

Evaluation Report for the Michigan Virtual School on CareerForward

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Executive Summary

In 2006 Michigan became the first jurisdiction in the United States to require students to have an online learning experience in order to graduate from high school. In response to this legislation, the Michigan Virtual School (MVS) created a career planning course entitled CareerForward and made it available to schools free of charge to allow them to meet the new online learning requirement. Using data collected in pre-course and post-course surveys by the MVS during the 2007-08 school year, the evaluators assessed the impact that CareerForward had on students attitudes towards career planning, the overall student satisfaction with the course, and student suggestions on ways to improve CareerForward.

Based on the data provided, the CareerForward course had little impact on student attitudes towards career planning. The groups of students for whom the course seemed to have some impact included grade eight and eleven students, along with those students who took CareerForward as a part of a Career Planning course. It also appears that grade twelve students benefitted the least from taking the course.

Overall, the students did not enjoy their experience with CareerForward. They did, however, find the content useful and the delivery model effective. This was particularly true of students in grade eight and eleven. Again, students in grade twelve were the least impressed with all aspects of the CareerForward course. Students recommended there be more variety in the content and activities they were asked to complete.. They also indicated that while the videos were effective, they were also long, repetitive and boring; and suggested that fewer videos be used or that videos be segmented into smaller clips.

In both areas of statistical analysis, the students who indicated that they took CareerForward as a part of another course scored above average. It is recommended that further

investigation explore the “other” courses that schools have used the CareerForward curriculum in to determine if these results remain statistically relevant when the specific courses can be isolated. In addition, grade seven students and students who took CareerForward as a part of a World Studies course showed promise in the pre-course survey. However, there were not enough respondents from either group in the post-course survey to conduct any analysis of those variables.

This document presents an evaluation report for the CareerForward course used by the Michigan Virtual School (MVS). This report includes a description of the background, methodology (including sample, instrumentation, and limitations), analysis of the results, and recommendations. This report is based on the plan discussed by MVS and the evaluator (Michael Barbour).

Background

The MVS is a state-sponsored virtual school designed to provide online learning opportunities to students and teachers throughout the State of Michigan. In April 2006 the Michigan legislature passed a law that required all high school students to complete at least one online learning experience as a graduation requirement. This requirement came into effect for all students who entered grade nine in the Fall of 2007. In response to this new online learning requirement, the MVS made available the content of the CareerForward course to any school that wished access to it. This course, if implemented as a discrete course or at least twenty hours of an existing course, would allow these schools to meet the new graduation requirement. In December 2008, the Michigan Virtual University (MVU) provided the National Repository of Online Courses (NROC) access to the CareerForward course content, allowing students from anywhere in the United States the ability to access CareerForward free of charge.

CareerForward is an online learning program created to assist middle and high school students with planning future career paths, and developing an understanding of what it takes to achieve that desired career. Developed through a partnership between Michigan Department of Education and MVU, and with funding provided by the Microsoft Corporation, CareerForward was designed to be a self-contained motivational tool that helps students address questions about their futures. Not only does the 4-6 week long course address questions like: “What am I going

to do with my life?”, “What is the working world like?”, and “How do I match my interests with work?”; but it also uses a variety of multimedia and online resources to address the content, allowing Michigan students to meet the new online learning requirement for graduation.

CareerForward can be accessed or downloaded in three different learning environments: (1) MVU-hosted web-based version; (2) MVU-hosted Blackboard CMS (Course Management System) version, and (3) school-hosted Blackboard or Moodle versions. Once schools have access to the material they must register their teachers and students. While it is free to schools, the registration provides Microsoft a means of knowing who is using the program. Educators can then decide how they are going to deliver the course to their students. Some choose to integrate it into Business and Computer courses, while others implement it as a stand-alone course.

CareerForward can also be companioned with a variety of online career planning tools, such as, *Career Cruising* and *Career Explorer*, which allow students the opportunity to assess their career interests, explore career options, and create an educational development plan.

CareerForward is broken up into four modules that the students complete. Each module guides the student through a five step learning cycle, beginning with a scenario or challenge. The student is given framing questions for the module, and they must provide their initial thoughts. Next, the student reviews resources that come in the form of online videos and reading material. After viewing the resources, the student is asked to complete the same framing questions to see if their initial thoughts have changed. The final step of the cycle is completing a packet of activities related to the module’s content.

Methodology

The purpose of this evaluation was primarily formative (i.e., to provide the client with the reliable information needed to improve the design and delivery of the CareerForward course).

The sub-purposes of this evaluation were to:

- analyze student opinions related to career planning prior to and after completing the CareerForward course;
- gauge student opinion of their experience with the CareerForward course; and
- analyze student feedback on the design and delivery of the CareerForward course.

This led to the following questions:

1. What impact does taking CareerForward have on student attitudes towards career planning?
 - a. Are there any trends based on the demographic data?
2. What are student impressions of the CareerForward course?
 - a. Are there any trends based on the demographic data?
3. How would students improve the CareerForward course?
 - a. Are there any trends based on the demographic data?

The main methods of data collection were two surveys conducted by the MVS: one that students completed prior to taking the CareerForward course and a second that was completed after taking the course (see Appendix A for both surveys). The pre-course survey asked students for demographic data related to gender, grade, why students were taking CareerForward, how the CareerForward course was structured (e.g., as a stand-alone course or part of another course), and the medium that CareerForward course was delivered. Students were also given 14 statements related to career planning and asked to rate each one based on a Likert scale.

The post-course survey contained both the same items as the pre-course survey and some additional items. In addition to the initial demographic information, students were also asked where they completed most of their CareerForward course. Three items were added to gauge the students' impressions of the CareerForward course. Finally, students were asked in open-ended questions to specifically comment on a change they would make in the CareerForward course, along with the best and most difficult things about the course.

The MVS provided the evaluator with de-identified data that had been collected from 3899 students who completed the pre-course survey and another 382 students who completed the post-course survey. The results of the items were compared based on their overall means and based upon the means of each of the demographic factors. The open-ended questions were analyzed utilizing a qualitative data method that made use of *MS Word*, as outlined by Ruona (2005).

Limitations

There were a number of constraints on this evaluation that potentially affect the interpretation and generalizability of the results. As all of the identifying information had been removed from the data by the MVS, the evaluator was unable to conduct any statistical analysis (e.g., t-tests, ANOVA, ANCOVA, regression, etc.) to determine the impact of the CareerForward course on changes in attitude due to the fact that a single students' pre-course survey scores could not be compared to their post-course scores. As such, the comparison of means was simply based upon looking for differences that would represent between 5% and 10% of the mean score (i.e., if the mean on the pre-course survey for an item was 3.5 there would need to be a difference of more than 0.17 to 0.35 in the mean on the post-course survey).

The nature of the sample was also problematic. The sample for the post-course survey was approximately 10% of the pre-course survey sample. This disproportional difference in sample sizes would have limited the ability to draw conclusions even if the data had been identified and the evaluator could have conducted a more sophisticated statistical analysis. The much smaller sample size of the post-course survey was also problematic when analyzing the data based upon the demographic characteristics. For example, there was a single grade seven student who completed the post-course survey. There was also a single student who took the course as a part of a World Studies course. There were only four students who found the course on their own. Finally, there were no students who took the course using a CD-Rom and only six students who took the course using something other than Blackboard, Moodle, or a website. These low response rates for these characteristics made it impossible for the evaluator to include these variables as a part of the demographic analysis.

Finally, approximately half of the students who indicated that they took CareerForward using “a website” also indicated that they took CareerForward using either “Blackboard” or “Moodle”. This level of student misunderstanding between these of variables led the evaluator to exclude “a website” in the analysis of the demographic data.

Results

The results have been organized based upon the research questions. As such, they begin with a general discussion of the nature of students taking CareerForward and how they took CareerForward. This is followed by a discussion of the impact of taking the CareerForward course on student attitudes towards career planning (i.e., question 1). Next is a description of the student impressions of the CareerForward course (i.e., question 2). Finally, a discussion of student recommendations for CareerForward (i.e., question 3).

Who Took CareerForward and How?

Of those students who completed the pre-course survey 49.4% of them were female, while 55.2% of the student who completed the post-course survey were female. Grade nine students made up almost half of the pre-course survey sample (i.e., 46.6%), while they made up less than a third of the post-course sample (i.e., 29.1%). The proportion of grade eight students more than doubled from 13.4% in the pre-course survey to 30.9% in the post-course survey. The proportion of grade ten students also increased (i.e., from 18.3% to 25.9%), while the proportion of grade seven and eleven students remained fairly consistent (i.e., 2.1% to 0.3% and 10.8% to 9.4% respectively). The proportion of grade twelve students was approximately half as much (i.e., 8.7% on the pre-course survey to 4.5% on the post-course survey).

When asked why they were taking CareerForward, the vast majority of students indicated that it was because it was required by their school on both the pre-course survey (i.e., 88.4%) and the post-course survey (i.e., 93.7%). Approximately half of the students reported that CareerForward was part of a computer course (i.e., 48.3% in the pre-course survey and 53.1% in the post-course survey). The proportion of those taking CareerForward as an entire course increased from 9.3% to 22.8% between the two surveys, while those taking CareerForward as a part of a Career Planning course decreased by approximately the same proportion (i.e., 22.7% to 11.3%). Those taking CareerForward as part of a Business course were less than 10% in both samples (i.e., 9.6% and 6.3% respectively).

As mentioned in the limitations, it is difficult to determine an accurate description of the proportion of students taking CareerForward through the various mediums because of the high number of students who selected both “a website” and either “Blackboard” or “Moodle”. There was only a small proportion of students who took CareerForward using a CD-Rom (i.e., 0.3%

and 0% respectively). It would appear that the proportion of students who took the course using Moodle tripled between the pre-course and post-course surveys (i.e., 6.2% and 22.5%), while the proportion of students using Blackboard stayed about the same (i.e., 15.8% and 16.8%).

However, this is speculation as it is the opinion of the evaluator that many of the students who selected “a website” were actually receiving their CareerForward course through either Blackboard or Moodle. See Appendix B for a table that provides a complete overview of the demographic information.

Ability of CareerForward to Influence Students' Career Planning Attitudes

The overall effect of the CareerForward course on student attitudes related to career planning is best illustrated by Table 1.

Table 1. Effects of CareerForward on student attitudes

Statement	Pre-Course \bar{x}	Post-Course \bar{x}	Difference
I think about what I'll do after high school.	4.23	4.26	0.03
I know what I'll do once I graduate from high school.	3.73	3.62	-0.11
I can shape my career path.	3.96	4.06	0.10
I plan to get help from others to get the jobs I want.	3.64	3.75	0.11
I'll have more than one job in my future.	3.48	3.59	0.11
My career will be affected by the global economy.	3.20	3.40	0.20
Starting my own business sounds like fun.	3.46	3.40	-0.06
I've started to plan my career path.	3.70	3.75	0.05
I feel comfortable using computers and the Internet.	4.22	4.21	-0.01
The classes I take in high school will help me to achieve my career goals.	3.93	4.16	0.19
I talk to my parents about my possible career plans.	3.93	3.91	-0.02
I talk to other adults about my possible career plans.	3.66	3.66	0
I talk to my friends about my possible career plans.	3.65	3.57	-0.08
I explore the web for career or college information.	3.39	3.53	0.14
<i>Average</i>	3.727	3.773	0.046

An examination of the difference in student attitudes as a result of completing the CareerForward course indicates that the course content had little impact on student beliefs. The average difference over the fourteen items was 0.046, and the impact actually decreased the average student response to five of the statements. *This seems to indicate that the CareerForward course was ineffective in changing student attitudes towards their future career planning.*

Gender

The only statement that was significantly different using gender, as a demographic factor, was “My career will be affected by the global economy.” After removing the respondents who did not select a gender, the results for this statement are illustrated in Table 2.

Table 2. My career will be affected by the global economy by gender

Gender	Pre-Course \bar{x}	Post-Course \bar{x}	Difference
Male	3.16 (n=1805)	3.66 (n=140)	0.50
Female	3.27 (n=1798)	3.52 (n=163)	0.25
Combined	3.21 (n=3603)	3.58 (n=303)	0.27
Original Total	3.20 (n=3899)	3.40 (n=382)	0.20

Note that this was the statement with the largest difference in pre-course and post-course means in the combined analysis. However, when controlled for gender it appears that the CareerForward course was twice as effective in changing male students’ attitude.

Grade

According to a press release dated February 8th, 2008 the CareerForward course was “design primarily for ninth graders” (¶ 2). In addition to the target grade, there were also interesting trends when the students’ attitudes are analyzed based upon their grade level. Table 3 indicates the mean score for each statement by grade level. Note that there was only one grade seven student who completed the post-course survey, therefore that data has been excluded.

Table 3. Student attitudes by grade

Statements	Grade 8			Grade 9			Grade 10			Grade 11			Grade12			Overall		
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
I think about what I'll do after high school.	4.04	4.28	0.24	4.24	4.17	-0.07	4.26	4.31	0.05	4.30	4.41	0.11	4.44	4.29	-0.15	4.23	4.27	0.04
I know what I'll do once I graduate from high school.	3.64	3.68	0.04	3.71	3.62	-0.09	3.66	3.41	-0.25	3.88	4.00	0.12	4.01	3.57	-0.44	3.74	3.61	-0.13
I can shape my career path.	3.91	4.09	0.18	3.96	4.04	0.08	3.93	4.02	0.09	3.93	4.22	0.27	4.16	3.79	-0.37	3.96	4.06	0.10
I plan to get help from others to get the jobs I want.	3.63	3.80	0.17	3.58	3.80	0.22	3.66	3.59	-0.07	3.65	3.81	0.16	3.83	4.07	0.24	3.63	3.76	0.13
I'll have more than one job in my future.	3.36	3.59	0.23	3.48	3.57	0.09	3.39	3.59	0.20	3.61	3.66	0.05	3.75	3.57	-0.20	3.49	3.59	0.10
My career will be affected by the global economy.	3.04	3.61	0.57	3.12	3.44	0.32	3.30	3.61	0.31	3.35	3.77	0.42	3.58	3.67	0.09	3.21	3.58	0.37
Starting my own business sounds like fun.	3.34	3.38	0.04	3.43	3.38	-0.05	3.44	3.44	0	3.56	3.44	-0.12	3.68	3.57	-0.11	3.46	3.41	-0.05
I've started to plan my career path.	3.59	3.76	0.17	3.65	3.68	0.03	3.64	3.70	0.06	3.86	3.91	0.05	4.03	3.79	-0.24	3.70	3.74	0.04
I feel comfortable using computers and the Internet.	4.13	4.03	-0.10	4.18	4.13	-0.05	4.24	4.31	0.07	4.22	4.47	0.25	4.36	4.36	0	4.21	4.19	0.02
The classes I take in high school will help me to achieve my career goals.	3.99	4.36	0.37	3.94	4.07	0.13	3.92	4.06	0.14	3.71	4.34	0.63	3.89	3.57	-0.22	3.91	4.16	0.25
I talk to my parents about my possible career plans.	3.83	3.75	-0.08	3.91	3.85	-0.06	3.92	3.98	0.06	4.06	4.38	0.24	4.11	3.64	-0.57	3.93	3.90	-0.03
I talk to other adults about my possible career plans.	3.54	3.46	-0.08	3.57	3.55	-0.02	3.63	3.67	0.04	3.90	4.19	0.21	4.09	3.71	-0.38	3.66	3.63	-0.03
I talk to my friends about my possible career plans.	3.47	3.63	0.16	3.52	3.43	-0.09	3.70	3.50	-0.20	3.98	4.06	0.08	4.01	3.93	-0.08	3.64	3.60	-0.04
I explore the web for career or college information.	3.25	3.41	0.16	3.27	3.48	0.21	3.38	3.43	0.05	3.72	4.00	0.28	3.88	3.86	-0.02	3.39	3.51	0.12
<i>Average</i>			<i>0.148</i>			<i>0.046</i>			<i>0.039</i>			<i>0.196</i>		<i>-0.175</i>				<i>0.064</i>

Note: Bold values indicates the maximum value

Examining the results for the grade nine students first, in the pre-course survey the mean score for grade nine students was in the top half of grade levels for ten of the fourteen statements. In the post-course survey the mean for grade nine students was in the bottom half of grade levels for twelve of the fourteen statements. This was also reflected by the fact that the overall mean for grade nine students increased only 0.046 from the pre-course responses to the post-course responses (the average increase was 0.064). *Based on these results, it appears that grade nine students were not the main beneficiaries of the CareerForward course.*

The two grade levels that appear to have benefited the most from the CareerForward course were students in grade eight and grade eleven. The average response of students in grade eight increased by 0.148 or twice the average increase, while students in grade eleven saw an increase of 0.196 or more than three times the average increase. It should also be noted that there was also only one statement where the grade eleven students mean decreased between the pre-course and post-course surveys (i.e., “Starting my own business sounds like fun”). *Grade eight students and, particularly, grade eleven students experienced the most positive gains in attitudes from taking the CareerForward course.*

The group of students that appears to have benefited the least from the CareerForward were grade twelve students. On the pre-course survey, grade twelve students account for the highest means on twelve of the fourteen statements. The only two they were not the highest mean were “I feel comfortable using computers and the Internet” where they were the second highest mean and “The classes I take in high school will help me to achieve my career goals” where they were the second lowest mean (n.b., grade seven students were the highest mean for both of these statements). This should not be surprising, as this group of students is the closest to graduation and should have the most positive attitudes towards career planning. However, grade

twelve students accounted for the highest mean in only two statements on the post-course survey (i.e., “I plan to get help from others to get the job I want” and “Starting my own business sounds like fun”). This general decline was also seen in the overall results, as the grade twelve students mean decreased by 0.175 or more than a 200% decline. In fact, the mean for grade twelve students decreased for every statement with one exception (i.e., it stayed the same for the statement “I feel comfortable using computers and the Internet”). *Taking the CareerForward course diminished grade twelve students’ attitudes towards career planning.*

Reasons Why The Student Took CareerForward

As was mentioned earlier, there was only one student who selected “I found it on my own” on the post-course survey, which results in that option being excluded from the analysis. Of the remaining two responses, there were only three statements where there was a difference of 5% or more and only with the group of students who selected “It was recommended to me.”

Table 4. Student attitudes by reasons for taking CareerForward

Statements	Recommended			Total		
	Pre	Post	Diff	Pre	Post	Diff
Starting my own business sounds like fun	3.49	3.11	-0.38	3.46	3.41	-0.05
I feel comfortable using computers and the Internet	4.21	3.95	-0.26	4.21	4.19	-0.02
I talk to my friends about my possible career plans	3.64	4.05	0.41	3.64	3.60	-0.04

Based on the data in Table 4, those who took the course upon a recommendation saw higher than average decreases in their desire to start their own business and their comfort in using computers and the Internet. They also experienced a higher than average increase in the likelihood they would talk to their friends about their potential career plans.

How CareerForward Was Offered

Again, there was only one student who selected “As a part of a World Studies course” on the post-course survey, which results in that option being excluded from the analysis. The remaining analysis is presented in Table 5.

Table 5. Student attitudes by how CareerForward was offered

Statements	Entire Course			Career Planning			Business			Computers			Another			Overall		
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
I think about what I'll do after high school.	4.14	4.30	0.16	4.26	4.39	0.13	4.38	4.38	0	4.19	4.19	0	4.29	4.44	0.15	4.23	4.27	0.04
I know what I'll do once I graduate from high school.	3.71	3.66	-0.05	3.81	4.00	0.19	3.87	3.92	0.05	3.64	3.47	-0.17	3.79	3.69	-0.10	3.74	3.61	-0.13
I can shape my career path.	3.82	4.03	0.21	4.04	4.33	0.29	3.96	4.38	0.42	3.95	4.04	0.09	3.96	3.86	-0.10	3.96	4.06	0.10
I plan to get help from others to get the jobs I want.	3.66	3.83	0.17	3.62	3.97	0.37	3.68	3.62	-0.06	3.60	3.64	0.04	3.64	4.00	0.36	3.63	3.76	0.13
I'll have more than one job in my future.	3.46	3.48	0.02	3.61	3.73	0.12	3.63	3.54	-0.09	3.39	3.56	0.17	3.53	3.81	0.18	3.49	3.59	0.10
My career will be affected by the global economy.	3.19	3.42	0.23	3.24	3.84	0.60	3.32	2.85	-0.47	3.20	3.62	0.42	3.14	3.74	0.60	3.21	3.58	0.37
Starting my own business sounds like fun.	3.45	3.27	-0.18	3.56	3.42	-0.14	3.69	3.69	0	3.39	3.49	0.10	3.41	3.28	-0.13	3.46	3.41	-0.05
I've started to plan my career path.	3.65	3.58	-0.07	3.74	4.03	0.29	3.75	3.85	0.10	3.66	3.72	0.06	3.73	3.81	0.08	3.70	3.74	0.04
I feel comfortable using computers and the Internet.	4.22	4.03	-0.19	4.22	4.12	-0.10	4.35	4.08	-0.27	4.19	4.27	0.08	4.18	4.31	0.13	4.21	4.19	-0.02
The classes I take in high school will help me to achieve my career goals.	3.88	4.20	0.32	3.95	4.30	0.35	4.01	4.23	0.22	3.91	4.08	0.17	3.89	4.28	0.39	3.91	4.16	0.25
I talk to my parents about my possible career plans.	3.91	3.90	-0.01	4.00	4.03	0.03	3.98	3.92	-0.06	3.90	3.83	-0.07	3.90	4.06	0.16	3.93	3.90	-0.03
I talk to other adults about my possible career plans.	3.80	3.63	-0.17	3.70	3.45	-0.35	3.80	3.62	-0.18	3.57	3.59	0.02	3.66	3.94	0.28	3.66	3.63	-0.03
I talk to my friends about my possible career plans.	3.65	3.59	-0.06	3.69	3.64	-0.05	3.76	3.62	-0.14	3.58	3.49	-0.09	3.67	4.11	0.44	3.64	3.60	-0.04
I explore the web for career or college information.	3.52	3.58	0.06	3.49	3.58	0.09	3.52	3.62	0.10	3.28	3.43	0.15	3.36	3.72	0.36	3.39	3.51	0.12
<i>Average</i>			<i>0.031</i>			<i>0.130</i>			<i>-0.027</i>			<i>0.069</i>			<i>0.2</i>			<i>0.061</i>

Note: Bold values indicates the maximum value

It was unfortunate the “part of a World Studies course” had to be excluded, as it had the highest mean on eleven of the fourteen statements in the pre-course survey. Students who selected “part of a Business course” had the highest means in the three remaining statement from the pre-course survey. The high mean prior to taking CareerForward may be due to the fact that of all of the options listed the World Studies course was the most academic, and it is possible that these students were among a group of higher achieving students who may have already had their post-graduation plans decided.

The “part of a Career Planning course” had seven statements that scored the highest means on the post-course survey. It was also the second largest increase in student attitudes as a result of taking the CareerForward course with more than twice the average increase. *It appears that implementing the CareerForward course as part of an existing Career Planning course yielded positive results.*

However, the most significant increase in student attitudes was from respondents who indicated they took CareerForward as a “part of another course” – with an increase of more than three times the average. This option also had the most statements with the highest mean on the post-course survey (e.g., eight of the fourteen). It is disappointing that there was no open-ended option for students to indicate what other course they were enrolled in, given the impact on students who selected this option. *It is recommended that MVS investigate how schools implemented the CareerForward course to examine options beyond those specifically listed in the survey.* A targeted approach may be to use the building code information collected as part of the post-course survey to identify the schools where students selected this option.

Finally, it should be noted that there was a negative effect on student opinions for those who selected the option “part of a business course”.

How CareerForward Was Delivered

As discussed in more detail in the limitations section, trends related to how the CareerForward course was delivered to students were difficult to determine because students did not present a clear distinction between taking the course using “a website” and “Blackboard” or “Moodle”. Excluding those who selected “a website” and “a CD-Rom” (as no students selected the latter option), there were four statements where there were noticeable differences to report.

Table 6. Student attitudes by how CareerForward was delivered

Statements	Blackboard			Moodle			Total		
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
I know what I’ll do once I graduate from high school	3.77	4.08	0.31				3.74	3.61	-0.08
I plan to get help from others to get the jobs I want	3.62	3.95	0.33	3.55	3.92	0.37	3.63	3.76	0.13
I’ll have more than one job in my future	3.45	3.87	0.42				3.49	3.59	0.10
I explore the web for career or college information	3.49	3.90	0.41				3.39	3.51	0.12

This is not to suggest that CareerForward was more effective with students using Blackboard or Moodle overall. Only that for these four statements, students using these course management systems did score higher than the average.

Student Satisfaction with CareerForward

To address this question, the three Likert items that were added to the post-course survey were used. These statements included:

- I enjoyed CareerForward
- I feel CareerForward was helpful
- I think this course was a powerful way to gain new information

The overall feedback from students is presented in Table 7.

Table 7. Overall student satisfaction with CareerForward

Statement	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	μ
I enjoyed CareerForward	35.6	23.0	18.1	18.1	4.7	2.33
	<i>Total – 58.6</i>			<i>Total – 22.8</i>		
I feel CareerForward was helpful	14.7	12.8	24.1	34.3	14.1	3.20
	<i>Total – 27.5</i>			<i>Total – 48.4</i>		
I think this course was a powerful way to gain new information	11.5	13.9	24.6	33.5	16.5	3.30
	<i>Total – 25.4</i>			<i>Total – 50.0</i>		

Note: Bold values indicates the maximum value

The mean scores for all three items were low. In fact they were the lowest mean scores for any of the seventeen Likert statements to which the students responded.

It should be noted that over a third of students indicated that they strongly disagree with the statement “I enjoyed CareerForward.” Further almost six out of every ten students responded unfavorably to that statement. However, almost half of the students responded favorable to both the “I feel CareerForward was helpful” and “I think this course was a powerful way to gain new information” statements. Based on Table 7, *it appears that while students did not enjoy the CareerForward course they found it to be helpful and that the course was a powerful way to gain new information.*

Demographic Analysis

While there was little difference in any of the three statements based upon gender, there were some differences based upon grade level (as illustrated by Table 8).

Table 8. Overall student satisfaction with CareerForward by grade level

Statement	Gr 8	Gr 9	Gr 10	Gr 11	Gr 12	Overall
I enjoyed CareerForward	2.32	2.48	2.02	2.69	2.50	2.33
I feel CareerForward was helpful	3.32	3.40	2.94	3.19	2.93	3.20
I think this course was a powerful way to gain new information	3.46	3.24	3.02	3.50	3.21	3.30

Note: Bold values indicates the maximum value

While the majority of students did not enjoy CareerForward, students in grade eleven were the only group who rated it favorable (i.e., above 2.50).

While students generally found CareerForward to be helpful, it was the most helpful to students in grade nine and eight. Further the grade eleven students, followed by the grade eight students, found the course a powerful way to gain information about career planning. It was least helpful to students in grade twelve, and grade ten and twelve students did not find the course a powerful way to gain new information. This is consistent with the data presented earlier, which indicated that *CareerForward was most effective with grade eight and grade eleven students, while being least effective with grade twelve students.*

When examining the reasons why the student took CareerForward it seems that those who enrolled in the course because it was recommended rated all three items approximately 10% higher than the mean. However, this group only represented approximately 5% of the sample.

There were significant differences in the student responses based upon how CareerForward was offered, as illustrated in Table 9.

Table 9. Overall student satisfaction with CareerForward by how it was offered

Statement	Entire	Career	Business	Computer	Another	Overall
I enjoyed CareerForward	2.06	3.00	2.15	2.29	2.58	2.33
I feel CareerForward was helpful	3.14	3.91	3.31	3.08	3.36	3.20
I think this course was a powerful way to gain new information	3.18	3.85	3.15	3.17	3.44	3.30

Note: Bold values indicates the maximum value

Students who took CareerForward as a part of a Career Planning course had a more positive experience in the course than any other group of students. This is consistent with trends in the student attitude data, which indicated that implementing the CareerForward course as part of an existing Career Planning course yielded positive results.

That earlier data also indicated that students who responded that they took CareerForward as a “part of another course” yielded higher than average gains in their attitudes. This trend is continued in Table 9, as the “part of another course” option was the second highest on all three

statements. Earlier a negative effect was reported on student opinions for those who selected the option “part of a business course”, however; it was the students who selected “an entire course” who had the most negative feelings towards CareerForward. Based on this data, *earlier recommendations that CareerForward be implemented as a part of a Career Planning course and that further investigation is needed into the “part of another course” options are both supported.*

Finally, students that had CareerForward delivered using Blackboard had more positive attitudes toward the course on all three statements.

Student Suggestions for Improvement to CareerForward

There were three open-ended prompts that students were asked to respond to in the post-course survey:

10. If I could make one change in CareerForward it would be...
11. The best thing about CareerForward was...
12. The most difficult thing about CareerForward was...

The following sub-sections will consider these questions in the order of question 11, 12 and then 10. For each of the statements, there will be a selection of statements made by the students and then a discussion of their comments. Note, there were no specific demographic trends in the open-ended data.

Best Thing About CareerForward

A selection of students’ comments related to their feelings on the best thing about CareerForward included:

- “I think the best thing about CareerForward was [that is was] good with helping me understand how to get ready for future jobs and what I want to do when I grow up.”
- “It gives you a future outlook as to what kind of careers are available for many people after high school and college.”

- “How it showed me to keep re-thinking about my future career path.”
- “...somewhat helped me think about my future and what I can do to gain knowledge for my future career.”
- “The good advice to shape your future and matching me up to careers that CareerForward thought I would enjoy doing.”
- “I get to decide on my future and what I want to be...”
- “...it made me realize how I can decide my future by researching the career I want.”

- “It takes a lot of information and shortens it. It uses videos to get the information out to the students in a timely manner as well as helping them to understand what they're hearing by typing it.”
- “...the videos on other people explaining their careers and life experiences...”

- “Learning what kinds of jobs would be the best for my interests, talents, and abilities.”
- “...all the information that was supplied about how to choose a career...”
- “Learning skills about choosing a career and how to pursue it.”
- “...the learning experience and gaining so much knowledge about my career...”
- “...the best thing was how I got to learn about careers and do activities that involve different careers.”
- “The best thing about CareerForward was that it gave me more of an idea of what kind of studies I will need to take and the attitude I will need to have to get into the career pathway that I want to be in.”

The three sets of quotations represent the three themes that emerged.

The first theme was related to the content of the course and how it forced the students to consider life after graduation. This may have been the first time that some of these students had thought about their futures, or at least thought about it in a systematic way. The second theme focused upon the use of videos to deliver the content. Students felt that having individuals discuss their own career choices was a useful way to receive the information. The third theme again focused upon the content of the course and how it allowed students to relate individual skills to specific careers (including their own skills sets).

Interestingly, there was a sub-set of students who responded that nothing was the best thing about CareerForward. For example, one student wrote:

“...the best thing I think was nothing. Sorry, I had a hard time concentrating because the people in the movies acted as though they didn’t care what we (the students) thought. They acted like they didn’t want to be there.”

Students who wrote only “nothing” or chose to elaborate the theme for more details comments, such as the one above, represented approximately 10% of the respondents.

Most Difficult Thing About CareerForward

A selection of students’ comments related to their feelings on the most difficult thing about CareerForward included:

- “...answering the questions [was the most difficult part]. I felt that the questions were sometimes too vague or I didn’t remember hearing them in the video.”
- “...all of the worksheets that were handed out and all of the movies...”
- “The fact that my teacher wanted five sentences for every answer and that every answer doesn’t need five sentences all that the question needs is what it asks for not five sentences full of details that basically repeat the same thing.”
- “the long follow up surveys probably. I hate typing long answers, and we’ve already answered those plenty of times before. I hate repeating myself too.”
- “The most difficult thing about CareerForward was the worksheets. They took very long and asked un-important questions that I felt won’t help me at all in my future,”

- “...most of the videos didn’t help you answer the follow-up questions.”
- “I felt that the questions were sometimes too vague or I didn’t remember hearing them in the video.”
- “...completing the worksheets while watching the videos.”
- “...writing everything down so fast while the video was playing. I would have to watch the video at least two times every time.”
- “...paying attention to the movies and being able to follow them and doing the packets [at the same time]...”
- “...trying to write everything down, but the videos were too fast.”

- “...the most difficult thing about this whole thing was watching ALL the videos. It would’ve been a little better if there weren’t so many, but there was like 500,000 of them! It was crazy.”
- “The most difficult thing about CareerForward is to sit and watch the boring videos over and over again.”

- “...understanding some of the things; sometimes they are too hard to understand for kids.”

There were four main themes that emerged from the students' responses to this question.

The first theme related to the nature of the written work that students were required to complete. Students reported that they were often writing the same things many times over, which was sometimes coupled by the fact that some teachers had minimum word or sentence requirements. As the answer to the question from one video was often the same or similar to another video, the students found the written work often resembled busy work. The second theme focused on the relationship of the videos to the written work that the students had to complete. Students felt that the written work often didn't line up with the content of the videos and that trying to find several different types of information within the same video often cause them to have to watch the video repeatedly.

The third theme dealt with the nature of the videos. While one of the things students appreciated in the previous question was the fact that information was presented in video format, the most common comment made in relation to the video was that they were boring. In fact it was the most prominent theme from all three open-ended questions. To be more specific, students found the videos were often too long and the ways in which individual videos organized information was repetitive. Finally, there was a smaller sub-set of students who found the material difficult to understand. This may be related to having to complete the written work and not always being able to find the information in the videos, but the statements that were made by students were general enough that we were not able to make this connection.

One Change in CareerForward

A selection of students' comments related to one change they would suggest making in CareerForward included:

- “To make it more fun, I don’t think that the movies were very entertaining and I didn’t really learn a whole lot from them. I would have more fun activities like games that deal with career choices.”
 - “...was it that necessary to have 10 videos on the same thing.”
 - “...to take away all the videos. Yes, they help but they are boring and not very exciting at all.”
 - “If I could change one thing in CareerForward it would be that there would be a little more entertainment in it that way it isn't such a drag having to watch all of those videos.”
 - “Not to be so boring, so that means being shorter and better movies and stuff.”
 - “...to make it more interesting. It was so boring to have the same thing over and over.”
 - “...shorten it up ...make it sweet, snappy and to the point ...too boring.”
 - “To make it more fun. This thing was so boring the movies put me to sleep!”
 - “...not so many movies. They got really boring really quick.”
 - “...one change I would make would be to make it more exciting. It gets really boring just sitting there listening to different people talk.”
-
- “I would make this more upbeat and less boring. Movies had good intentions but... maybe if you had some music, like people doing a music video but teaching you the stuff would stick with you.”
 - “Make it slightly more lively. The last hour of school in the warmest room doing CareerForward gets sleepy sometimes.”
 - “...have more of a variety. It was the same thing over and over again.”
 - “...more exciting like the video would be different [and] it would be an actual video.”
 - “I could make one change I would make it so you do not have to watch as many videos. It was more boring than it was educational so I did not enjoy doing it all.”
 - “To make it more fun. I don’t think that the movies were very entertaining and I didn’t really learn a whole lot from them. I would have more fun activities like games that deal with career choices.”
 - “I would make it so that we would watch less videos and do things that makes us think about what we wish to do, not what other people do.”
 - “Shorter videos, they are too long with too much stuff that is useful.”
 - “If I could change one thing in CareerForward it would be that there would be a little more entertainment in it that way it isn't such a drag having to watch all of those videos.”
-
- “The big packet to fill out. It tends to get very boring. Another thing to change would be all the interviews with the people. Kids don’t like to listen to people talk repeatedly.”
 - “The final survey questions never change and they are not very fun to do over and over again.”
 - “...less paper work and more hands on skills, since this is supposed to be a computer course.”

There were three main themes related to how students would change the course.

The first theme again related to the nature of the videos. The dominant suggestion in these students' comments, and for this question in general, was to decrease the number of videos that students have to watch. The second theme also related to the videos, but was more specific in nature. Students suggested that the videos could be shorter and even cut longer videos into shorter segments. Students also suggested varying the way information was presented, such as using games or other activities instead of videos being the dominant method. Finally, the third theme related to the nature of the written work. Like the videos, students often found this work boring and repetitive. Their suggestions focused on varying the nature of these activities, specifically having students do more computer-based activities to submit as completed work.

Summary of the Findings

This evaluation sought to address three research questions.

1. What impact does taking CareerForward have on student attitudes towards career planning?
2. What are student impressions of the CareerForward course?
3. How would students improve the CareerForward course?

Based on the data, there was little overall impact on student attitudes toward career planning as a result of taking CareerForward. Students generally did not enjoy the CareerForward course, although they did find the course helpful and saw value in CareerForward as a way to gain new information. Finally, students found the use of videos to be an effective way to deliver the content – and it was the specific content that they indicated as the best part of the course. However, students also reported that the use of videos and written work throughout the course became repetitive and boring. They made suggestions that videos could be shortened or

segmented, along with the addition of other ways to deliver the content and other activities for students to complete.

Recommendations

The recommendations from this evaluation are focused in three areas: the design of the CareerForward course; the delivery of CareerForward; and future research and evaluation.

Design of CareerForward

1. Revise the way content is presented to have fewer videos. Videos should be shorter or, if it is necessary to have longer videos, they should be segmented into shorter files that can be view independently.
2. Use multiple ways to present the content. A common suggestion by students was the addition of games as a way to deliver information. While it is not suggested that designers incorporate more gaming into the course, it is a valid statement to suggest that if there are other pedagogically sound ways to present the material that do not involve videos they should be explored and utilized.
3. Vary the nature of student products designed to show mastery of the content.

Delivery of CareerForward

1. CareerForward should be delivered as a part of a Career Planning course and, if possible, to students in grade eight or grade eleven.
2. CareerForward should not be delivered to grade twelve students.

Future Research and Evaluation

1. Further exploration is needed with students who responded that they took CareerForward as a “part of another course”. Students who selected this option had higher than average

scores in terms of the effect on their attitudes toward career planning and on their overall enjoyment of the course. More research is needed to figure out what courses were included under this umbrella.

2. Conduct follow-up evaluations to increase the number of post-course respondents in grade seven and who take CareerForward as a part of a World Studies course. Both of these groups showed promise in the pre-course survey, but had to be excluded from the post-course analysis due to low response rate.
3. Future evaluations should provide a clearer distinction between the options “a website”, “Blackboard”, and “Moodle” for question 6. These options were often confused by the respondents, selected multiple variables. This rendered demographic analysis useless for this variable, which was disappointing as an analysis of the learning environment may have yielded useful information about how best to deliver CareerForward.
4. Usability testing and pilot testing of new ways to present the content and new student activities is advisable.

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Appendix A

CareerForward Pre-Course Survey

1. School Building Code

2. Gender

female

male

3. Grade

7

8

9

10

11

12

4. I am taking CareerForward because:

it's required by my school

it was recommended to me

I found it on my own

5. I am taking CareerForward as:

part of a computer course

an entire course

part of a Career Planning course

part of a World Studies course

part of a Business course

part of another course

6. I am taking the course using:

a website

a CD-ROM

Blackboard

Moodle

other

7. Please indicate your level of agreement with the statements below:

Strongly Disagree Disagree Undecided Agree Strongly Agree

I think about what I'll do after high school

I know what I'll do once I graduate from high school

I can shape my career path

I plan to get help from others to get the jobs I want

I'll have more than one job in my future

My career will be affected by the global economy

Starting my own business sounds like fun

I've started to plan my career path

I feel comfortable using computers and the Internet

The classes I take in high school will help me to achieve my career goals

I talk to my parents about my possible career plans

I talk to other adults about my possible career plans

I talk to my friends about my possible career plans

I explore the web for career or college information

CareerForward Post-Course Survey

1. School Building Code

2. Gender

female

male

3. Grade

7

8

9

10

11

12

4. I am taking CareerForward because:

it's required by my school

it was recommended to me

I found it on my own

5. I am taking CareerForward as:

part of a computer course

an entire course

part of a Career Planning course

part of a World Studies course

part of a Business course

part of another course

6. I am taking the course using:

a website

a CD-ROM

Blackboard

Moodle

other

7. I worked on CareerForward mostly at:

home

school

the library

a friend's house

other

8. I worked on CareerForward at least once at:

- home
- school
- the library
- a friend's house
- other

9. Please indicate your level of agreement with the statements below:

Strongly Disagree Disagree Undecided Agree Strongly Agree

I think about what I'll do after high school

I know what I'll do once I graduate from high school

I can shape my career path

I plan to get help from others to get the jobs I want

I'll have more than one job in my future

My career will be affected by the global economy

Starting my own business sounds like fun

I've started to plan my career path

I feel comfortable using computers and the Internet

The classes I take in high school will help me to achieve my career goals

I talk to my parents about my possible career plans

I talk to other adults about my possible career plans

I talk to my friends about my possible career plans

I explore the web for career or college information

I enjoyed CareerForward

I feel CareerForward was helpful

I think this course was a powerful way to gain new information

10. If I could make one change in CareerForward it would be:

11. The best thing about CareerForward was:

12. The most difficult thing about CareerForward was: