2016 YouScience Pilot Program, Evaluation Report

Final report

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Executive Summary

Overview

YouScience is an online career and personal planning discovery tool that enables teens and adults to identify their potential aptitudes and careers. To create a personalized YouScience profile, the tool engages students in a series of online exercises to help them identify their natural abilities, refine their specific areas of interest, and explore career opportunities that are aligned with their interests and aptitudes. In an effort led by Senator Lindsey Tippins, state funds were appropriated for a pilot initiative to identify an online profile that would help Georgia high school students discover their aptitudes and apply those strengths to find direction for their pathway, college, and career choices. After a committee explored various options, the Technical College System of Georgia (TCSG) partnered with YouScience to provide 20,000 licenses to Georgia 10th graders in a representative sample of high schools around the state for the 2015-2016 school year. TCSG partnered with the Governor's Office of Student Achievement (GOSA) to administer and evaluate this pilot program.

Fifty-one high schools (approximately one-tenth of all high schools in Georgia) participated in the pilot study, and school-level "ambassadors" were selected to work with the YouScience staff and GOSA to ensure successful implementation of the pilot. To assess the impact of YouScience on students, GOSA contracted with an external evaluation firm, SageFox Consulting Group, in December 2015 to conduct the evaluation. This report is intended to be a summative analysis of the efficacy of YouScience on students' attitudinal outcomes. The results of the report serve to inform whether and how YouScience should be implemented in the future across Georgia schools.

SageFox Consulting Group, in collaboration with GOSA, worked extensively to identify the programmatic areas of importance, design a theoretical model to guide the evaluation plan, and analyze and report on the data. The evaluation report includes:

- A full demographic profile of students and schools in the pilot study
- A description of the design and development of the evaluation surveys
- A presentation of the survey results
- A discussion of students' results within the context of implementation

The 2016 YouScience Evaluation Report is divided into three main sections. The first section is an overview of the pilot program. This section provides a description of the pilot implementation planning and administration process as well as a summary of the evaluation questions and theoretical model. The second section of the report includes a statistical analysis of the surveys—Ambassador and Student Surveys— deployed to participants. During the Spring 2016 semester, (March – May 2016), 35 schools from the pilot study were asked to deploy a student survey to 10th grade students who took the YouScience profile. Overall, more than 3,000 10th grade students completed the survey.[1] Additionally, to add contextual information to students' outcomes, a survey was administered to each school ambassador towards the end of the semester (April – May 2016). This survey was intended to provide useful information about each schools' experiences implementing YouScience. Students' results, as well as ambassador findings, are discussed in the third section.

[1] Student survey data from 3,068 students were included in the report analysis.

Evaluation

To assess the impact of YouScience on all students and students with various characteristics, the evaluation answers three main questions:

1. To what extent has YouScience broadened students' vision or awareness of possible career pathways?
2. Are students more willing to engage in a career pathway as a result of YouScience?
3. To what extent has YouScience enhanced students' college and career readiness?

Data gleaned from three sources—1) 2016 YouScience Student Survey, 2) 2016 Ambassador Survey, and 3) state administrative data—were used to answer the evaluation questions. A brief description of these three data sources is provided below:

1) The 2016 YouScience Student Survey is comprised of 42-items designed to gauge students' perceptions of the YouScience tool and assess their attitudinal growth over time. In particular, 19 items on the survey were designed as retrospective items that ask students about their attitudes "before" completing YouScience (pre-test) and "now" (post-test).[2,3,4,5,6] Given this design, evaluators were able to statistically measure students' growth in various areas from pre to post with a single survey administration. Those areas include:

- **Self-Awareness:** the ability to describe one's self and to identify suitable careers.
- **Career Decision Making:** confidence in one's ability to make an informed career decision.
- **Self-Empowerment & Future Confidence:** feeling hopeful and self-assured in one's future path.
- **Career Exploration**: engaging in activities that provide one with career information and expanding one's vision of career possibilities.
- **Intent to Persist**: motivation to pursue a career pathway and/or additional post-secondary education/training.

2) The 2016 Ambassador Survey is designed to assess how school-level ambassadors' introduced and utilized the YouScience tool with students at their schools, as well as their perceived usefulness and future interest in using the YouScience tool. Specifically, the survey is comprised of 19 total items that ask ambassadors to indicate a) how YouScience was administered to students (e.g., Did students complete all sections of YouScience at school? At home? Or both?), b) the degree to which follow-up guidance was provided, c) the quality of support provided by the YouScience team during implementation, d) the perceived usefulness of YouScience for students, e) the likelihood of continued usage of YouScience in the future, and f) the most valuable and most challenging aspects of the YouScience implementation.

3) State administrative data includes student demographic information (e.g., race/ethnicity) for each school in the pilot study, as well as statistics pertaining to the implementation of YouScience across all schools. This

[2] The theory behind the retrospective design is that by surveying students' attitudes after completing YouScience, their standard for assessing the changes in their knowledge, skills, or attitudes is consistent, and thus, not subject to a response shift bias. Response shift bias is defined as a "change in the participant's metric for answering questions from the pre-test to the post-test due to a new understanding of a concept being taught." Others note that the retrospective design reduces incomplete data sets, is convenient to administer given the time constraints many programs face, and is easier for program participants to complete.

[3] Lamb, T. (2005). The retrospective pretest: An imperfect but useful tool. *Evaluation Exchange, 11 (2).*

[4] Hill, L., & Betz, D. (2005). Revisiting the retrospective pretest. *American Journal of Evaluation, 26 (4),* 501-517.

[5] Klatt, J., & Taylor-Powell, E. (2005). Synthesis of literature relative to a retrospective pretest design. Presentation to the *2005 Joint CES/AEA Conference*, Toronto.

[6] Raidl et al. (2004). Use retrospective surveys to obtain complete data sets and measure impact in extension program. *Journal of Extension, 42 (2).*

data was used to assess how school demographics and implementation characteristics influence outcomes on the student survey.

Major Findings

After taking YouScience, students are statistically significantly…

- better at describing their natural abilities and identifying suitable careers (*Self-Awareness*);
- more confident in their ability to make an informed career decision (*Career Decision Making*);
- more helpful and empowered to follow their future paths (*Self-Empowerme*nt);
- more likely to engage in activities to acquire more career information and explore careers (*Career Exploration*);
- more motivated to pursue a career pathway and/or additional post-secondary education or training (*Intent to Persist*).

Overall, the results suggest that YouScience was effective in improving students' attitudes toward career decisions; however, the size of the effect of YouScience on students' attitudes was classified as small to medium. YouScience had the largest impact on students' self-awareness, or their ability to describe their natural strengths and to identify careers that are aligned with their interests and aptitudes. Female students, students receiving Free/Reduced Price Lunch (FRL), and students who spent more than 20 minutes reviewing their profile results benefit the most from YouScience. In particular, students who spent more than 20 minutes reviewing their results had effects that were twice as large in four of the five areas listed above relative to those who spent 20 minutes or less.

To determine the value of implementing YouScience to 10th graders in Georgia, the team developed three questions. The first asks, "To what extent has YouScience broadened students' vision or awareness of possible career pathways?" While this is difficult to quantify, the data reveal that after YouScience, 69% of students said that they have considered a wide range of possible careers, compared to only 51% before taking YouScience. In other words 445 more students are likely to have considered a wide range of possible careers after taking YouScience. Further, 55% of students reported that YouScience was "very" or "extremely" impactful in opening their eyes to new career possibilities.

The second evaluation question asks whether students are more willing to engage in a career pathway as a result of YouScience. After YouScience, 68% of students indicated that they can identify their college and career pathway compared to 52% before YouScience.

The third evaluation question asks whether YouScience has enhanced students' college and career readiness. A slightly greater percentage (+2 percentage points) of students expressed intent in pursuing post-secondary education or training after YouScience. Specifically, 80% said that they "agree" or "strongly agree" with this statement after taking YouScience, compared to 78% before YouScience. Further, YouScience did *not* boost the number of students who intend to graduate from high school. Both before and after YouScience, 82% (or 2,184 out of 2,672) said that they intend to graduate from high school. While students may not be more inclined toward college or training after taking YouScience, the students do show signs of being more "ready." That is, approximately 20% of the 10th graders in this study can better describe their natural abilities and identify careers that are a good fit for them.

Finally, a series of regression analyses were conducted to determine the factors—Student Demographics, Implementation Characteristics, School Demographics, YouScience Statistics— that influence the five outcome variables in this study:

1. Self-Awareness
2. Career Decision Making
3. Self-Empowerment
4. Career Exploration
5. Intent to Persist

The regression analyses reveal that female students and students on free/reduced price lunch benefit the most after having taken YouScience. Also, students in schools with a higher percentage of Limited English Proficiency (LEP) students express greater career decision-making abilities after taking YouScience. Further, students who completed the YouScience profile entirely at school (instead of starting at school and finishing at home) were better off. The same is true for students who completed the profile in two or more sittings and who received either small- or large-group follow-up.

While the 10th graders in the pilot study appear to be more aware of possible career pathways, the effect may be improved by addressing the following recommendations:

1. Provide follow-up guidance to students, and do so in small groups preferably. Large-group guidance is more effective than no feedback, and providing no feedback diminishes the value of YouScience.
2. Build YouScience into the academic year during curriculum planning so that teachers can appropriately weave it into the curriculum.
3. Schedule adequate time in the computer lab or on laptops for students to complete the YouScience profile at school.
4. Consider strategies to better communicate to both students and faculty why the YouScience profile is being used and its benefits.
5. To maximize the benefit of YouScience, schedule at least 20 minutes of time for students to review their YouScience profile results. This additional time allows students to review their entire profile and internalize the results.

Overall, the evaluation of the YouScience pilot study suggests that students express relatively small, yet meaningful, attitudinal gains from pre- to post- test. These gains are most pronounced among females, students who receive free/reduced lunch, and students who spent at least 20 minutes reviewing their YouScience results. These results are promising and point to the potential effectiveness of YouScience in enhancing students' career attitudes when students are provided sufficient time to review results. While the lack of a control group reduces the ability to establish causality in the findings, the sizable difference in effect between students who reviewed results for at least 20 minutes and those who did not provides evidence of YouScience's impact.