Read It, Watch It, Listen to It — Gale It!

McKinley Technology High School
Gale Resources Efficacy Study — Year Two Results

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Learning®

About Gale

Gale, a part of Cengage Learning, is a world leader in e-research and educational publishing for libraries, schools, and businesses. Best known for its accurate and authoritative reference content as well as its intelligent organization of full-text magazine and newspaper articles, the company creates and maintains more than 600 databases that are published online, in print, as eBooks, and in microform.

Major brands include *InfoTrac*, *Gale Virtual Reference Library* — the company's eBook platform — and the unparalleled Gale Digital Collections such as *Nineteenth Century Collections Online*.

In addition to serving the school and library communities, Gale also licenses its proprietary content for integration within Web-based information services. Nearly 100 organizations — including LookSmart, Dow Jones, and Thomson Financial — presently enjoy strategic business distribution partnerships with Gale.

Malik is an accomplished senior this year at McKinley Technology High School in Washington, DC. He is a good student and is involved with student activities. He was even captain of the McKinley football team this past fall. But last spring, Malik had a problem.

Malik was invited to be part of the delegation of McKinley students who were going to China in May to participate in the Model APEX Summit, which would be attended by high school and college students from all over the world. The school was assigned Thailand as their country to represent at the Summit, and Malik's responsibility was to become the delegation expert in Thai trade and commerce. Being selected to be part of the delegation was a significant honor, but Malik did not know anything about Thailand, let alone that country's trade and commerce policies. He had only a few short weeks to learn everything he could about Thai trade and commerce issues. Malik knew he could not let his team or his school down.

Malik then remembered that in some of his classes over the past two years he had been using Gale resources to do research for class projects and homework. Malik dove into the different Gale collections and found everything he needed to become that delegation expert. He especially liked that he could count on all of the articles to be credible without any worries about authenticity. He also found the resources to be easy to use, and having everything in one place was especially helpful considering his short timeframe for research.

Malik's use of the Gale resources paid off when he was in China at the Summit. As he said, "I did great!" The other students did not have the depth of knowledge that he had and this provided a competitive edge for the McKinley delegation. The McKinley team earned a Distinguished Delegation award at the Summit; considering that most of the other teams were comprised of college students, this was a significant and well-deserved recognition for the McKinley students. Malik believes that the difference was the use of Gale resources in his research.

Malik's use of Gale resources, however, went beyond just the Summit competition. Based upon the knowledge he acquired about Thailand, Malik came up with a good idea on how to help children in that country. From his research on Thailand, he learned that many children had to drop out of school to go to work to support their families. Malik's idea was to create a TV show of online classes that the Thai children can watch while they were working. Gale resources not only provided Malik with information that he needed for a school project, they empowered him to become an international education entrepreneur. Best of luck, Malik!

About the Study

This white paper highlights the results of the McKinley/Gale Study Project conducted by Project Tomorrow for Cengage Learning during the 2011-2012 school year at McKinley Technology High School in Washington, DC. The purpose of this efficacy study is to evaluate and document how teachers can use high-quality, digitally rich Gale resources from Cengage Learning to develop students' 21st century skills, and what effects the use of technology in the classroom has on student engagement and performance.

McKinley Technology High School is a Science, Technology, Engineering, and Math magnet school within the District of Columbia Public School System, offering a rich program specifically designed to prepare students for the challenges of an ever-changing global market. The school's enrollment in the 2011-2012 school year was 689 students; the demographics of the student population were identified as 93% African- American, 3% Hispanic, 1% Caucasian, 1% Asian, and 2% designated as other. Fifty-four percent of the students qualify for the federally funded free and reduced-price lunch, an indicator of home poverty.

During the study period, selected teachers and students at McKinley Technology High School had access to eight Gale resources from Cengage Learning, representing more than 4,600 indexed documents, 4,300 online articles, 2,200 images, 64 videos, and 161 podcasts. The resources included *Biography in Context, Global Issues in Context*, *Global Reference on the Environment*, *Energy and Natural Resources* (GREENR), *Literature Resource Center*, *Opposing Viewpoints in Context*, *Student Resources in Context*, *U.S. History in Context*, and *World History in Context*. Eight teachers representing a variety of content disciplines, levels of experience, and teaching styles were recruited to participate in the second full school year of the study. In addition to the integration of the Gale resources within daily instruction, the resources were also used to support several project-based learning activities and events, such as the science fair, National History Day competitions, the Model APEX Summit Trip to China, and McKinley's award-winning debate team. The research team leveraged a variety of data collection methods throughout the school year including pre- and post-surveys for students and teachers, student focus groups, classroom observations, review of student and teacher artifacts, and interviews with teachers and administrators. In addition, the team reviewed student achievement metrics and usage statistics to further evaluate the impact of the resources on both student learning and teacher productivity.

"Here's the advice I would give to freshman coming into McKinley. Don't bother with Google. With Gale you can read it, you can watch it, and you can listen to it! Don't Google it, Gale it!"

Graduating McKinley Technology High School Senior
June 2012

In year one of the McKinley/Gale Study Project, we examined how the use of the resources within classroom instruction increased student motivation and skill development and the effectiveness of teachers in a variety of discipline content areas. The first year study findings represented important new research to understand the value of digital content as a tool to increase student achievement and teacher effectiveness.

In year two of the study, our focus was on investigating how the integration of the high-quality Gale resources could potentially change teacher practice in the classroom, and the role of the tools by the students in a variety of academic environments to stimulate self-directed learning and new skill development, especially around college ready research skills.

Several lessons emerged from this two-year study, including the critical importance of administrator support for digital learning implementations. The key findings from the second year of this innovative study include:

- *The use of the Gale resources is most effective when the resources support project-based learning activities in the classroom.*
- *To influence changes in teacher practice around the use of digital content and resources, it is advantageous to have teachers use products such as Gale resources first as a personal productivity tool.*
- *Teachers highly value the use of the Gale resources to enhance their lessons or to improve learning experiences for their students.*
- *Students place a higher premium on the use of the Gale resources to improve their college and career ready skills and outcomes than their teachers.*
- *Students in classrooms where the teachers integrate the Gale resources demonstrate greater academic achievement.*

Gale Resources Usage Drives Greater Student Achievement

In addition to the teachers' qualitative assessments of their students' enhanced performance after using the Gale resources, and the students' self-assessments of the effect of the resources on their learning environment, quantitative data results also point to a correlation between the use of Gale resources and student achievement. One of those measures examined was the results from McKinley's Extended Constructed Response (ECR) project assessments. The goal of the ECR project is to assess student mastery of content, proficiency in literacy, and students' ability to connect content to relevant, applicable life situations. At the end of the school year, the McKinley administration selected pre-approved ECR writing prompt questions to be administered to students for each teacher and class. The overall ECR score is based on a scale of 0-3 (0 = below basic, 3 = advanced). For the second year, students with regular access to the Gale resources within instruction scored higher than the average for all students at McKinley and for other students within the same subject areas this past school year. Table 1 shows the two-year average scores for the McKinley/Gale Study Project students in World History and Biology versus the equivalent time frame average scores of all students in those particular subject areas.

**Table 1:** Comparison of ECR Performance — 2 Year Evaluation

Subject Area	Average School-wide ECR	World History Classes that used Gale	Biology Class that used Gale
Social Studies	2.2	2.7	NA
Science	2.2	NA	2.6
All Subjects	2.2	2.7	2.6

Gale Resources as a Catalyst for Changing Teacher Practice

Two of the World History teachers who had participated in year one of the study had a good idea on how to enhance an existing school project by leveraging the Gale resources. As with the science fair project, students in World History classes were required to submit a research paper as part of the National History Day competition. Given that 62% of the teachers assessed their students' research skills as beginner level, the teachers realized that they needed to change the way they were implementing the National History Day assignment. Using the Gale resources provided the teachers with a framework for changing their instruction and also provided their students with opportunities to develop their college-ready research skills. The teachers' hands-on experiences with using the resources within their classroom in year one gave them a more informed perspective on effective instructional practices using the Gale tools.

The students and the teachers tapped into both the *World History in Context* and *U.S. History in Context* collections to support the National History Day projects. The National History Day projects' submission date was the end of February, and again we see a two-month spike in usage of those collections in January and February 2012 over the previous year (Figure 1).

Figure 1: *U.S. History in Context* and *World History in Context* Usage at McKinley — January and February
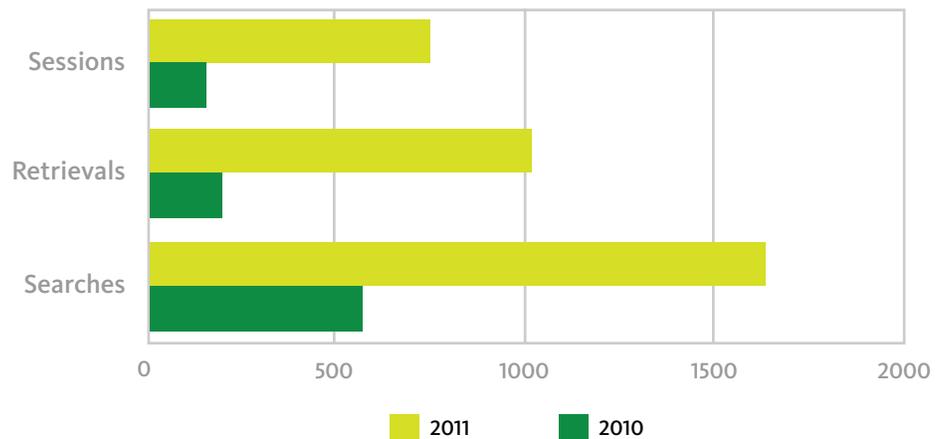

As noted in Figure 1, the usage in 2011 was as much as four times greater than the same period in the 2010 and can be directly attributed to the project-based learning approach within these World History classes. Therefore, it follows that adoption and adaptation of the Gale resources by teachers to support innovative instructional practice requires not just training on tool usage, but a hands-on familiarity and trial and effort with the resources for a teacher to envision creative applications for the resources.

Gale Resources Get an "A" from Teachers and Students as a Learning Tool

Both students and teachers recognize the value of using Gale resources to improve student learning. While teachers' perceptions of student impact were strong, it is interesting that the students' own value propositions were even stronger (Figure 2).

Figure 2: Impact of Using Gale Resources on Student Learning — Teacher and Student Views
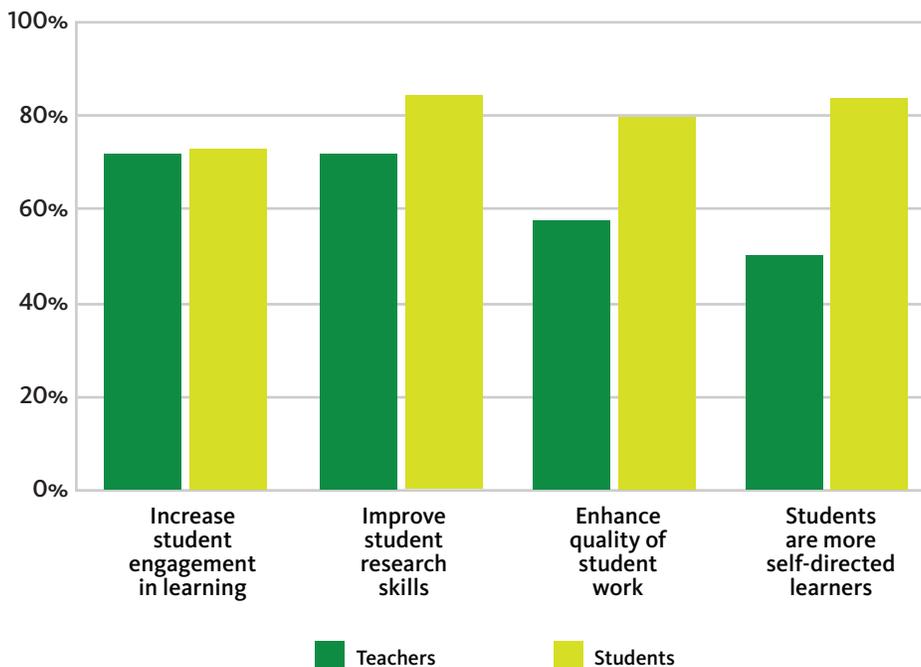
While it is common for educators to focus on the use of technology to increase student engagement, it is instructive that the students actually place a higher value on the role of technology (in this case, the Gale resources) in improving their skills and outcomes, and providing themselves with opportunities to become learners who are more self-reliant with enhanced research skills.

In addition to improving research skills, the students also identified other ways that using Gale resources impacted their learning and schoolwork. To understand the value proposition for the students, we categorized the benefits under two primary headings: Gale's impact on changing the classroom experience, and Gale's impact on changing the student's self-efficacy on learning. In many cases the access to the online databases from Gale had a stronger impact on the boys compared to the girls (Figures 3 and 4).

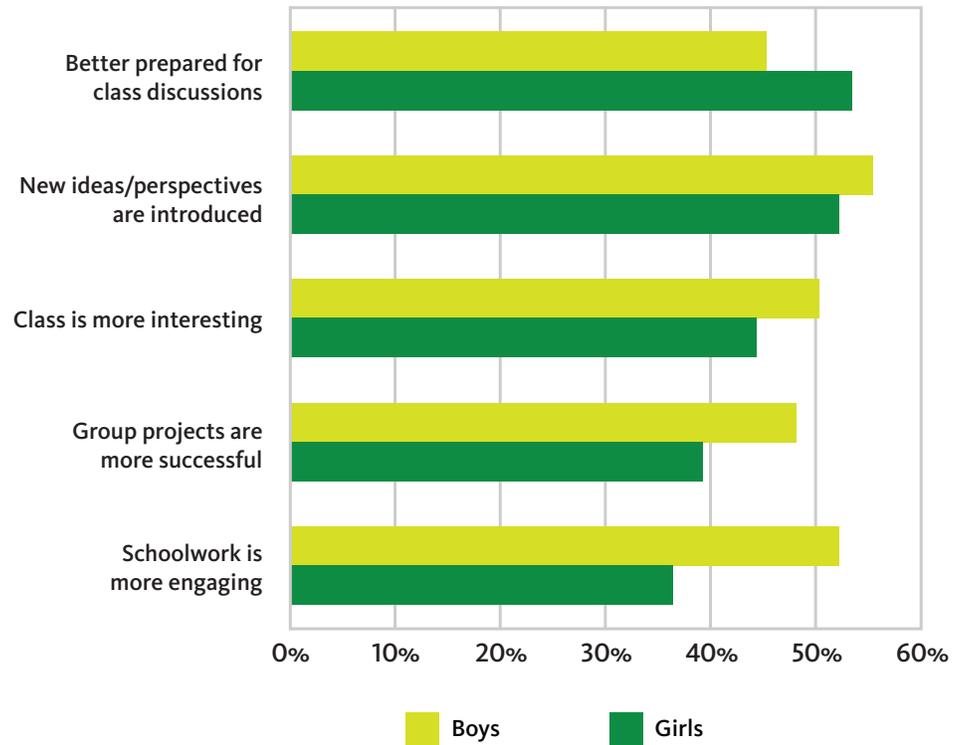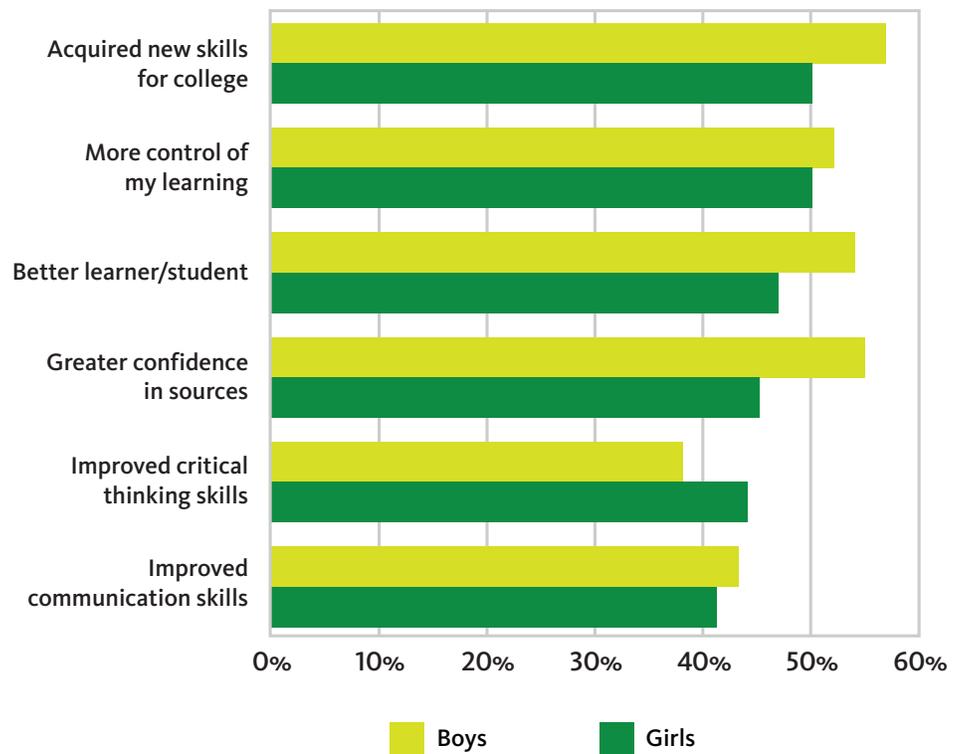**Figure 3:** Gale's Impact on Changing the Classroom Experience

Better prepared for class discussions
New ideas/perspectives are introduced
Class is more interesting
Group projects are more successful
Schoolwork is more engaging

0% 10% 20% 30% 40% 50% 60%

Boys   Girls

Figure 4: Gale's Impact on Changing the Student's Self-Efficacy on Learning

Acquired new skills for college
More control of my learning
Better learner/student
Greater confidence in sources
Improved critical thinking skills
Improved communication skills

0% 10% 20% 30% 40% 50% 60%

Boys   Girls

Particular attributes or characteristics of the Gale resources also contributed to students' overall views on the value of the tools for their learning. Based upon our analysis of the students' open-ended comments on the end-of-year surveys and their focus group responses, four defining characteristics were paramount for the students:

1. Accuracy, credibility, and reliability of the information within the databases
2. Ease of access and convenience in using Gale with minimal clicks to get what was needed
3. Depth and breadth of the information provided on a wide range of topics
4. Ability to address various learning styles through text, audio, and video

Gale Resources Expand Learning Experiences for Students

An important component of the enhanced learning experience provided by the Gale resources is the availability of video segments and podcasts to support classroom instruction on particular topics. Both students and teachers acknowledge that Gale resources support learning for all learners by providing high-quality content in a variety of modalities including text, audio, and video. One of the World History teachers in the project took full advantage of these features in his classroom. By tapping into an NPR video that was part of *Global Issues in Context*, he was able to bring a real-world sensibility and perspective to his students with the video that included authentic footage and first-person interviews.

Within a particular unit in world history, the teacher wanted to illustrate to his students the real-life experiences of child soldiers in Afghanistan. The story involved the ethical dilemma of detaining a 15-year-old at Guantanamo who had thrown a grenade at American soldiers, resulting in the death of a medic assigned to the unit. This story had personal resonance with the students in his class due to the age of the child soldier and the immediacy of the war in Afghanistan for our society today. Given that he has some students who are struggling readers, this visual and audio approach ensured that all students could participate in the resulting classroom discussion. The class discussion provided an opportunity for his students to explore their own beliefs and values on this controversial topic.

The teacher believes that the use of the Gale resources resulted in not only a better class discussion but also significantly increased student engagement in the topic. It was noteworthy that many of the students in the focus groups and in casual classroom conversations with the research team specifically remembered that lesson and the use of the Gale resources as being especially effective even months later.

Gale Resources Support Project-Based Learning

During the school year, several teachers undertook innovative class projects and leveraged the Gale resources to support student research. Analysis of the specific Gale products used to support those projects (both by students and teachers) demonstrated a significant increase over usage in that same time frame for the previous school year.

Students in one of the Biology classes were required to submit a science fair project that was due at the end of October. Both the teacher and the students used *Global Issues in Context* to support their research for the science projects. Correspondingly, the usage of that resource across all three indices—searches, retrievals, and sessions— was higher in September and October 2011 than in the same months of the previous school year (Figure 5). As a result of providing students with a framework for using *Global Issues in Context* and a tangible goal of their effective usage, the number of retrievals increased by 66 percent over the casual usage in fall 2010, and the number of searches increased by almost 200 percent.

Figure 5: *Global Issues in Context* Usage at McKinley — September and October
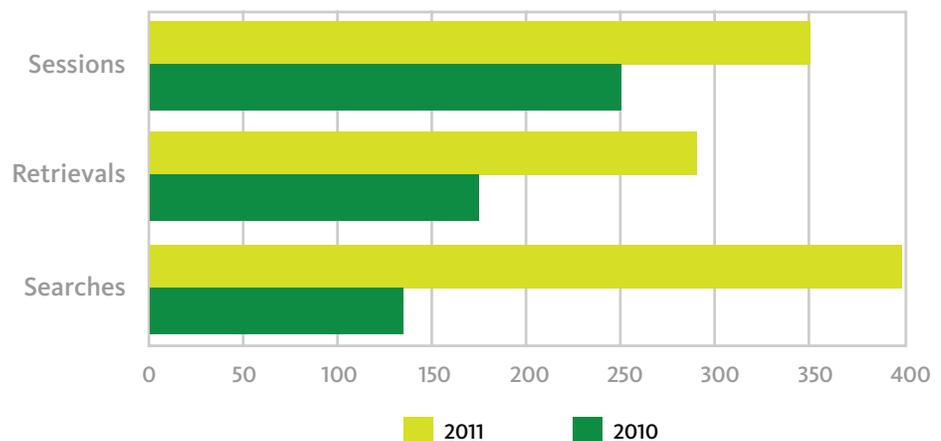
The teacher in this example was new to the study project this school year. Her motivation for providing her students with access to the Gale resources was to expose them to supplemental resources beyond the textbook and the other digital tools that she was already using in her classroom. But it also had to be easy to use! *Global Issues in Context* provided a real-world context to her students' study of key biology concepts and provided a way for her students to expand their understanding of the relevancy of the content. The easy access to the resources satisfied her need for personal productivity, and the credibility of the sources provided her with additional confidence in providing the assets for student use.

Gale Resources as a Classroom Tool: Lessons Learned

The implementation of the Gale resources as a classroom product was the explicit focus of this two-year study. However, the lessons learned through McKinley/ Gale Study Project extend beyond the pros and cons of using online databases in a classroom setting. In fact, these lessons can be enlightening when planning for any technology implementation where it is desired that the usage of the tool be seamlessly integrated into teacher practice and student instruction for maximum impact. The critical success factors from this study include the following:

- It takes time for teachers to assimilate a new instructional tool, especially one that is technology based, into their instructional practice. While value or benefits are important, the more important catalyst for supporting adoption is context. Project-based learning as exhibited in the year two results is an example of how to provide the scaffolding for that context.

- Whether used to support teachers' research for background information for lessons, or to provide a new way to engage students in learning, the use of digital content such as Gale resources cannot be a simple overlay on existing instructional practices. To fully realize the benefits of such innovative tools within learning, teachers must redesign their approach to classroom interactions with their students, starting from the ground floor. This effort takes both time and will to realize the benefits, but the sustainability of those benefits is much greater.

- Administrative support is essential for success. That support should include providing the technology infrastructure for adoption as well as allowing for teacher experimentation and trial-and-error with the tools. And it must include a transparent and explicit commitment to the implementation with meaningful constructs for evaluating the progress of the implementation.

- Rather than debate the efficacy of a top-down technology implementation approach (i.e., a few key mentor teachers and administrators lead the charge) versus a bottom-up plan (i.e., student usage and demand breeds teacher acceptance and then usage), a successful implementation should include elements of both strategies. The "hero teacher" model on its own is not sufficient, especially in a large high school, to create momentum for school-wide change, though it provides a test case for developing the educator value proposition. The student demand scenario is only valid if the decision-makers authentically value student input.

- Students have great ideas on the role and value of technology within learning, and how the use of technology tools such as Gale resources can prepare them for future college and career success. Including student perspectives, especially on the time and place for using such tools, should be incorporated into any implementation as standard practice. The student input will ensure that the relevancy and context of the tech-based learning opportunities are appropriate.

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