care must be given to avoid the danger of seeing integration as a form of “watering down” academics to teach only the academic skills needed to prepare student for a very narrowly defined occupation. Full integration can move vocational education from traditional skills training to education that prepares students to work in a global economy with increasingly high-skilled, technical work places.

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OPPORTUNITIES FOR VPI PROGRAMS

VPI Programs are in a pivotal position in terms of integration reform. Publishers of commercial software and printed materials have developed a number of academic programs that are linked to the requirements of careers and training programs. Many of these materials are in use in VPI programs across the state. Also, many VPI program instructors have developed and/or are currently using academic learning materials in vocational contexts developed by their colleagues. The very systematic, prescriptive structure of the academics in the VPI programs lends itself to the development of integration.

Integration reform represents an opportunity for VPI Programs to have a secure place in the regular education system. There are several important action steps that VPI instructors can take to facilitate the progress of the integration of academics with vocational courses.

Action Step One

Win over your administration. Be the squeaky wheel! Make sure that your administration fully understands what academics your VPI program covers and how it operates.

- Publish a monthly newsletter about your program.
- Prepare and present a staff development program on Vocational Preparator Instruction during the summer or before the term/school year starts.
- Hold an open house at the beginning of the term.
- Send memos and e-mails about your students' progress and successes.
- Collect statistics on grade level improvement, retention, and completion rate from the different vocational program areas and share that information with the administration.
- Speak out about your students' successes at faculty and staff meetings.

Action Step Two

Be an enthusiastic team player! Integration involves collaboration and team building. There are several ways VPI Instructors can ensure their time and participation on the team is valuable:

- Make sure your colleagues on the team understand the VPI program and how it fits into the integration process.
- Attend all staff development, curriculum and planning meetings and arrive on time.

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- Use your open house at the beginning of the term as an informal time to let the team members learn more about your program.
- Take coffee breaks or lunch breaks with members of the team so they can get to know you in a relaxed setting.
- Volunteer to go into an academic or vocational classroom and do a presentation on how academics can be integrated in a vocational context.
- Inform the team members of increased VPI student progress, retention, and completion rates.

Action Step Three

Promote career assessment at the secondary and postsecondary levels. The development of student assessment instruments that demonstrate how students link ideas and relate academic concepts to vocational goals is an important component of the integration process.

- If your VPI program has a career exploration/assessment component, conduct a workshop for administration and integration team members on that component:
 - Show how career exploration/assessment can be used to help students understand their interests, temperaments, skills, and aptitudes.
 - Explain how that information translates to appropriate career paths.
 - Demonstrate how the career exploration/assessment results can be used in the integration process.
- If your VPI Program does not have a career exploration/assessment component, arrange to visit other VPI programs that have that component and get information on the software they use.
 - Arrange for the vendors of that software and/or other vendors to give a demonstration at your school.
 - Invite members of the integration team as well as representatives from administration to attend.
 - Consider using Perkins funds to purchase career/occupational exploration software for your VPI Program. It can easily be incorporated into your program's support services.

Action Step Four

Disseminate the curriculum developed by Special Needs staff through statewide writing projects. Use your expertise to help with the development and adaptation of curriculum.

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The Florida Department of Education, Division of Community Colleges and Workforce Education has a Product Catalog that lists 61 academic learning modules in vocational contexts.

- Order several of these modules that might be pertinent to your school's curriculum. The web address for the Product Catalog is: www.firn.edu/doe/workforce/publicat.htm.
- Share these modules with the integration team and discuss how they might be incorporated into the curriculum or used as examples in the development/adaptation of curriculum.
- Participate in the development and adaptation of curriculum. Use your expertise developed through the VPI Program staff development activities to assist in the writing of curriculum.

Action Step Five

Be a hero to your integration team and the administration! Help locate funding for staff development activities through small grants.

Continuing staff development and collaboration is critical to the success of any integration project. Although funding for these activities is limited, there are funds available through state/federal sources, as well as private, not for profit foundations that support students with special needs. Integration of academics with vocational has been proven to be a more flexible, equitable, and effective approach to teaching, especially beneficial to students with special needs.

- Search for information on public and private funding sources through your grants department or ask for assistance from the state.
- Consult with your integration team and administration on writing the proposal on integration and its benefits for special populations.
- Submit the integration proposal for funding.
- Use the funds for staff development activities.

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POST-TEST

1. Who should be on a team to integrate academics with vocational education?

- (a) _____
- (b) _____
- (c) _____
- (d) _____
- (e) _____

2. What are some of the benefits of integration?

- (a) _____
- (b) _____
- (c) _____
- (d) _____
- (e) _____

3. What are some of the action steps VPI instructors should take to facilitate the integration reform process?

- (a) _____
- (b) _____
- (c) _____
- (d) _____
- (e) _____
- (f) _____

4. Why should VPI instructors be part of the integration process?

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Appendix A

Pretest Answers

1. F
2. T
3. T
4. F
5. T
6. T
7. F
8. F
9. T
10. F
11. T
12. F
13. F
14. F
15. F
16. e
17. d
18. c
19. e
20. e

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Appendix B

Post-test Answers

1.
 - (a) Vocational teachers
 - (b) Academic teachers
 - (c) Curriculum builders
 - (d) VPI instructors
 - (e) Business/industry representatives

2.
 - (a) Increased learning due to student motivation
 - (b) Decreased student dropout due to students being engaged in the learning process
 - (c) Enriched critical thinking skills
 - (d) Increased mastery of technical skills
 - (e) Enhanced career and/or educational opportunities

3.
 - (a) Win over the administration
 - (b) Be an enthusiastic team player
 - (c) Promote career assessment
 - (d) Disseminate the state's academic learning modules in vocational contexts
 - (e) Help write curriculum based on the state's learning modules
 - (f) Help find additional funding sources

4. The 1990 amendments to the Carl D. Perkins Vocational Education Act of 1984 mandated that programs fully integrate vocational and academic education.

Integration is a powerful tool to help students gain advanced academic competencies and improve their education and career opportunities. Integration provides opportunities for VPI programs to collaborate with vocational instructors, academic instructors, curriculum specialists and business/industry representatives. The integration of academics has the potential to create a more flexible, equitable, and effective American school.

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