DOES SCHOOL -TO-WORK MATTER? TEACHERS' IMPLEMENTATION OF SCHOOL-BASED AND WORK-BASED ACTIVITIES

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ABSTRACT

Although the success of School reforms such as the School-to-Work Opportunities Act (STWOA) hinges on classroom teachers' implementation of career-related activities, few quantitative studies have examined teachers' implementation practices in STW programs. In this study, classroom teachers involved in a STW partnership in a Southwestern Pennsylvania school district were surveyed to determine the extent that they integrated school-based and work-based activities into their curriculum. The attitudes of teachers in the district were also examined in terms of their perceptions of the value of school-to-work and the benefits of the STW program for students. Analysis of the data indicated that teachers had favorable attitudes toward STW and the reform goals of the STW initiative. However, teachers' implementation of career-related activities on average was low. Teachers were more likely to implement school-based activities than work-based activities. Significant differences were found among the STW implementation practices of teachers of various grade levels.

INTRODUCTION

Many school districts are finding alternative funding from businesses and other educational sources to continue programs seeded by the School-to-Work Opportunities Act (STWOA) (STWOA, 1994). The STWOA was initiated by the federal government to expand students' experience with vocational education and to produce high school graduates capable of transitioning smoothly into the workforce. Traditionally, career

training was left to vocational or technical teachers. Under the STWOA, responsibility for teaching career-related activities was broadened to include classroom teachers of all academic subject areas. The purpose of the STWOA reform was to infuse the entire curriculum with career-related activities, rather than offer vocational education as a separate component of the school program (Eisenman, Hill, Bailey, & Dickison, 2003). STWOA was intended to be a vehicle for changing the nature of schooling rather than serving as an add-on program. But questions remain as to what extent has change been effected in schools receiving School-to-Work (STW) monies, and what lessons can be learned from the implementation of STWOA that could inform future STW programs.

This study surveyed classroom teachers involved in a STW partnership in a Southwestern Pennsylvania school district to determine the extent that they integrated career-related activities into their curriculum. In 1997, the Indiana County School District created a STW Partnership with the support of federal funds from the STWOA. Consistent with the guidelines of the STWOA, the District instituted a program which included school-based, work-based and connecting activities. Teachers of all academic subjects were given the responsibility of including career-related activities as part of their regular curriculum. Activities connecting school-based and work-based activities were also designed into the STW Program.

School-to-Work Program Components

The School-to-Work Opportunities Act was passed in 1994 to provide seed money to help schools implement curriculum changes that link schooling to career opportunities. There are three components of a STW program described in STWOA: school-based learning, work-based learning, and connecting activities (STWOA, 1994). The career-related activities in these three components of STW are an outgrowth of workplace foundational skills and competencies recommended by the Secretary's Commission on Achieving Necessary Skills in their report, *What Work Requires of Schools* (SCANS, 1991), and legislation such as the Amendments to the Carl A. Perkins Vocational and Applied Technology Act of 1984. The school-based learning component of the STWOA involved integration of academic and vocational learning. School-based activities were to be integrated into the curriculum of all subject areas while maintaining the same academic standards necessary to prepare students for postsecondary education. Work-based activities included planned job training and work experiences coordinated with school-based learning, including workplace mentoring, job shadowing, and general workplace competency instruction. The connecting activities component involved activities such as matching students with work opportunities, providing school site mentors, and providing technical assistance to employers.

Previous Research on Implementation of School-to-Work Activities

There are a limited number of studies evaluating implementation of career-related activities in STW programs published in the literature to date. From the review of these studies, it appears that different school-to-work program components are implemented to varying degrees. Hughes, Bailey, & Mechur (2001) reported that few students participate

in all aspects of STW, particularly in applied academics, work-based learning, and career development. School-based activities were implemented more often than work-based activities. School and work-based activities were implemented more often than connecting activities that link schools and work. In addition, schools or districts varied in terms of the range of types of STW activities offered to students (Stull, Sanders, & Stull, 2000).

According to the majority of studies in the STW literature, most teachers supported the goals of the STW program and responded favorably to the idea that school curricula should incorporate work-place skills (American Youth Policy Forum, 1995; Balsczyc & Bialek, 1999; Vandergrift & Wright, 1999). Studies in the vocational literature have reported mixed results. Research indicates that some educators do not support the notion of an integrated vocational program because they believe such a curriculum might limit the opportunities for vocational teachers (Stasz, Ramsey, Eden, DaVanzo, Farris & Lewis, 1992) or because it could divert students from pursuing college (Little & Threatt, 1992). Other studies from the vocational literature examining the perceptions and practices of teachers indicated that while teachers believed that integrating academic and vocational education was beneficial, there was little consensus on how much emphasis was placed on integrated instruction. For example, Arnold & Schell (1999) found that educators agreed that an integrated instruction prepares students for work and has an advantage of putting education in a real world context. However, vocational teachers and teachers of academic subject areas disagreed about the amount of integration that was occurring. Vocational teachers believed it was occurring less than academic subject area teachers.

Previous research is limited in the following ways. First, few studies have examined the extent that teachers in school-to-work partnerships implemented career-related activities, despite the reality that the success of school reforms such as those initiated by the STWOA hinges on teachers' implementation of career-related activities in the classroom (Fitzgerald & Bass, 1997). Many STW studies have studied STW success by collecting data from school personnel, such as administrators or STW on-site coordinators. In such studies, a single school official such as an administrator or a STW on-site coordinator provided information about STW activities implemented in an entire school or district. It could be argued that this type of evaluation does not adequately assess the degree that STW activities are being implemented in individual classrooms. There is evidence that these types of studies could overestimate (Vannatta, Almonte, Borrowman, Lamb, McCleary & Oliver, 1998) or underestimate (Medrich, Merola, Ramer & White, 2000) teachers' actual implementation practices.

Second, with the exception of STW evaluation studies such as those conducted by the Mathematica Policy Research Institute, Inc. (e.g., Medrich et al., 2000; Stull et al., 2000; Vannatta et al., 1998), a large proportion of the research on STW has been qualitative and anecdotal in nature. For example, some studies interview a small number of students in a school district to discuss career-related activities experienced as a result of the school STW program (Hollenbeck, 1996; Olson, 1997). In these mostly qualitative studies, students discussed their career interests and testified how the program offered at their

school improved their career skills and their attitude toward schooling. This research provides valuable insight into the accomplishments of students participating in STW programs. However, because these studies utilize data from a small number of students, they have limited external generalizability.

Third, many of the evaluation studies conducted by school districts are in the form of unpublished reports. As a requirement of the STWOA, school districts using STW funds put in place evaluation programs that would provide information about the success of their program and provide direction for future improvements. Such evaluation reports have the potential to provide useful information to inform policy makers and stakeholders about how to continue and improve school-to-work programs. However, few of these reports have been published in academic journals or have been widely disseminated (Neumark & Allen, 2003).

PURPOSE OF THE STUDY

To address these limitations, this study used quantitative methods to measure the perceptions and practices of regular classroom teachers to determine the extent that they integrated career-related activities into their teaching. A district-wide teacher survey was conducted to examine teachers' classroom practices of integrating school-based and work-based activities. The attitudes of teachers in the district were examined in terms of their perceptions of the value of school-to-work. The purpose of the study was to (a) determine teachers' attitudes and beliefs toward the goals of the STW program, (b) determine the degree that teachers implemented school-based and work-based activities into their instruction, and (c) to determine if teachers' perceptions and practices of STW differ by grades taught.

The present study was conducted as part of an evaluation system created by the Indiana County Partnership in collaboration with Indiana University of Pennsylvania. The STWOA required each funded School-to-Work Partnership to create an evaluation system but gave flexibility to each Partnership to design its own evaluation, based on program needs and characteristics. The evaluation system designed for the Indiana County School District included a survey of teachers in the District. Teachers of traditional academic subjects as well as vocational teachers were surveyed to examine the degree they implemented career-related activities recommended in the STWOA and the degree that teachers supported goals and valued the importance of the STW initiative.

METHODOLOGY

Participants in the Study

This study utilized data collected from a teacher survey in a public school district in southwestern Pennsylvania where a STW Partnership had been established through funds from the STWOA. All middle school and high school teachers were invited to participate, including teachers of all subject areas. The teacher survey was distributed in the Fall of 1999 to 698 teachers. The number of teachers completing and

returning questionnaires was 367, for a return rate of 53%. Individual characteristics for teachers participating in the study are presented in Table 1.

Table 1. *Characteristics of Teachers Participating in the Study*

Characteristic	Category	n(%)
Gender:	Female	178 (57)
	Male	133 (43)
Years Teaching Experience:	Less than 5 years	41(13)
	5 – 10 years	68(22)
	11 – 20 years	80(25)
	More than 20 years	125(40)

Instrumentation

The design of the teacher survey instrument was guided by an advisory group comprised of 19 individuals from the school district and local community who were stakeholders in the STW partnership. The group included one representative from the Chamber of Commerce, the director of the local technology center, four business leaders from the community, two school district superintendents, one counselor, three teachers, 2 parents, 2 students from the district, and three STW staff members. The role of the advisory group was to focus the study's goals and objectives, assist in the development of the survey instrument, and to establish the content validity of the instrument.

In collaboration with the advisory group, a self-report teacher questionnaire was developed to measure the extent that teachers valued STW and implemented the goals of the STWOA in their teaching. The construction of the instrument occurred in several stages. First, the advisory committee determined key factors that would be assessed in the survey, and an item pool was made to assess these factors. Items constructed for the teacher questionnaire measured (a) teachers' beliefs and attitudes toward STW and (b) teachers' practices of integrating school-based and work-based activities into the curriculum. The survey also obtained teachers' demographic and background information such as gender, subject and grade level being taught, and years of teaching experience. Second, the survey was pilot tested and final items were selected and approved by the advisory committee.

The items on the survey measured teachers' attitudes toward the School-to-Work program and teachers' practices of integrating school-based and work-based activities into the curriculum. The first section of the teacher questionnaire included 5 items related to teachers' beliefs about the importance of school-to-work goals and the schools' role in preparing students for the workforce. For example, teachers were asked to indicate their agreement with statements such as "Schools should integrate School-to-Work goals into the larger picture of high school education," and "Schools should play a key role in helping our nation remain competitive in global workforce preparation." The

following 4-point scale was used to rate teachers' agreement with each of the items: 1 = strongly agree, 2 = agree, 3 = disagree, and 4 = strongly disagree.

How often teachers used school-based and work-based activities in their teaching was measured. The following 4-point scale measured the frequency of implementation: 1 = never, 2 = sometimes, 3 = frequently, and 4 = always. To measure teachers' implementation of school-based activities, survey items were constructed such as "I include resume writing in my curriculum," "I use guest speakers in my curriculum," and "During the year I assist students contacting businesses for career-related resources." To examine the extent that work-based learning activities were being used by teachers, items were constructed to measure how often teachers provided learning opportunities such as job shadowing, internships, apprenticeships, and co-op work. Cronbach's alpha was used to measure the reliability or internal consistency of each group of survey items.

Data Analysis

Data from the teacher questionnaire was analyzed to determine the extent that teachers implemented school-based and work-based activities as defined by the STWOA. Means and standard deviations were used to describe the degree that teachers supported STW goals and implemented career-related activities. The data was disaggregated by grade level being taught, and *t*-tests were conducted to determine if teachers' implementation practices differed at the junior high and senior high grade levels.

RESULTS

Analysis of data from the teacher survey indicated that teachers had favorable attitudes toward school to work and the reform goals of the STW initiative. However, teachers' implementation of career-related activities, on average, was low. Significant differences in implementation practices of STW were found for junior high and senior high teachers.

Teachers' Attitudes and Beliefs Toward School-to-Work

The results of the analysis indicated that teachers had very positive attitudes about the value of STW and believed that schools should play a role in preparing students for the workplace. Teachers responded favorably to statements such as "The concept of STW is a value to education." Mean values for all teachers surveyed were between 3.17 (*SD* = .68) and 3.54 (*SD* = .56) on a 4-point scale indicating that teachers, on average, "agreed" or "strongly agreed" that schools should value and promote school-to-work goals. There were no significant differences between junior high and senior high teachers with regard to teachers' attitudes. Mean values for teachers' attitudes and beliefs toward school-to-work by grade level and results of *t*-tests are presented in Table 2.

Teachers 'Practices of Implementing School-to-Work Activities

School-based Activities. Analysis of the data from the teacher survey indicated that teachers did not frequently implement school-based activities in their instruction. On a

4-point scale used to indicate frequency of implementation, mean values for academic subject area teachers were between 1.11 ($SD = .38$) and 2.18 ($SD = .76$), indicating that they "never" or "sometimes" used these activities.

Overall, senior high teachers implemented school-based activities to a greater degree than junior high teachers. Statistically significant differences were found between grade levels for activities such as assisting students in locating resources for career-related information and assistance; inviting guest speakers; holding career fairs; helping students with career and academic planning; teaching resume, cover letter, and follow-up letter writing in the curriculum; and linking the curriculum to the Job Center and business organizations. The differences between junior high and senior high teachers were significant using an adjusted alpha level to detect significance at the $p<.002$ level (.05/22), according to Bonferroni's suggestion for conducting a series of t-tests (Rosenthal & Rosnow, 1984). Mean values for junior high and senior high teachers' practices and results of t-tests are presented in Table 3.

Table 2.   T*eachers' Perceptions about the Value of School-to-Work by Grade Level Taught*

Teacher Perceptions	Grade Level Taught		t	p
	Junior High[a] *(M/SD)*	Senior High[b] *(M /SD)*		
The concept of STW is a value to education.	3.31 (.52)	3.32 (.61)	.216	.829
Schools should integrate STW goals into the larger picture of high school education.	3.18 (.64)	3.17 (.68)	.158	.875
Schools need to be concerned about the economic well-being of their graduates.	3.26 (.54)	3.32 (.61)	1.03	.306
Schools should prepare students to be productive members of the workforce.	3.54 (.56)	3.43 (.59)	1.63	.104
Schools should play a key role in helping our nation remain competitive in global workforce preparation.	3.39 (.65)	3.32 (.59)	1.08	.280

Note. Cronbach's α = .85. Mean values are given for each item on a 4-point scale (1 = never, 2 = sometimes, 3 = frequently, 4 = always). Standard Deviations are listed in parentheses. Number (n) varied by item responses.
[a]n = 132-138. [b]n = 227-228

Table 3. *Teachers' Practices of School-Based Activities by Grade Level Taught*

Teacher Practices	Grade Level Taught		t^c	p
	Junior High *(M/SD)*	Senior High *(M/SD)*		
During the year, I assist students locating career-related resources.	1.72 (.75)	2.18 (.76)	5.53	.000
During the year, I assist students locating postsecondary options.	1.53 (.69)	2.17 (.76)	8.12	.000
During the year, I assist students locating agencies outside of school for career-related information.	1.46 (.69)	1.95 (.77)	6.07	.000
I use guest speakers in my curriculum.	1.60 (.65)	1.88 (.72)	3.73	.000
During the year, I assist students contacting the Job Center for career-related assistance.	1.19 (.48)	1.35 (.64)	2.52	.012
During the year, I assist students contacting libraries for career-related assistance.	1.36 (.59)	1.61 (.70)	3.51	.001
During the year, I assist students contacting the Chamber of Commerce for career-related assistance.	1.11 (.38)	1.21 (.49)	2.02	.044
During the year, I assist students contacting businesses for career-related assistance.	1.25 (.51)	1.57 (.71)	4.59	.000
I use field trips in career-related practices.	1.64 (.78)	1.87 (.84)	2.60	.010
I use career fairs in career-related practices.	1.29 (.72)	1.75 (1.00)	4.66	.000
I use career and academic planning in career-related practices.	1.64 (.81)	2.03 (.87)	4.23	.000
I use career-simulation activities at my school.	1.49 (.80)	1.64 (.91)	1.57	.118
During the year, I assist students exploring career-related resources.	1.77 (.81)	2.16 (.75)	4.67	.000
I include resume writing in my curriculum.	1.28 (.59)	1.79 (1.07)	5.15	.000
I include cover letter writing in my curriculum.	1.29 (.63)	1.76 (1.07)	4.66	.000

Teacher Practices	Grade Level Taught		t^c	p
	Junior High (M/SD)	Senior High (M/SD)		
I include follow-up letter writing in my curriculum.	1.25 (.58)	1.63 (1.00)	3.99	.000
I use the Job Center in my curriculum.	1.15 (.41)	1.34 (.62)	3.16	.002
I use business/industry in my curriculum.	1.37 (.58)	1.65 (.73)	3.90	.000
I use student projects in career-related practices.	2.25 (.86)	2.60 (.91)	3.60	.000
I use written presentations in career-related practices.	2.22 (.89)	2.43 (.88)	2.28	.023
I use oral presentations in career-related practices.	2.12 (.88)	2.33 (.88)	2.22	.027
I use portfolios in career-related practices.	2.12 (1.04)	2.26 (1.07)	1.19	.236

Note. Cronbach's α = .93. Mean values are given for each item on a 4-point scale (1 = never, 2 = sometimes, 3 = frequently, 4 = always). Standard Deviations are listed in parentheses. Number (*n*) varied by item responses.
[a]*n* = 135-137. [b]*n* = 226-229. [c]Significance based on Bonferroni's adjustment for *t*-tests at the .05 level.

Work-based Activities. Overall, teachers of all subject areas implemented work-based activities such as apprenticeships, shadowing, internships, and co-op work infrequently. Mean values for work-based activities were between 1.07 (*SD* = .30) and 1.59 (*SD* = .80) indicating that teachers "never" or "sometimes" included these activities in their curriculum. Neither senior high nor junior high teachers included work-based activities in their curriculum very often. For example, mean values for job shadowing were 1.32 (*SD* = .68) for junior high teachers and 1.59 (*SD* = .80) for senior high teachers. Co-op work experiences on average were also very low for teacher of both grade levels. For junior high teachers the mean value for using co-op work was 1.10 (*SD* = .44); for senior high teachers the mean value was 1.36 (*SD* = .70). Results of *t*-tests revealed that senior high teachers implemented three of the five survey work-based activities on the survey significantly more often than junior high teachers: job shadowing, internships, and co-op work. Youth apprenticeships appear to be used very infrequently in junior high (mean 1.15, *SD* = .47) and senior high (*M* = 1.33, *SD* = .70), with no significant differences in teacher implementation between the grade levels. In this analysis, differences between junior high and senior high teachers were significant using an adjusted alpha level to detect significance at the *p*<.01 level (.05/5), according to Bonferroni's suggestion. Mean

values for junior and senior high teachers' practices and results of *t*-tests comparing teachers' practices of work-based activities are presented in Table 4.

Table 4. *Teacher Practices of Work-Based Activities by Grade Level Taught*

Teacher Practices	Grade Level Taught		t^c	p
	Junior High	Senior High		
I use youth apprenticeships in career-related practices.	1.15 (.47)	1.33 (.70)	2.59	.010
I use actual career activities in the community.	1.28 (.65)	1.47 (.77)	2.40	.017
I use shadowing in career-related practices.	1.32 (.68)	1.59 (.80)	3.26	.001
I use internships in career-related practices.	1.07 (.30)	1.24 (.58)	3.25	.001
I use co-op work experiences in career-related practices.	1.10 (.44)	1.36 (.70)	3.85	.000

Note. Cronbach's α = .89. Mean values are shown for each item on a 4-point scale (1 = never, 2 = sometimes, 3 = frequently, 4 = always). Standard Deviations are listed in parentheses. Number (*n*) varied by item responses.
[a]*n* = 136-138. [b]*n* = 226-229. [c]Significance based on Bonferroni's adjustment for *t*-tests at the .05 level.

In summary, the results of this study indicate that teachers had favorable attitudes toward STW; however, teachers seldom included career-related activities in their curriculum. While teachers agreed that STW was valuable and should be included in the school's educational program, teachers did not frequently implement school-based and work-based activities in their teaching. Teachers implemented school-based activities more often than work-based activities. Senior high teachers implemented many school-based and work-based activities more than junior high teachers.

CONCLUSIONS AND DISCUSSION

Differences in Implementation between School-based and Work-based Activities

The results of this study are similar to previous studies that indicate teachers implemented different types of school-to-work activities to varying degrees. For example, teachers implemented school-based activities (e.g., resume writing, locating career resources, and career awareness activities) more often than work-based activities (e.g., job shadowing, internships, co-op work, and other mentoring or apprenticeship activities) (Visher, Lauen, Merola, & Medrich 1998; Vannatta et al., 1998). Stamps

(1996) believes that differences may be due to the relative convenience of using school-based activities within the school setting, in contrast to the difficulty of finding placements in work settings for large numbers of students. Further research is needed to identify barriers to implementation of both school-based and work-based activities.

Grade level Differences in STW Practices

Implementation practices differed between teachers of junior high and senior high teachers. Overall, senior high teachers implemented more school-based and work-based activities than junior high teachers. This finding is also consistent with existing studies (Vannatta et al., 1998; Visher et al., 1998) and understandable from the perspective that students may need and be more interested in opportunities for career preparation as they approach graduation. As a counter argument, the low implementation of school-to-work activities such as career awareness activities at the junior high level may be a disadvantage to younger students who would benefit from identifying career interests and developing their plan of study earlier in their school experience.

Perceptions of Teachers Toward School-to-Work

Our findings are similar to other studies in the STW evaluation literature which report that teachers agree with the goals of STW and its benefits for students (Arnold & Schell, 1999; Balsczyc & Bialek, 1999; Vandergrift & Wright, 1999). Recesso (1999) reported that most school personnel including teachers perceived that the STW initiative was worthwhile. Teachers' favorable attitudes toward STW suggest that teachers' perceptions of the value of the program is not a barrier to teacher implementation.

RECOMMENDATIONS

Considering teachers' strong support of STW found in the present study and consistent with previous research, one might expect a greater degree of participation and implementation of STW activities by teachers. We offer several explanations for the disparity found between teachers' perceptions and practices. First, a lack of administrative support may limit teachers' practices of integrating STW activities (Arnold & Schell, 1999; Charner, Fraser, Hubbard, Rogers & Horne, 1995; Fitzgerald & Bass, 1997; Recesso, 1999). In a study of over 40 public high schools receiving funding from through STWOA, Recesso (1999) found that leadership at the district and building levels was related to the level of STW implementation. Fitzgerald and Bass (1997) argued that although teachers are crucial for STW success, they are not adequately involved by the administration in designing and planning the programs they will be asked to implement. Braggs & Reger (2002) recommend an increase in funding for the development of curricular and instructional strategies that would help teachers implement an integrated curriculum. The authors suggest that requiring program changes without adequate funding, training, and time for program development will result in a program's failure.

Second, a lack of effective professional development programs might explain teachers' low levels of implementation. Research indicates that teachers who participated in professional development were more likely to implement teaching practices recommended by the training (Henke, Chen, & Goldman, 1999). Training to help teachers integrate curriculum, a key to STW success as outlined in the STWOA, is the function of the School-to-Work Professional Development Institute (Eisenman et al., 2003). The Institute's programs are based on the following premise. In order to integrate curricula, teachers should be prepared with knowledge and skills beyond traditional subject matter knowledge. The Institute has been successful in helping teachers implement STW activities. Following this model, professional development programs within school districts should prepare teachers to understand work environments and develop pedagogical skills to link work and school in their curriculum. To create successful STW programs, long-term professional development training in curriculum integration for both academic and vocational teachers is recommended.

Third, a lack of commitment on the part of the teachers to change their curriculum may also contribute to the low implementation of STW activities. Charner et al. (1995) identified 10 essential elements of a successful STW reform after studying 14 STW programs. The authors suggest that a successful STW reform depends on a "commitment of program deliverers." Like most educational reform initiatives, the success of the STW reform depends on teachers and their efforts to implement necessary curriculum changes. Teachers are on the frontline of the STW reform because they are the individuals who deliver instruction to students (Fitzgerald & Bass, 1997). Teachers must be willing to examine their existing curriculum and make changes in instruction and in accompanying aspects of teaching such as classroom management and organization. This present study documented the positive attitudes that teachers have toward school to work which are consistent with other studies in the literature (Arnold & Schell, 1999; Balsczyc & Bialek, 1999; Vandergrift & Wright, 1999). However, this support of STW goals might not translate into the deep commitment necessary for real change in the curriculum to occur, particularly for teachers of more traditional academic subjects.

Teachers play a crucial role in determining the success of reform initiatives such as the STWOA. Yet few research studies have focused on teachers' practices and their contribution to STW program success. The present study suggests that teachers do not implement school-based or work-based activities to a high degree. While the STWOA has probably increased the integration of career-related activities, most would agree that integration is probably not to the levels originally hoped for in the STWOA (Silverberg, 1997). If existing and future STW programs are to go forward effectively, school districts should consider ways to give teachers greater administrative support, provide professional development that helps teachers link school and work, and offer incentives for teachers to change their instruction to reflect an integrated curriculum.

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