

Strategies used to enable CTE programs to be high performing in Kentucky

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ABSTRACT

The state of Kentucky mandated College and Career Readiness as a part of the revised education accountability system. The new system is known as Unbridled Learning assessment and accountability. As a result of this mandate high schools in Kentucky are trying to understand the steps necessary to implement a successful College and Career Ready program for their students. The goal of this research was to examine the knowledge of College and Career Readiness held by administrators, counselors and teachers. After the research was examined and compiled a training process for the afore mentioned could be administered to help schools achieve College and Career Readiness in their high school.

Keywords: Career Pathways, College Career Ready, CTE

INTRODUCTION

High Schools in Kentucky that have high performing Career and Technical Education (CTE) programs have a clear influence on the accountability scores. These programs also prepare students to enter the skilled workforce or college (KDE, 2013). CTE programs using pathways necessitate collaboration with academic teachers and program area advisory boards.

Rothman (2012) believes that teachers should be trained to instruct in their classrooms on how to use the common core standards. This will necessitate major changes in instruction. CTE programs can use course offerings, the order the courses are offered, and problem based learning as an example for change.

Sambolt and Blumenthal (2013) articulated that “College and career readiness is rapidly supplanting high school graduation as a key of the K-12 education system” (p. 2). Today’s students will gain from CCR whether they go on to college or enter the skilled workforce. CCR career guidance is the missing link according to Stone and Lewis (2012).

The study analyzed Kentucky’s high performing CTE programs’ various strategies used to improve CCR scores. The result of those strategies could impact procedures in high schools and how they reach their accountability scores in relation to CCR.

REVIEW OF LITERATURE

Several components were reviewed as necessary to make high school CTE programs high performing. The components were determined to be systems thinking, career clusters/career pathways/programs of study, course sequencing, leadership, accountability, collaboration, advising/counseling, problem-based, and application/project based.

Systems thinking connect how schools and their leaders plan to reach their goals. In Senge’s (1990) work he illustrates systems thinking as instruction in how to discover absent elements. Systems thinking is looking at the idea in a multi-dimensional way.

Career clusters are defined by the National Association of State Directors of Career and Technical Education Consortium “As an organizing tool for curriculum design and instruction”, (National Association of State Directors of Career and Technical Education Consortium (NASDCTEC), 2013). Career pathways/programs of study are a sequence of courses leading to an individual’s college or career readiness. Course sequencing is essential for the students to obtain their career pathway/programs of study.

Leadership in an educational setting takes on numerous faces, in this study it was related to instructional leadership. To be an effective instructional leader Keefe & Jenkins (1984) think that the principal, as the leader, needs the comprehension of teaching and expertise used in the classroom.

In education the term accountability seems to be the new catch phrase. Kentucky has a model for accountability titled “Unbridled Learning”. The model contains various measures, for CTE programs the core measure is Kentucky Occupational Skill Standards Assessment (KOSSA) or Industry Certifications met by students.

Another important component reviewed is collaboration. Collaboration has various meanings. In this study, collaboration are CTE teachers working with leaders, industry professionals in their respective areas and other teachers. For this collaborative partnership to work effective relationships must be developed. According to Daggett (2008) relationships in the learning environment can improve student success.

The Kentucky Department of Education believes that advising/counseling is of utmost importance as one of the strategies used in achieving CCR. Stone and Lewis (2012) also describe the significance of advising/counseling in students obtaining their CCR goals.

Research on problem based learning by Schmidt, Rotgans and Yew (2011) discussed that this type of learning reinforces prior learning. Hung's (2011) research showed that with this type of learning students think at higher levels. Lambros (2004) also revealed that this type of education let the students see the impact of their education.

The last component to be reviewed was application/project based. Mergendollar and Larmer (2010) stated that "Some "projects" border on busywork. Others involve meaningful inquiry that engages students' minds" (p.1). Some people believe that problem based learning and project based learning are the same type of learning. However they are not, project based learning is an on-going process of changes.

METHODOLOGY

Data collection for this study was both quantitative and qualitative. The quantitative data consisted of a survey of high school principals and high school teachers using SurveyMonkey. KDE conducted a survey of guidance counselors in 2012. Information from that survey was used to construct the survey for the principals and teachers. KDE's TEDS coordinator was also contacted for information regarding CCR data in CTE programs.

Principals and teachers in high schools with CTE programs were emailed a link to the survey on SurveyMonkey. The survey contained information relating to pathways, master scheduling, Individual Learning Plans, CCR accountability, dual/articulated credit and demographic information.

The researcher used TEDS data and CCR data to determine the top 10% of high schools in the state. The 10% was determined by the number of surveys returned to the researcher by the participants. The twelve identified principals were then interviewed by the researcher. The interview questions were developed using information from the survey results and a career pathway development expert.

All of the data were analyzed to determine the consistency of each individual piece of data. The TEDS data on CCR, the principal surveys and interviews, the teachers' surveys and the Counselors surveys were all examined.

FINDINGS

Surveys

The principal survey response rate was 39.67% of 300 responding. The teacher response rate was 9.52% of 13,024 responding. There were 133 high school counselors that responded. All three of these groups of surveys were compared to decide if there were differences in their responses. Each of the survey's 17 questions were analyzed. Missing responses were also noted in the final analyses. Results of the surveys are represented in several tables. Tables one thru three represents scheduling of students in the high school. Individual learning plans are denoted in tables four thru seven. Tables eight thru ten exemplify college and career readiness. Dual credit/articulation are represented in tables 11 thru 16. Tables 17 and 18 provide information on program availability. All tables are available in the Appendix.

Principal interviews

The 12 principal interviews were conducted with the high performing high school career and technical programs. These high schools were determined by analyzing the TEDS CCR data. The number 12 was determined by the number of principals responding to the survey. There were six questions used in the interview.

The first question in the interview was: What process have you implemented for CTE student to reach CCR? The principals responded with answers uniform with the review of literature information.

The second question was: How do you monitor the process that you have implemented? There were various responses to this question but the major response was that the students had a check sheet to follow.

The next question was: What interventions have you implemented and/or improved to help students accomplish industry certification or skill standards? The common response to this question was that the schools have implemented some type of intervention to help the students where they need help.

The fourth question was: What training is available to teachers and staff to assist with the process? Various training we're mentioned advisor training, importance of the career pathways, teaching all of their curriculum, how to use RTI and working together for the best interest of the student.

The next question was: How have students responded to the whole process of the CCR issues? The principals replied for the most part the students have been very positive.

The last question was: How have teachers/staff responded to the process? The overwhelming response that the teachers/staff have performed effectively on the process to help their students.

CONCLUSION

After analyses of the data one of the major conclusions were that there is an insufficiency in the planning and scheduling of classes for students. Master schedule development should be based on the predetermined sequence of courses.

Career pathways/program of study developed for the students to abide by during the high school experience. Students and parents should be knowledgeable of the career pathways/program of study and their importance in the education of the student.

High schools should be providing professional development for all involved in the education of students to the significance of dual credit/articulated credit. The teachers would also benefit from professional development on career pathways/program of study, course sequencing and CCR requirements.

Collaboration among teachers in the secondary setting is important. Collaboration amongst teachers, principals, and counselors with business and industry, and postsecondary education partners is also extremely imperative.

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APPENDIX

Scheduling students

Table 1

Do you use career pathways in scheduling individual students?

	Principal (n=119)	Counselor (n=133)
Yes	104 (87.39%)	93 (69.92%)
No	11 (9.24%)	37 (27.82%)
Missing Response	4 (3.36%)	3 (2.26%)

Table 2

Do you have input on career pathways in scheduling individual students?

	Teacher (n=1240)
Yes	512 (41.29%)
No	719 (57.98%)
Missing Response	9 (0.73%)

Table 3

How do you use career pathways in developing the master schedule? (Check all that apply)

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Career Pathways are generally not considered	6 (5.04%)	139 (11.21%)	7 (5.26%)
CTE Teachers submit course offerings	61 (51.26%)	383 (30.89%)	77 (57.89%)
Student course requests drive master schedule	53 (44.54%)	506 (40.81%)	103 (77.44%)
Career pathways are a driving force in developing the master schedule	71 (59.66%)	505 (40.73%)	23 (17.29%)
Missing Response	4 (3.36%)	119 (9.60%)	1 (0.75%)

Individual learning plan

Table 4

The ILP

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Could be a valuable tool but I don't have time to use it	39 (32.77%)	391 (31.53%)	57 (42.86%)
Is an unnecessary tool	7 (5.88%)	155 (12.50%)	12 (9.02%)
Is used at my school to help schedule students	67 (56.30%)	553 (44.60%)	61 (45.86%)
Missing Response	6 (5.04%)	141 (11.37%)	3 (2.26%)

Table 5

Are you aware of the sequence of courses for the career pathways offered at your school?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	113 (94.96%)	767 (61.85%)	116 (87.22%)
No	2 (1.68%)	354 (28.55%)	14 (10.53%)
Missing Response	6 (3.36%)	119 (9.60%)	3 (2.26%)

Table 6

Are you aware students who successfully complete three or more courses in a career pathway are more likely to graduate from high school than those who do not?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	112 (94.12%)	872 (70.32%)	103 (77.44%)
No	7 (5.88%)	343 (27.66%)	26 (19.55%)
Missing Response	0	25 (2.02%)	4 (3.01%)

Table 7

What is the average GPA of students you enroll in a CTE program?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Less than 2.5	11 (9.24%)	82 (6.61%)	14 (10.53%)
2.5 – 2.9	67 (56.30%)	475 (38.31%)	87 (65.41%)
3.0 – 3.4	30 (25.21%)	282 (22.74%)	25 (18.80%)
3.5 or higher	0	14 (1.13%)	0
Missing Response	11 (9.24%)	387 (31.21%)	7 (5.26%)

College and career ready

Table 8

Are you aware there are different measures for college ready and career ready?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	111 (93.28%)	1004 (80.97%)	125 (93.98%)
No	3 (2.52%)	98 (7.90%)	8 (6.02%)
Missing Response	5 (4.20%)	138 (11.13%)	0

Table 9

Are you aware a student must have three credits in a career pathway to be considered career ready?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	112 (94.12%)	840 (67.74%)	121 (90.98%)
No	4 (3.36%)	270 (21.77%)	11 (8.27%)
Missing Response	3 (2.52%)	130 (10.48%)	1 (0.75%)

Table 10

Are you aware your school gets more credit for a student who is both college and career ready?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	115 (96.64%)	952 (76.77%)	120 (90.23%)
No	0	148 (11.94%)	11 (8.27%)
Missing Response	4 (3.36%)	140 (11.29%)	2 (1.50%)

Dual credit/articulation

Table 11

Are you aware CTE courses may count for college credit?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	107 (89.92%)	778 (62.74%)	129 (96.99%)
No	8 (6.72%)	333 (26.85%)	3 (2.26%)
Missing Response	4 (3.36%)	129 (10.40%)	1 (0.75%)

Table 12

Do you communicate with your local community/technical college and/or university, regarding?
(Check all that apply)

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
CTE articulation and dual credit	99 (83.19%)	422 (34.03%)	95 (71.43%)
CTE transition to postsecondary	73 (61.34%)	365 (29.44%)	67 (50.38%)
Aligning the CTE curriculum	58 (48.74%)	247 (19.92%)	34 (25.56%)
Missing Response	11 (9.24%)	639 (51.53%)	28 (21.05%)

Table 13

What percentage of your students take advantage of dual credit and articulation opportunities for the CTE courses they are taking?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
0-24%	60 (50.42%)	527 (42.50%)	88 (66.17%)
25-49 %	31 (26.05%)	223 (17.98%)	17 (12.78%)
50-74 %	17 (14.29%)	104 (8.39%)	17 (12.78%)
75-100%	3 (2.52%)	23 (1.85%)	9 (6.77%)
Missing Response	8 (6.72%)	363 (29.27%)	2 (1.50%)

Table 14

Would you benefit from participating in PD concerning dual/articulated credit?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	70 (58.82%)	610 (49.19%)	107 (80.45%)
No	46 (38.66%)	498 (40.16%)	24 (18.05%)
Missing Response	3 (2.52%)	132 (10.65%)	2 (1.50%)

Table 15

Are you aware the fastest growing jobs in Kentucky over the next 10 years will require some postsecondary education but less than a baccalaureate degree?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	98 (82.35%)	678 (54.68%)	100 (75.19%)
No	17 (14.29%)	428 (34.52%)	33 (24.81%)
Missing Response	4 (3.36%)	134 (10.81%)	0

Table 16

Are you aware CTE programs have business and industry partners?

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Yes	113 (94.96%)	894 (72.10%)	117 (87.97%)
No	3 (2.52%)	214 (17.26%)	16 (12.03%)
Missing Response	3 (2.52%)	132 (10.65%)	0

Program availability

Table 17

Where do your students take career and technical education (CTE) courses? (Check All That Apply)

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Your high school	90 (75.63%)	867 (69.92%)	113 (84.96%)
An area technology center	79 (66.39%)	474 (38.23%)	84 (63.16%)
A career and technical center (District operated)	24 (20.17%)	253 (20.40%)	29 (21.80%)
KCTCS (Kentucky Community and Technical College System)	32 (26.89%)	342 (27.58%)	30 (22.56%)
Missing Response	3 (2.52%)	178 (14.35%)	2 (1.50%)

Table 18

Which of the following programs are accessible to your students? (Check all that apply)

	Principal (n=119)	Teacher (n=1240)	Counselor (n=133)
Agriculture	74 (62.18%)	623 (50.24%)	107 (80.45%)
Business and Marketing	93 (78.15%)	859 (69.27%)	119 (89.47%)
Construction	78 (65.55%)	494 (39.84%)	100 (75.19%)
Health Science	106 (89.08%)	788 (63.55%)	127 (95.49%)
Human Services	29 (24.37%)	556 (44.84%)	78 (58.65%)
Information Technology	76 (63.87%)	681 (54.92%)	108 (81.20%)
Manufacturing	63 (52.94%)	319 (25.73%)	78 (58.65%)
Public Service	8 (6.72%)	108 (8.71%)	26 (19.55%)
STEM	43 (36.13%)	309 (24.92%)	47 (35.34%)
Transportation	56 (47.06%)	199 (16.05%)	63 (47.37%)
Missing Response	5 (4.20%)	193 (15.56%)	1 (0.75%)