An Analysis of the Development and Implementation of Career Clusters and Career Pathways in the Waupun Area School District

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Abstract

The purpose of this study was to identify the level of development and implementation of Career Clusters and Pathways in the Waupun Area School District, as well and the support needed and barriers preventing to continue with the process. The study involved nine Career and Technical Education teachers in the District.

The study found that among the discipline areas with the department, there are many differences in the level of development and implementation. This study also found that the teachers need several types of support to continue the process of development and implementation of these plans of study. The most identified support needed was time and knowledge. The participants in this study also identified some barriers that prevent this process from continuing. However, some of these barriers are still unknown at this time because there are discipline areas that are still in the beginning stages of Career Clusters development.

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Chapter I: Introduction

Background

As a whole, public education in the United States has served several purposes and goals throughout history. These have included preparing students as citizens and for the workforce, creating interesting and inspiring experiences to apply learning, teaching cultural literacy and critical thinking, and preparing students for college and a global market (Roundtable, Inc., 2001; Dewey, 1938). This can be seen through the mission statement of the Waupun Area School District: "In collaboration with our youth, families, and communities we will prepare our students to be resilient, determined, and productive citizens with a passion for learning in an ever changing world" (Waupun Area School District, 2010, para. 2).

There are several changes happening in today's society relating to the economy, industry, government and education. With businesses closing their doors because of recession, worsening political polarization and greater strain on school revenue, change is occurring in every aspect of society. Specifically, in the field of education, policies and practices relating to budgets, class sizes and fields of study are changing with times. Most significantly, career and technical education (CTE) is changing in order to better prepare students for the world of work.

Specifically, CTE focuses on preparing students for the workforce or additional job-specific training at a technical college or university. The United States House of Representatives describes the purpose of CTE as creating challenging academic and technical standards in preparation for high skill, high wage, or high demand occupations (Office of the Law Revision Counsel, U.S. House of Representatives, 2009). Similarly, CTE, formerly vocational education, was defined as "both unorganized and organized methods of securing occupational confidence and proficiency" (Prosser & Quigley, 1949, p. 2).

Recently, in response to new legislation, vocational education has moved toward using career clusters as a set of guidelines upon which to build high school curriculum. In 2006, when Perkins IV was passed, states became required to outline a sequence of high school and courses leading toward a specific career or degree program at a post-secondary school (U.S. Congress, 2006). A popular system for organizing programs of study is through the use of career clusters and pathways. This can be seen through the vision statement of States' Career Clusters Initiative: "enable learners to successfully transition from school to careers by serving as a platform to connect secondary and postsecondary education; academic and career-technical education; and education with the business, workforce development, and economic development communities" (States' Career Clusters Initiative, 2010, para. 1).

Career Clusters are broken into sixteen broad career categories based on commonalities and industry. These sixteen clusters are broken down further into career pathways, which better focus on a specific career rather than the industry (Miller, 2008; States' Career Clusters Initiative, 2010). The idea, as required by Perkins IV, is that a high school plan of study, based on a single pathway, will prepare students for further education toward that career at a technical college or university (U.S. Congress, 2006). Each plan of study (Career Pathway) has both secondary and post-secondary courses (States' Career Clusters Initiative, 2010).

Public K-12 school districts have had to implement Career Clusters and plans of study in order to continue to receive a federal grant, known as Carl Perkins funds. However, not all high schools in Wisconsin, and possibly the nation, are adopting the Career Clusters as completely as intended and have developed a clear pathway to further education in the specific areas.

Statement of the Problem

There is limited information about the degree Wisconsin public K-12 school districts are implementing Career Clusters as the main foundation for their CTE disciplines. The Waupun Area School District needs to determine how career plans of study are being implemented in its Career and Technical Education department.

Purpose of the Study

The purpose of this study is to determine the degree of implementation of Career Clusters and Pathways within the Career and Technical Education departments in the Waupun Area School District. Further, this study will determine additional support needed to continue the development and to implement Career Clusters and Pathways. Finally, this study will identify perceived barriers preventing the development and implementation of Career Clusters and Pathways.

Research Questions

The following questions were addressed in the study:

1. To what degree are the Career and Technical Education programs in the Waupun Area School District implementing Career Clusters as the foundation of their curriculum?
2. What types of additional support are needed by Career and Technical Education teachers in the Waupun Area School District to continue the development of the Career Clusters?
3. What do the Career and Technical Education teachers in the Waupun Area School District view as barriers in furthering the implementation of Career Clusters?

Importance of Study

This study will provide necessary information to the administration in the Waupun Area School District about the support Career and Technical Education teachers in the District need to continue the development of Career Clusters and Pathways. This study may also provide administrators in other districts in the state insight into ways they may be able to support the staff of their district with the same process. Finally, this information will be beneficial to Career and Technical Education staff at the local Cooperative Educational Service Agency office and the Department of Public Instruction so support for Career Clusters implementation can be considered for the Waupun Area School District.

Definition of Terms

For the purposes of this study, the following terms are defined:

Career and Technical Education. Disciplines within K-12 school districts that train and prepare students for employability in general or in specific jobs and have real-world applications; disciplines often include Agriculture, Business and Information Technology, Family and Consumer Sciences, and Technology; formerly known as Vocational Education (ACTE, 2010).

Career Clusters. Groupings of occupations based on common skills and knowledge that is used as a method of organizing Career and Technical Education Programs (Hull, 2005)

Career Pathways. Programs of study beginning with a secondary school and continuing to a technical college that prepares a student for employment in a specific occupational field or further education and training (Hull, 2005)

CTEC. A Career and Technical Education Coordinator (formerly known as a LVEC or Local Vocational Education Coordinator) has the responsibility to oversee curriculum and Career and Technical Education disciplines in a public high school in Wisconsin, including the

development of policies and work-based learning programs, managing budgets and grants, and providing leadership in integration of standards in technical education (Wisconsin Department of Public Instruction, 2005).

Assumptions

The assumptions of the study are:

1. The teachers in the study are aware of what Career Clusters are, how they are constructed and what the intent of Career Clusters is as it relates to high school Career and Technical Education curriculum.
2. Participants will answer truthfully about the implementation of Career Clusters in their Career and Technical Education discipline.

Limitations

The limitations of the study are:

1. The study is only focused on the Waupun Area School District. Results may not be generalized to other school districts in the region, state or nation.
2. Participants whose CTE discipline teams have not done much work in the area of Career Cluster implementation may elect not to participate which may affect the overall response rate and results.
3. This study did not involve school counselors, which are also responsible for implementing Career Clusters and plans of study as part of career exploration at the secondary level.

Chapter II: Review of Literature

Introduction

The study sought to determine the extent Waupun Area School District is adopting career clusters and career pathways and to determine if the CTE staff members in the Waupun Area School District require additional support to continue the development and adaptation to Career Clusters and Career Pathways. Changing from successful past curriculum to a new framework, such as Career Clusters and Pathways, is a leap for many seasoned teachers. The literature basis for this study examined the theories behind change adoption, the data supporting Career Clusters as a curriculum and the Perkins Legislation driving the shift toward Career Clusters and Pathways.

History of Career and Technical Education

Career and Technical Education (formerly known as Vocational Education) dates back to the Smith Hughes Act in 1917 (Ruffing, 2006). The Smith-Hughes Act developed separations between vocational education and mainstream education by creating a discrete funding source for these programs as well as separate state boards in most states to oversee these programs (Patterson, 2001).

In 1984, the Carl D. Perkins Vocational and Technical Education Act passed. This legislation provided funding through 1990 to expand services to special populations of students and improve existing vocational education programs (Davis, 2001).

In 1990, Perkins II was reauthorized and shifted focus of vocational education a bit more. Perkins II began to integrate academic standards with the vocational skills as well as creating programs for all students, not just those who were not college-bound (Ruffing, 2006). A third part of Perkins II was the development of Tech-Prep Programs. For this, a separate funding

stream was set-aside "to fund innovative secondary-postsecondary partnerships designed to improve the academic proficiency of technical students and facilitate student transition from secondary to postsecondary institutions through articulation agreements" (Hull, 2005, p. 10). This separate funding source has proved invaluable for many CTE programs across the nation, as students have had new opportunities in secondary education benefiting future endeavors in post-secondary education.

The Goals 2000: Educate America Act created the National Skills Standards Board (NSSB) in 1994. The NSSB worked to begin to identify occupational clusters and a system of standards and assessments within each (Ruffing, 2006). This would become the basis for later Career Clusters and Career Pathways.

A reauthorization of Perkins Legislation failed in 1995 because of controversial initiatives but funding was extended pending a passed reauthorization (Davis, 2001). However, Perkins Legislation was revised and passed in 1998. The Carl D. Perkins Vocational and Applied Technology Education Amendments of 1998 (also known as Perkins III) was designed to "develop more fully the academic, vocational and technical skills of secondary and postsecondary students who elect to enroll in vocational and technical education programs" (U.S. Congress, 1998, p. 2).

Another Act, Carl D. Perkins Career and Technical Education Act of 2006 (also known as Perkins IV), focused on strengthening the academic achievement of students enrolled in a CTE program, making more connections between secondary and postsecondary programs, and having more state and local accountability (U.S. Congress, 2006). Consequently, the use of Career Clusters as a method of organizing course work is one way to meet the requirements of

Perkins IV. This act caused CTE teachers to rework curriculum with the Career Clusters and Pathways framework in order to secure Perkins Grant funding from states.

Career Clusters

Career Clusters are described as workforce specialization areas aiming to integrate academics with career education (Lozada, 1995). In this curricular framework, students are guided into and through an academic plan of study in an attempt to emphasize education directed at a career goal rather than tracking students into either college preparation or career education. Since the Career Clusters are broadly based, the idea is that all students, regardless of their future career goals, can benefit from having some focus rather than floundering aimlessly through coursework that appears to have little meaning or application to life or work. Students need to be aware of career and academic options that prepare them for careers. Career clusters and pathways and plans of study may help students understand the myriad of career possibilities.

The benefits of adopting career clusters are numerous. *Career Clusters Teacher Manual* (2003) described several advantages in adopting Career Clusters for vocational education curriculum. "Clusters provide the link between what students learn in school and the knowledge and skills they need for success in college and careers" (p. 5). The manual suggests that real-world context is vital in CTE as it can provide critical thinking and analytical challenges to students as they plan their careers.

The *Career Clusters Teacher Manual* provided a list of opportunistic advantages for students in using Career Clusters to expand the career awareness and career education to students (2003). One of these is to make connections among careers within a cluster that is similar. For example, if a student takes courses in the Hospitality and Tourism Pathway, with the intention of

a career as a restaurant manager, but changes their goal to be a pastry chef, the classes taken are still related and relevant to either career.

The manual also identified understanding the different knowledge and skills needed for careers within clusters and how careers within a single cluster have similar knowledge and skill requirements as an important benefit to Career Cluster adaptation. Learning about opportunities for education and training within a cluster, examining careers that are emerging and expanding rapidly, and making connections between school success and career success also have significant benefits to the students. Becoming aware of personal interests and proficiencies as they relate to career choice and developing skills for the workplace such as personal responsibility, teamwork and good work habits are further examples of the advantages to students learning in a vocational program based on the Career Clusters framework (Hull, 2005).

The *Career Clusters Teacher Manual* (2003) also identified advantages to educators using Career Clusters as the basis of vocational education curriculum. One of these is to design instruction that connects academics to career skills using rigor, relevance and seamless transitions. The manual also suggested using real-world examples such as experiential activities with area business and industry, career exploration activities and work-site visits as important instructional delivery tools for educators.

Change Theory

Change is a phenomenon that surrounds everyday life and simply cannot be avoided. Change is viewed by each individual in a unique way: some people thrive on change and view it as a vital part of one's live while others struggle with the idea of reacting to change and how one's life will be altered. No matter how an individual views change, it is important to realize that life is unpredictable and changes will always be lurking in the future (McGraw, 2008).

The inevitability of change leads some to embrace change. Others continue to struggle to keep their head above water while dealing with all the new things that must be accepted. The book *Who Moved My Cheese for Kids* (Johnson & Johnson, 2003) identified the different ways in which change is handled. The book follows two pair of mice as they struggle to find their cheese (representing ideas and ways of doing things). As the pair struggled to find the cheese, they discovered when moving forward with their search for cheese, they became excited about the possibility of what the next cheese may taste like. This analogy has application to the changes happening in all aspects of society – government, the economy, and education – one needs to learn to go with the change rather than fight against the changes.

Embracing change is the first step in adapting to it. Once one can realize there is nothing that can be done to avoid all the changes happening around, one can become comfortable in functioning in an ever-changing society. McGraw (2008) discusses how individuals perceive change. He stated, "There is no good or bad news; it is only your interpretation of the news that makes if 'good' or 'bad'" (p. 17). Every individual has a background of experiences that shape reactions and the pattern of how the individual reacts to changes. But gaining knowledge of oneself and how these stress events are perceived is an important part of being successful in adapting to changes (McGraw, 2008).

Rogers (1983) expressed change is driven by three main factors of the individual: values, beliefs and past experiences. Therefore, how one perceives the impact of a given change will be based on these three principles and will also determine their willingness to adapt the change. Rogers (1983) defined diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 5). Because diffusion describes how a new idea is communicated, it is often paired with a degree of

uncertainty. Diffusion, as described by Rogers, is also a change in the structure and function of a social system (1983). Diffusion can be either planned communication of new ideas or spontaneous events that do the same. Most often, the diffusion process of ideas is quite slow and can take a long time to be widely accepted.

Working toward fully adopting career clusters and plans of study can be a long, challenging process for CTE teachers. Under Perkins IV, schools have been given time and resources to work toward this as a goal. Continual support to help teachers work with these changes and accept changes will make this process much more successful for teachers, administrators and students.

Chapter III: Methodology

Introduction

The purpose of this study was to determine the level of development and implementation of Career Clusters and Pathways in the Waupun Area School District as a curriculum and career guidance framework. Further, this study was to identify the support needed to continue, and the barriers perceived in the development and implementation of Career Clusters.

Research Design

A survey method was used by the researcher to guide and implement this descriptive study. More specifically, a questionnaire was developed in order to retrieve information from participants regarding the questions.

The variables in this study were the discipline area of the individual responding to the questionnaire and the degree to which the individual has been involved in the process of developing and implementing Career Clusters and Pathways within the discipline.

Population

The population for the study was CTE teachers in the Waupun Area School District in the 2009-2010 academic year. This population was ten teachers from the four discipline areas in Career and Technical Education: one in Agriculture, three in Business and Information Technology, two Family and Consumer Sciences, three in Technology Education and one in both Agriculture and Technology Education. This population includes teachers in both the junior high school and the senior high school. This population includes four female and six male teachers, ranging in years experience from a first year teacher to a teacher with over twenty years experience.

Prior to distribution, the research instrument was reviewed by the Research Advisor on March 17, 2010 and the Budget, Planning and Analysis Department on March 19, 2010 for face validity. On March 24, 2010, the instrument was approved by the UW-Stout Institutional Review Board for the Protection of Human Subjects in Research (IRB). A consent letter was developed to ensure participant confidentiality (see Appendix A).

Validity

In order to establish content validity, Table 1 shows the correlation between the research questions and the survey items.

Table 1

Research Questions in Relation to Survey Questions

Research Questions	Survey Questions
To what degree are the Career and Technical Education programs in the Waupun Area School District implementing Career Clusters as the foundation of their curriculum?	2, 3, 4, 5
What types of additional support are needed by Career and Technical Education teachers in the Waupun Area School District to continue the development of the Career Clusters?	6, 7
What do the Career and Technical Education teachers in the Waupun Area School District view as barriers in furthering the implementation of Career Clusters?	8, 9

Instrumentation

The study involved one researcher-developed instrument used to collect data (see Appendix B). There were three sections to the questionnaire addressing the research questions of the study. The first section offered a likert scale for respondents to identify the degrees of development and implementation of career clusters within the discipline area. This four point scale was used to avoid participant responses centralized around a neutral category. The next section asked the respondents to list the number of career pathways and plans of study within the discipline area that were being developed and the number of career pathways within the discipline area that have been implemented. The final section asked for respondents to identify additional support needed and the barriers encountered as the development and implementation of Career Pathways continues. Demographic information gathered by the questionnaire included the discipline area of Career and Technical Education in which the respondent primarily instructs. Participants were assured that the responses provided would remain confidential.

The nine respondents voluntarily submitted responses on a questionnaire within the seven-day timeline provided. An e-mail explaining the study was sent on March 25, 2010, prior to distribution of the questionnaires later that day. This prenotice letter was meant to request help for this important study and to create a positive impression on the respondent (Dillman, 2000). A follow-up e-mail was sent on March 30, 2010 reminding the participants of the survey. A reminder such as the one used in this survey has been shown to improve response rates in comparison to a prenotice letter alone (Dillman, 2000). Responses were received by March 31, 2010 from nine of the ten identified in possible respondents for a total response rate of 90%. One individual responded for two discipline areas.

Data Analysis

For the study, two discrete processes for analyzing data were used. First, the responses about the degree of development and implementation were analyzed using descriptive statistics of frequency and percentage of responses. Some responses were also reported based on demographic information collected about the respondents. One respondent reported for two departments, as this individual teaches actively in both. Second, the replies to the open-ended questions were analyzed and coded based on thematic responses.

Chapter IV: Findings

Introduction

The purpose of this study was to determine the level of development and implementation to Career Clusters in the Waupun Area School District. Additionally, this study was to identify the support needed to continue, and the barriers perceived in the development and implementation of Career Clusters.

Responses Based on Demographics

The population for the study was the Career and Technical Education teachers in the Waupun Area School District. The respondents were from the Agriculture, Business and Information Technology, Family and Consumer Sciences and Technology discipline areas within the district. A total of nine individuals, or 90%, responded to the questionnaire. This included two Agriculture teachers, three Business and Information Technology teachers, two Family and Consumer Sciences teachers, two Technology Education teachers, and one teacher reporting on both Agriculture and Technology Education. This is shown in Table 2.

Table 2

Number of Respondents by Discipline Area

Discipline Area	Number of Respondents	
	N	%
Agriculture Education	2	20
Business and Information Technology	3	30
Family and Consumer Sciences	2	20
Technology Education	3	30
Total	10	100

Degree of Development

The first survey question in the study asked the respondents about the degree of development of career pathways within the discipline area in which they primarily instruct. The question offered a lickert scale for responses, with the scale being Barely Developed, Somewhat Developed, Mostly Developed, and Significantly Developed.

The majority of respondents identified that Career Pathways are somewhat developed. However, two individuals stated that the Pathways in their discipline area are mostly developed. The breakdown of responses can be seen in Table 3 based on individuals responding to each level and by discipline area.

Table 3

Perceptions of Developmental Level of Career Pathways by Discipline Area

Department	Significantly Developed		Mostly Developed		Somewhat Developed		Barely Developed		Totals	
	N	%	N	%	N	%	N	%	N	%
Agriculture Education	-	-	1	10	1	10	-	-	2	20
Business and Information Technology	-	-	-	-	3	30	-	-	3	30
Family and Consumer Sciences	-	-	1	10	1	10	-	-	2	20
Technology Education	-	-	-	-	3	30	-	-	3	30
Totals	-	-	2	20	8	80	-	-	10	100

Degree of Implementation

The next question in the study asked the respondents about the degree of implementation of career pathways as the foundation for their curriculum. The question was also based on the discipline area in which they primarily instruct, offering a likert scale for responses which included Barely Used, Somewhat In Use, Mostly Implemented, and Significantly Implemented. Table 4 shows the breakdown of these results based on the number of individuals responding to each level and by discipline area.

Table 4

Perceptions of Implementation Level of Career Pathways by Discipline Area

Department	Significantly Implemented		Mostly Implemented		Somewhat In Use		Barely Used		Totals	
	N	%	N	%	N	%	N	%	N	%
Agriculture Education	-	-	-	-	2	20	-	-	2	20
Business and Information Technology	-	-	-	-	3	30	-	-	3	30
Family and Consumer Sciences	-	-	-	-	2	20	-	-	2	20
Technology Education	-	-	-	-	2	20	1	10	3	30
Totals	-	-	-	-	9	90	1	10	10	100

The majority, 9 or 90% of responses, in all areas indicated that the career pathways are somewhat implemented within the CTE discipline areas. Only one individual Technology Education indicated that Career Pathways are Barely Used within that discipline area.

Number of Developed Career Pathways

The third question asked in the study was about the number of career pathways developed in the discipline area in which they primarily instruct. This question was asked in an open-response format. Table 5 shows the results of this broken down by number of individuals in each responding discipline area.

Table 5

Individual Responses to Number of Pathways Developed by Discipline Area

Department	Three Developed Pathways		Two Developed Pathways		One Developed Pathway		Unsure		Totals	
	N	%	N	%	N	%	N	%	N	%
Agriculture Education	-	-	2	20	-	-	-	-	2	20
Business and Information Technology	1	10	2	20	-	-	-	-	3	30
Family and Consumer Sciences	-	-	2	20	-	-	-	-	2	20
Technology Education	1	10	1	10	-	-	1	10	3	30
Totals	2	20	7	70	-	-	1	10	10	100

Business and Information Technology indicated there are two or three Pathways developed, while Agriculture Education and Family and Consumer Sciences all agreed that there are two Pathways developed in each discipline area. One of these respondents stated, "We are in the process of developing two...we are planning on adding more."

Number of Implemented Career Pathways

Next, the questionnaire asked respondents how many Career Pathways have been implemented in the discipline area in which they primarily instruct. This question was also an open-response format. The results of this broken down by number if individuals responding by discipline area are seen in Table 6.

Table 6

Individual Responses to Number of Pathways Implemented by Discipline Area

Department	Three Implemented Pathways		Two Implemented Pathways		One Implemented Pathway		Zero Implemented Pathways		Totals	
	N	%	N	%	N	%	N	%	N	%
Agriculture Education	-	-	1	10	1	10	-	-	2	20
Business and Information Technology	-	-	-	-	-	-	3	30	3	30
Family and Consumer Sciences	-	-	-	-	1	10	1	10	2	20
Technology Education	-	-	1	10	1	10	1	10	3	30
Totals	-	-	2	20	3	30	5	50	10	100

Agriculture Education, Family and Consumer Sciences, and Technology Education respondents all had respondents that believe at least one Pathway has been implemented. One respondent in Family and Consumer Sciences stated, "I believe we have Pathways, but none that I feel are truly integrated...yet."

Support Needed for Continued Development

The next survey question asked about the support needed for all Career and Technical Education departments to continue the development of Career Pathways. This item was asked in as an open-response question.

Of the nine respondents, eight thought more time was needed to work as departments on the development of Career Pathways. Seven individuals indicated that more training and resources are needed, including an expert that has worked with schools before on Pathway development as well as an explanation of what exactly needs to be done and how to go about it. Three individuals stated more support from everyone is needed, including all Career and Technical Education teachers, core teachers, administration, guidance counselors, and perhaps students and the community. One individual responded by stating, "More time and the collaboration of teachers, counselors, administration, and possibly industry and post-secondary staff." A summary of all responses to this question is found in Appendix C.

Support Needed for Implementation

Another open-response question asked what additional support is needed for implementation of career pathways.

Of the nine individuals participating in the study, five thought that more resources are needed. They suggested that these resources would include someone familiar with the process and an example of how other school districts have implemented career pathways. One respondent indicated, "I think it would be helpful to have an understanding of exactly what needs to be done and how to do it." Four respondents indicated that more time was needed to develop the Pathways before implementation could take place, and that implementation itself would take time. Three respondents echoed the idea that everyone, including all CTE teachers, core

teachers, administration and guidance counselors, need to be on board before the process can move forward. A summary of all responses to this question is found in Appendix D.

Barriers Preventing Further Development

Respondents were asked about the barriers seen as preventing further development of career pathways. This question was asked in an open-response format.

Five of the nine respondents indicated that lack of time to work on pathway development is a barrier. Four respondents stated there are not enough connections with the community and core areas at this time and that is hindering the development of career pathways. Two individuals indicated money issues as a barrier, including there is not enough staff to teach all the classes that would be needed for the pathway courses. One respondent acknowledged that a barrier will be to sell this idea to other staff and that will hinder development. Finally, one respondent stated, "Knowledge. I don't feel as if I have had the necessary training/information needed to be successful in the Career Clusters development." A summary list of all responses to this question is in Appendix E.

Barriers Preventing Implementation

The final survey question asked respondents to identify barriers that may be encountered with the implementation of Career Pathways. This question was also asked in an open-response format.

Three respondents indicated time is again the biggest barrier in being successful in implementing career pathways. Another three respondents stated a barrier is that there would not be enough support and follow-up from the community and administration. Two individuals responding to this question saw lack of connections with the community and core teachers as a barrier in implementation. One individual again stated the CTE staff does not have enough

knowledge to be successful with this. Another respondent indicated the existing curriculum doesn't match what the Pathways will demand. Finally, two respondents were unsure of the barriers in implementation as those discipline areas are still in the beginning stages of development. A summary of all responses to this question is found in Appendix F.

Chapter V: Summary, Conclusions, and Recommendations

Summary

The purpose of this study was to determine the level of development and implementation to Career Clusters at the Waupun Area School District. Further, this study was to identify the support needed to continue, and the barriers perceived in the development and implementation of Career Clusters.

The study used a survey method to find answers to the research questions. The subjects in the study were the CTE teachers in the Waupun Area School District. Each of these participants was given a questionnaire to indicate their responses to the questions. Responses were analyzed, and open-ended responses were summarized and compiled.

Conclusions

There were three research questions addressed with this study. Each is listed below with conclusions for each.

Research Question 1. To what degree are the Career and Technical Education programs in the Waupun Area School District implementing Career Clusters as the foundation of their curriculum? Respondents in the Business and Information Technology and Technology Education discipline areas are lagging behind the other areas in the development of Career Clusters. And, although Career Clusters are being developed, little implementation has taken place thus far. Eight respondents, or 80%, indicated there are Career Pathways somewhat developed. However, 90% of respondents, or nine individuals, indicated these Pathways are only somewhat in use.

CTE teachers seem to be confused about the development and have not been working on this enough to be familiar with what has already been completed. There is ambiguity among

CTE teachers about the status of implementation of career clusters, as indicated by the mixed responses within discipline areas in regards to the number of pathways and the degree to which these are developed and in use.

Research Question 2. What types of additional support are needed by Career and Technical Education teachers in the Waupun Area School District to continue the development of the Career Clusters? CTE staff members identified the need for several things to happen before implementation of career clusters and pathways is possible. In order to make the development of career clusters successful, CTE teachers stated they need to have time, additional training and support from all staff. These types of support were echoed among several staff members in the responses to the questionnaire.

Research Question 3. What do the Career and Technical Education teachers in the Waupun Area School District view as barriers in furthering the implementation of Career Clusters? Until CTE staff members have worked on the development of career clusters more, the implementation barriers cannot accurately be identified. However, some possible barriers were identified by respondents as lack of time and money to continue development and revamp existing curriculum, not enough knowledge and training on the matter, and convincing other staff members of the importance.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are suggested:

- For CTE teachers, discipline areas need to work together to continue the development of career clusters within all areas. Once more pathway development is completed within the career clusters framework, these models should become the

basis of course offerings in all the CTE areas. All staff members from all discipline areas need to be actively working together on the development and implementation of career clusters to ensure flow of classes and relevant curriculum.

- For administrators, it is recommended that the District provide CTE teachers with paid curriculum days to work together in discipline areas to continue the development of career pathways and plans of study. One survey respondent stated, "We need time set aside to work on these." These curriculum days should also be supported with district administrators to guide and an individual familiar with career pathways who can assist the teachers and provide them with additional resources. This is indicated by a respondent's statement about support needed to continue development, asserting, "Guidance from someone; direction on what exactly needs to be done and how." By working together to continue the development and work toward implementation, the students within the school district can be better served with these plans of study as career pathways are intended (*Career Clusters Teacher Manual*, 2003). This will also help the CTE Department to be in compliance with Perkins IV and continue to secure this as a funding source (U.S. Congress, 2006).
- Once CTE staff members have had developed the career clusters, more time and resources should be given to them, again with paid curriculum time and experts available, to work with these staff members and the other teachers, counselors and administration effected, to devise a plan for implementation.
- For the CTE Advisory Council, once the development process is underway, the council should meet to help guide and offer input. By using the Advisory Council

to guide the course work with use of the pathways, CTE staff members can seek the advice of these professionals that want to work together to develop, improve and maintain this program (Hull, 2005).

- Once the development of career clusters has been completed and the implementation process is in progress, this process needs to be re-assessed to ensure CTE staff members, core teachers, counselors and administrative staff are all in agreement of the next steps and have available all the resources required to be successful. Having all these resources working together toward the use of career pathways is vital to the success of the model and the students served (Hull, 2005).

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Appendix A

Participant Consent Form

UW-Stout Signed Consent Form for Research Involving Human Subjects

Consent to Participate In UW-Stout Approved Research

Title: An analysis of the Development and Implementation of Career Clusters and Career Pathways in the Waupun Area School District

Investigator:
Stephanie S. Fox
foxst@my.uwstout.edu

Research Sponsor:
Dr. Juli Taylor
taylorju@uwstout.edu

Description:
This study is to determine the degree of implementation of Career Clusters and Career Pathways within the Career and Technical Education departments in the Waupun Area School District.

Risks and Benefits:
The risks of this study are minimal to the participants. Confidentiality will be maintained with the demographic information and therefore individuals will not be identified by this. Participants in this study may benefit if others examine the results and determine that additional support is needed to aide in the development of Career Clusters and Pathways within the district.

Time Commitment:
This questionnaire is estimated to be about 10 minutes in length.

Confidentiality:
Your name will not be included on any documents. We do not believe that you can be identified from any of this information. This consent will not be kept with any of the other documents completed with this project.

Right to Withdraw:
Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. Should you choose to participate and later wish to withdraw from the study, you may discontinue your participation at this time without incurring adverse consequences.

IRB Approval:
This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

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Statement of Consent:

By signing this consent form you agree to participate in the project entitled *An analysis of the Development and Implementation of Career Clusters and Career Pathways in the Waupun Area School District.*

_____

Signature Date

_____

Signature of parent or guardian Date
(If minors are involved)

Appendix B

Career Cluster Adaptation Survey

This research has been approved by the UW-Stout IRB as required by the Code of Federal Regulations Title 45 Part 46.

Career Cluster Adaptation Survey

This study is to determine the degree of implementation of Career Clusters and Pathways within the Career and Technical Education departments in the Waupun Area School District.

1. In which department do you primarily instruct?
   Please check one

   _____ Agriculture Education

   _____ Business and Information Technology

   _____ Family and Consumer Sciences Education

   _____ Technology Education

2. To what degree has your Department developed Career Pathways?
   Please check one

   _____ Significantly Developed

   _____ Mostly Developed

   _____ Somewhat Developed

   _____ Barely Developed

3. To what degree has your Department implemented Career Pathways as a foundation of its curriculum?
   Please check one

   _____ Significantly Implemented

   _____ Mostly Implemented

   _____ Somewhat In Use

   _____ Barely Used

4. How many Career Pathways is your Department in the process of developing?

5. How many Career Pathways have your Department implemented?

6. What types of additional support are needed to continue the development of the Career Pathways in your department?

7. What types of additional support are needed to continue the implementation of the Career Pathways in your department?

8. What do you see as barriers in furthering the development of Career Clusters in your department?

9. What do you see as barriers in furthering the implementation of Career Clusters in your department?

Appendix C

Participant Responses about Additional Support Needed to Develop Pathways

6. What types of additional support are needed to continue the development of the Career Pathways in your department?

- We need time set aside to work on these.
- Guidance from someone; direction on what exactly needs to be done and how.
- More time and the collaboration of teachers, counselors, administration, and possibly industry and post-secondary staff
- Time, Time, Time
- Dept. Meetings
- Knowledge of others possibly
- Community Support
- Time
- Time and a better explanation
- Everyone on board!
- Time and resources
- Time and Direction
- Time to create the pathways
- Rest of the school to be on board
- An avenue to promote the pathways
- Guidance support and use of the pathways
- Student use of the pathways

Appendix D

Participant Responses about Additional Support Needed to Implement Pathways

7. What types of additional support are needed to continue the implementation of the Career Pathways in your department?

- Examples of ones in action
- Someone familiar with the process
- Haven't started yet
- Teacher support along with other departments
- Dept. Head
- Dept. Meetings
- Counseling Dept.
- Core class changes
- See #6
- Again, I think it would be helpful to have an understanding of exactly what needs to be done and how to do it.
- Again, we need to make the time to actually work on them.
- See above

Appendix E

Participant Responses about Barriers Furthering Development of Career Pathways

8. What do you see as the barriers in furthering the development of Career Clusters in your department?

- Not enough staff to teach all the classes we think are required
- $ and time to implement courses
- No barriers, but finding the time
- Knowledge. I don't feel as if I have had the necessary training/information needed to be successful in the Career Clusters development.
- Time
- Not being about to meet w/those listed in #6
- Time
- Core Classes
- If it's a difficult "sell" to the other teachers involved in the process
- Core areas not on board!
- Time
- Getting Connection with the community

Appendix F

Participant Responses about Barriers Implementation of Career Pathways

9. What do you see as the barriers in furthering the implementation of Career Clusters in your department?

- See above
- Time
- We need to "re-vamp" our existing curriculum to get it up to speed with the content of the clusters
- Knowledge
- Same as #8
- Not sure on this one
- Lack of teacher support, follow-up
- Haven't started yet
- Time
- Getting connected with the community