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INFORMATION SYSTEMS EDUCATION JOURNAL

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The Google Online Marketing Challenge: Real Clients, Real Money, Real Ads and Authentic Learning

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Abstract

Search marketing is the process of utilizing search engines to drive traffic to a Web site through both paid and unpaid efforts. One potential paid component of a search marketing strategy is the use of a pay-per-click (PPC) advertising campaign in which advertisers pay search engine hosts only when their advertisement is clicked. This paper describes a class exercise utilizing the Google Online Marketing Challenge (GOMC) to teach search marketing and PPC concepts. The GOMC is a global collegiate competition in which student teams utilize a $250 budget provided by Google to design, implement, and monitor a PPC campaign for an actual small business client. This paper argues that the GOMC is an effective exercise to teach search marketing and PPC terminology, skills, and techniques and demonstrates many of the characteristics present in authentic learning environments.

Keywords: Search marketing, pay-per-click advertising, search engine, authentic learning

1. INTRODUCTION

Search marketing is the process of gaining traffic and visibility from search engines through both paid and unpaid efforts (Sherman, 2006). Under search marketing, unpaid efforts generally fall under the category of Search Engine Optimization (SEO). Individuals and organizations alike apply both onsite and offsite SEO techniques in an effort to have their site display high within the search engine results pages for certain desirable keywords (Sullivan, 2010). Normally, SEO techniques alone are not sufficient to provide the requisite visibility within search engines and are often augmented with paid search marketing campaigns. Paid efforts within search marketing generally follow a form of advertising known as pay-per-click (PPC) advertising. This form of advertising, also commonly referred to as cost-per-click (CPC) advertising, is an internet-based advertising model in which advertisers pay online hosts, typically but not exclusively, search engines, only when their advertisement is clicked by a potential customer (Sullivan, 2010). One of the most successful and widely used pay-per-click search marketing programs in the world is Google's Adwords (Kiss, 2010). In 2012 alone, Google generated over $43 billion globally in advertising revenue primarily from its Adwords program (Google, 2013a). Utilizing the Adwords program, advertisers create simple text-based ads that then appear beside Google search results or beside web content on the thousands of Google partner websites that comprise the Google Network (Google, 2013a).

Since 2008, Google has sponsored the annual Google Online Marketing Challenge (GOMC) to provide collegiate students real-life experience designing and implementing an online PPC advertising campaign using its Google Adwords

product for an actual business client. This program has proved to be very popular. According to Google, since the inception of the program "over 50,000 students and professors from almost 100 countries have participated in the past 5 years" (Google 2013b). The nature of the GOMC makes it well-suited for an authentic learning assignment in which the learning environment is similar to a real-world application and produces a product that is "valuable in its own right" (Lombardi, 2007, p.4).

This paper describes the use of the GOMC as a course-embedded authentic learning exercise to teach search marketing and specifically PPC advertising. Over the course of 6 weeks of a semester, students enrolled in an undergraduate e-commerce and e-marketing elective course offered at a small liberal arts university worked in groups through the GOMC to implement an Adwords campaign for four separate small business clients. This paper describes the assignment, the learning outcomes achieved, and lessons learned through the process.

2. SEARCH MARKETING IN THE IS CURRICULUM

The use of search marketing has continued to increase among organizations attempting to get their products and services noticed by a market that is continuing to spend more time online. According to Search Engine Marketing Professional's (SEMPO) Annual State of Search Survey 2012, the compound annual growth rate for search marketing in North America since 2004 is a staggering 26% with revenue exceeding $17 billion annually. Further, approximately 86% of this spending is through the use of pay-per-click advertising campaigns (SEMPO Institute, 2012).

While industry has embraced search marketing and pay-per-click advertising as an effective mechanism, the teaching of the concepts at the university-levels appears to lag. A survey of programs conducted by McCown (2010) showed that while courses covering search concepts were becoming more prevalent within the curriculum of computer science and management information systems programs, the search courses tended to focus on search algorithms, search information retrieval, and search architecture.

Search marketing is also not explicitly listed as a topic within IS 2010: Curriculum Guidelines for Undergraduate Degree Programs which serves as a model for the curriculum of many information systems undergraduate programs (Topi, Valacich, Wright, Kaiser, Nunamaker, Sipior, & deVreede, 2010). Nevertheless, there are several references within the model curriculum which may provide evidence to its usefulness as a topic within an information systems program. The foundational course of the curriculum, IS 2010.1 - Foundation of Information Systems, suggests the inclusion of Web 2.0 topics, specifically citing other internet-based marketing techniques such as crowd-sourcing and viral marketing. Further, the suggested elective course, IS Innovation and New Technologies, in the model curriculum recommends the inclusion of a module understanding the search space including search monetization and the strategic importance of search to organizations (Topi et al., 2010).

As well, other educators have noted the growing importance of search marketing concepts and have successfully integrated various learning exercises into their courses. Frydenberg and Miko (2011) embedded a hands-on SEO contest in both an introductory-level and upper-level information systems course to teach search marketing concepts. During the first year of the GOMC, the GOMC was integrated into an MBA-level Management Information Systems course the researchers concluded that it was an effective tool in teaching search and search marketing concepts (Rosso, McClelland, Jansen & Fleming, 2009). Since that original competition, the GOMC has matured and Google offers additional educational resources that wrap-around the GOMC. Namely, Google now offers an asynchronous digital marketing course. In both of these studies, student feedback showed that the hands-on, real-life nature of projects stimulated student interest in technology and marketing (Rosso et al., 2009; Frydenberg & Miko, 2011).

According to Connolly (2009) search engines are now the main portal into most public Web sites and it is increasingly important that students learn how search engines work and how sponsored link systems such as Google's function. Given the importance and continuing growth of search marketing and in particular, PPC advertising within industry, the skills of designing and implementing an effective PPC campaign would appear to be valuable for students to acquire.

Further, the highly-applied nature of the GOMC, designed to supply students hands-on experience working with actual small business clients utilizing the industry-leading PPC program, seems to fit a model of learning known as authentic learning. Under authentic learning exercises, students work on open-ended, applied projects that result in the creation of a tangible real-world product (Lombardi, 2007; Lavin, 2010; Reeves, Herrington, & Oliver, 2002). Several researchers have found authentic learning to be an effective pedagogy in which learners not only enjoy the applied process but gain a deeper, more individual understanding of the material (Herrington, Reeves, & Oliver, 2006) Ramsden, 1992; Watagodakumbura, 2013). Given the practical, real-world nature of the GOMC and the importance of SEM in the curriculum, the following research questions emerged:

- How is participating in the GOMC an authentic learning experience?
- How does participating in the GOMC impact student learning about search marketing and PPC advertising as part of an organizational strategy?
- How does participating in the GOMC impact student confidence in their ability to effectively design, implement, and manage a PPC advertising campaign?
- How does participating in an authentic learning assignment with real clients impact student's enjoyment of learning search marketing and PPC advertising?

3. IMPLEMENTATION OF THE GOOGLE ONLINE MARKETING CHALLENGE

Since 2008, Google has sponsored the Google Online Marketing Challenge (GOMC) to provide students an opportunity to learn search marketing, particularly pay-per-click advertising in a real-life, hands-on environment. While the challenge has grown since its original offering to include more educational resources for the students and optional competitive social media and non-profit impact components, the core of the challenge has remained the same (Google, 2013b).

Student teams of three to six students are provided a $250 Google Adwords credit to develop and implement a three-week, pay-per-click advertising campaign for a small business client of their choosing. Student teams are required to submit two reports as part of the challenge. A pre-campaign report, submitted prior to the running of the campaign, provides an overview of the selected small business client and details regarding the Adwords campaign strategy designed by the students. The post-campaign report, submitted after the three-week campaign concludes, requires students to reflect on the effectiveness of the campaign, the learning aspect of the challenge, and lessons learned including future recommendations for the client (Google, 2013b).

After the conclusion of the campaign and the submission of the post-campaign report, student teams are then judged on three components. Statistics generated as part of the campaign including impressions, clicks, and click-through-rate are automatically assessed by Google. The structure and design of the campaign are examined by Google employees to determine if the student teams followed best practices. Finally, an academic panel of experts examines the campaign reports submitted by the student teams for evidence of learning and the overall clarity and readability of the reports. While student teams competing in the GOMC must have a professor as a team sponsor, the implementation of the challenge is fairly open as students can be from any major and the challenge itself does not have to be embedded in a course or an academic club (Google, 2013b).

This paper describes the implementation of the GOMC as a course-embedded exercise within an elective e-commerce and e-marketing course at a small liberal-arts based university. Further, this paper examines attributes of the GOMC as an authentic learning environment and perceptions of students about the exercise.

Prior to the exercise, all students in the course were given a survey which asked them to rate their knowledge of terminology, skills, and techniques associated with search marketing and pay-per-click advertising. As well, each student reported their confidence level in their ability to design and implement a pay-per-click advertising campaign. The students in the course were provided two 50-minute lectures explaining the growing importance of search marketing and a review of both search engine optimization and pay-per-click marketing theory, terminology, tools, and techniques within the context of a broader marketing strategy.

The eighteen students enrolled in the course were then randomly assigned to one of four

GOMC teams (2 teams of 5 students and 2 teams of 4 students). Each team was then randomly assigned a GOMC client. Clients for the GOMC were recruited through the regional, state-funded small business development center which provides free consulting to new and existing small businesses. Four separate clients were recruited through this method. The clients included: a company that had developed and wanted to market an ink-saving font, a regional waste disposal business, a manufacturer of a sports training aid, and a regional structural engineering firm. The diversity of the clients and their unique marketing goals insured student teams would be developing unique campaigns as a solution for their client.

The professor then introduced the GOMC as a required course assignment providing the three-week window for the campaign which was to begin two weeks from the introduction of the assignment. Students did not receive any specific instruction on the use of Google Adwords. Instead, the instructor directed student teams to the educational resources provided by Google and available through the student dashboard.

To gather the initial information required to design the campaign and complete the pre-campaign report, student teams utilized two separate methods. Every team designed its own questionnaire which was sent to the client for completion. An example of a questionnaire produced by one student team can be found in the Appendix of this paper. The questionnaires were designed to gather basic client background information such as company name, location, website url, years in existence, and number of employees. As well, each team set up a face-to-face meetings with its client. These meetings were used to discuss the GOMC itself, explain the purpose of Google Adwords, and for the students to gain an understanding of their client's specific marketing goals and strategy. These meetings allowed teams to design some of the more detailed components of the campaign including: establishing ad groups to target various markets, selecting keywords and key phrases, and determining geotargeting and bidding options for the campaign.
Using the information gathered, student teams worked to build the campaign on the Google Adwords platform. During this same timeframe, student teams documented all of this within the pre-campaign reports which were uploaded to the GOMC student dashboard, an online portal Google provides. Once the pre-campaign reports were uploaded, Google credited the Adwords accounts with the $250 that funded the three-week campaigns. At this point, campaigns were built and were ready to be activated but were paused until the instructor-provided campaign start date.

During the three-week campaign period, student teams monitored campaign performance by analyzing impressions, click-through rates and ad positioning for various keywords and keyword phrases. As a result of this analysis, student teams were encouraged to make changes to the campaign which included pruning non-performing ads, tailoring ads, altering bidding options, and adding and deleting keywords and keyword phrases. Every Friday during the three-week campaign period, each student team was required to give an oral report in class on the performance of the campaign and to explain any modifications that they had made or were planning on making to the campaign. These oral reports provided both the professor and the other students in the class the opportunity to make suggestions for each team and also provided an additional learning opportunity for the students.

At the conclusion of the campaign, student teams worked to complete the post-campaign report. The post-campaign report is a reflective exercise with two major sections: the industry component and the learning component. The industry component of the post-campaign report serves as an analysis of the effectiveness of the campaign in the context of the marketing goals of the client. This section details all of the measureable outcomes of the campaign including: impressions, clicks, click-through rate, average cost-per-click, and overall performance of the various ads and keyword phrases (Google, 2013b). This information is gathered through the use of the Google Adwords program.

Figure 3 in the Appendix shows overall metrics for the Adwords campaign for the student team that was working with the client who had developed an ink-saving font. The figure shows that this particular student-developed campaign generated 211,158 ad impressions which led to 580 "click throughs" for a click-through-rate of .26%. While the overall click-through-rate of .26% is low, it can be used to relatively assess the performance of each ad group. As can be seen from the metrics, the "saving money printing" ad group outperformed the others

significantly. The total cost of these clicks was $293.98. The metrics also indicate that the average position of these displayed ads was position 2.3. Figure 4 displays similar metrics for the same campaign for a specific ad group under the campaign that was targeting customers interested in printing software. Along with requiring students to report all of the major campaign metrics, the industry section of the post-campaign report also forces student to critically analyze the performance and evolution of the campaign noting lessons learned throughout the campaign.

As they completed the learning component of the post-campaign report, student teams documented the learning that they perceived they gained from the challenge. As well, students were asked to elaborate on the interpersonal aspects of the campaign including the dynamics of the team and the relationship with their client. Each student team uploaded their post-campaign report to the GOMC student dashboard. Student teams also sent this report to their client along with a note of thanks for participating in the GOMC.

At the conclusion of the assignment, students were administered a second instructor-designed survey asking them to again rate their knowledge of terminology, skills, and techniques associated with search marketing and pay-per-click advertising. Additionally, the student answered questions on the survey about the nature of the GOMC assignment itself as a learning experience. To answer the research questions formulated earlier, the two instructor-designed surveys and the characteristics of the assignment itself were analyzed.

4. THE GOOGLE ONLINE MARKETING CHALLENGE AS AN AUTHENTIC LEARNING EXPERIENCE

A general preference for learning-by-doing is often expressed by students (Lombardi, 2007; Lavin, 2010). As well, the IS 2010 model curriculum recommends teams projects with actual clients using applications packages as a way to teach IS skills and demonstrate applied learning (Topi et al., 2010). The Google Online Marketing Challenge is a competitive program in which participating students design and implement a pay-per-click advertising campaign for an actual client. The exercise has real-world relevance, provides for collaboration and a diversity of competing solutions, and culminates in the creation of a product that has worth in its own right. These are some of the characteristics of a model of learning-by-doing termed "authentic learning" (Reeves, Herrington, & Oliver, 2002).

Lombardi (2007) describes authentic learning experiences as those that focus on "real-world, complex problems and their solutions" (p. 2). They are inherently multidisciplinary and can be applied to any subject matter. Reeves, Herrington, and Oliver (2002) provide 10 design characteristics that provide the framework for authentic learning activities. While Table 1 in the Appendix lists each of these characteristics and how each is manifest in the GOMC, there are core elements of authentic learning exercises that were explicitly observable in this implementation of the GOMC.

First, the primary tenet of authentic learning is that it involves real-world relevance and "matches the real-world tasks of professionals in practice as nearly as possible" (Lombardi, 2007, p. 3).

The nature of the GOMC seems to demonstrate this real-world characteristic. Students performed a task for their client, the development and implementation of a pay-per-click advertising campaign using Google Adwords. This type of service is readily performed by vendors and business professionals alike. Further, students themselves were well aware that they were learning a skill that is needed in industry. Every student in the class reported on the post-assignment survey that they either "agreed" or "strongly agreed" with the statement that the GOMC was relative to the real-world. One student remarked in the comments section of the survey:

> I thought it was great to work with a group on a business project which I felt went closely along with something we could possibly have to do after college. I also feel confident now that I could successfully do this for a client (Anonymous, GOMC Post-Assignment Survey, April 24, 2012).

Second, authentic learning experiences are based on open-ended problems that require sustained investigation, collaboration, and allow for multiple perspectives and alternate solutions (Reeves et al., 2002). As noted earlier, the GOMC required student teams to meet with their clients to understand their marketing strategy

and goals prior to the development of a pay-per-click advertising campaign. While the campaign itself only ran for three weeks, the formulation of a strategy and the creation of the reflective post-campaign report extended the total duration of the exercise to 6 weeks.

Since each client was very different in nature, each campaign was also necessarily open and unique as student teams attempted to design campaigns matching the goals of their client. On the post-assignment survey, students indicated that the assignment provided ample opportunity for teamwork and collaboration. The post-assignment survey revealed that 89% of the students felt that the GOMC allowed for collaboration and provided the flexibility and openness for the group to formulate a unique solution for their client. One student stated:

> I learned that teamwork is key and that one member's input can make a big change in the campaign and its results for our client (Anonymous, GOMC Post-Assignment Survey, April 24, 2012).

Last, authentic learning activities terminate in the "creation of a whole product, valuable in its own right" (Lombardi, 2007, p. 4) Further, this creation of a product allows assessment to be integrated seamlessly into the task as it reflects real-world evaluation processes.

As noted earlier, the design and implementation of the Adwords campaign utilizing the $250 budget provided by Google was a useful service for the students' clients. The professor assessed the performance of student teams by examining the pre- and post-campaign reports required in the GOMC. The campaign reports documented the actual results of the student-designed campaigns including impressions and clicks generated through the campaign. This information was not only used for assessment by the professor but was also a useful mechanism for the client as it directly demonstrated the results of the campaign in the context of the client's unique marketing goals.

Cleary, the applied nature of the GOMC where student teams utilize the industry-leading pay-per-click advertising program to design a live, $250 ad campaign for an actual client makes it ideally suited to be an authentic learning experience. The characteristics of the GOMC that align with authentic learning experiences are further enforced by student data and comments which indicated that they perceived the assignment to closely emulate a real-world task performed by professionals in the field.

5. LEARNING, CONFIDENCE, AND ENJOYMENT

Obviously, the primary measure of success for any course exercise is the amount of knowledge and skills gained by the participating students. The evidence suggests that this implementation of the GOMC was successful in this regard as the data indicated students' perception of their own knowledge and confidence level with search marketing and pay-per-click advertising improved through the application of this exercise.

Prior to the exercise student were asked to rate their level of agreement with the statement "I am familiar with and understand the basic terms associated with search marketing and pay-per-click advertising campaign" on a 5-point Likert scale. Prior to the exercise, 17% of students "agreed" or "strongly agreed" with this statement. After the GOMC exercise, this measure improved significantly to 89%. As well comments received from students generally supported the GOMC as a useful learning tool. One student remarked:

> Everything we did was new to me. I learned a lot about the terms associated with pay-per-click campaigns that professional use (Anonymous, GOMC Post-Assignment Survey, April 24, 2012).

Students were also asked to report their level of agreement with the statement, "I am familiar and understand the techniques and processes used to design, implement, and monitor a successful pay-per-click campaign." The percentage of students indicating agreement with the statement increased dramatically from 6%, or 1 of the 18 students, to 94%, or all but 1 of the 18 students. Figure 1 shows student perception of their knowledge and understanding of search marketing and PPC advertising before and after the exercise, demonstrating a perception of learning.

Figure 1. Familiarity and understanding of search marketing and PPC before and after the GOMC exercise. This figure demonstrates the change in students' perceptions of their knowledge level before and after the exercise.

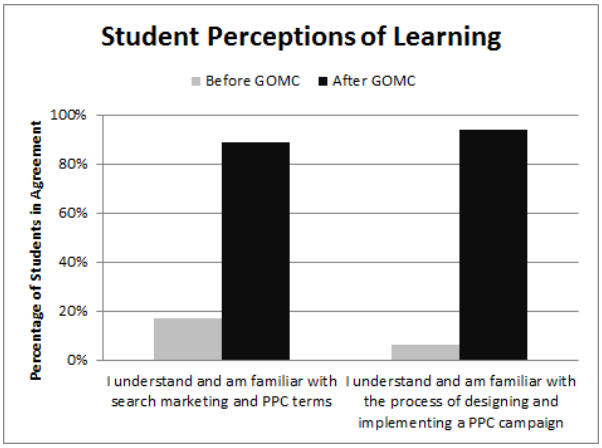

Figure 1

Not surprisingly, the learning that was evidenced after the campaign also instilled a sense of confidence in the students to use this knowledge in a professional environment beyond the classroom. The percentage of students who rated themselves as either "confident" or "very confident" in their own ability to design and implement a pay-per-click campaign for an actual client increased from 11% to 89% of the class (See Figure 2). One student said:

> I wasn't too sure how to design and implement a pay-per-click search engine, but from what I learned, I could do it now. Once I became more familiar with it, it was interesting to see just how well we made improvements each day (Anonymous, GOMC Post-Assignment Survey, April 24, 2012).

In fact, another student in the class planned to immediately put his or her new found skills to work:

> I learned how to utilize a pay-per-click program as part of a marketing effort. I am glad I did because I plan on using it for a non-profit foundation that I work with in the very near future to help them get traffic to their site and get some much needed donations (Anonymous, GOMC Post-Assignment Survey, April 24, 2012).

Figure 2. Student confidence level in implementing a PPC campaign before and after the GOMC exercise. This figure demonstrates the change in students' confidence level in implementing a PPC campaign before and after the exercise.

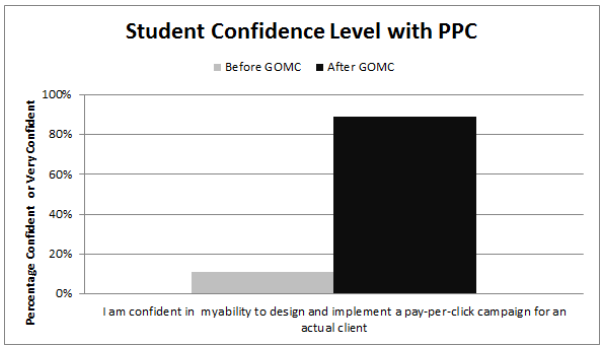

Figure 2

As noted earlier, the instructor only provided two 50-minute lectures explaining search marketing and pay-per-click marketing theory, terminology, tools, and techniques within the context of a broader marketing strategy. The instructor however did not provide any hands-on instruction on the use of Google Adwords or designing and implementing a PPC campaign. Therefore, the instructor believes that the gains in knowledge and confidence in designing and implementing PPC campaigns can be attributed to participating in the GOMC exercise itself.

Further, students seemed to enjoy the applied nature of the GOMC. Supporting the claim of proponents of authentic learning exercises, every student in the class either "agreed" or "strongly agreed" with the statement that they enjoyed the assignment. As well, 89% of the class reported being proud or very proud of the work they completed for their client. One student stated on the post-assignment survey:

> What I liked the best was working with a client and trying to help him with his product instead of completing a made-up case study. I felt I learned how to conduct business professionally with an actual businessperson (Anonymous, GOMC Post-Assignment Survey, April 24, 2012).

As a result of the GOMC exercise, student learning seemed to go beyond just learning the terms and theory of search marketing and PPC. The GOMC as an authentic learning exercise placed student teams in the role of business professionals implementing a solution for an actual client. The results of this highly-applied exercise showed that students perceived a high level of learning, gained confidence in designing and implementing a PPC campaign, and enjoyed the experience.

6. CONCLUSION AND LESSONS LEARNED

Search marketing and pay-per-click advertising are relevant topics for information systems and marketing students alike. Students see the value of pay-per-click advertising as part of a larger marketing strategy for organizations. The Google Online Marketing Challenge is a viable tool to provide students an authentic learning experience applied to learning search marketing and PPC terminology, skills, and techniques.

Additionally, the GOMC provides students the opportunity to work with real clients, real money, and the industry-leading PPC program, Google Adwords. The nature of the GOMC also provides students the chance to hone their teamwork and interpersonal skills as they work together to meet the needs of an actual client.

While the instructor was satisfied with the outcomes of this assignment, there are some aspects of the assignment that he would change in the future. The instructor of the course designed the exercise over a six-week period of the course with two weeks reserved to gather information from clients, design the campaign, and write the pre-campaign report; three weeks for the actual campaign; and one week allotted for the creation and submission of the post-campaign report. While the three-week timeframe for the campaign is prescribed by Google and the one week allotted to write the post-campaign report seemed appropriate, the first two weeks seemed rushed as students struggled to both learn the Adwords program and to meet with their clients. In retrospect, the instructor would have allotted more time for this portion of the assignment.

Additionally while the student teams sent the post-campaign report to each of their clients, both the clients and students themselves expressed a desire for a final face-to-face meeting to discuss campaign results and to perhaps transition the Adwords campaign to the client. The implementation of this suggestion would be a valuable addition to future iterations of this exercise.

The GOMC has matured greatly since its first offering in 2008. One of the newer features of the GOMC that was not utilized for this exercise is a client center that allows professors to oversee the active campaigns of students participating in the GOMC. Using this feature could prove very useful to monitoring team progress (Google, 2013b). Although the GOMC is now in its sixth year, educators must also be aware that utilizing it as an authentic learning exercise inherently places an external dependency in the course as there is no guarantee that Google will continue to offer future iterations of the GOMC.

Google has also increased the educational resources surrounding the GOMC. Google now offers a free, online, asynchronous digital marketing course. This course contains nine separate modules including modules on search marketing and the use of Google Adwords. After the completion of this course, Google recommends students take the Google Adwords Certified exams which when passed earn students the Google Adwords Certification. According to Google, this certification The Google AdWords Certification is "a globally recognized stamp of approval which showcases your knowledge of the latest AdWords tools and best practices as well as your ability to effectively manage AdWords campaigns" (Google, 2013b). Earning this certification could be a differentiating factor for students hoping to enter the search marketing field.

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Appendix

GOMC Client Survey

Please complete as much of this survey as you can and e-mail to XXXXXXXX. Thank you.

1. So that we have a brief profile of your organization, please provide the following information (if there is confidential information that you do not want to provide, please indicate that):

   - Contact Name, e-mail, phone number
   - Organization Name, brief profile
   - Sales and number of employees
   - Goods and services offered
   - Age of the company
   - url, website age, website management
   - Company presence and sales via online and offline channels
   - Other relevant information

2. So that we have a brief profile of the market in which you compete, please provide the following information:

   - Current and potential competitors
   - Overview of the industry (key characteristics, competitive/saturated/mature)
   -- Market position/specialties
   - Unique selling points of the goods/services offered
   - Seasonality of goods/services or seasonality that the company has identified
   - Other relevant market information

3. So that we have an understanding of your current marketing, please provide the following information:
   - What kind of current marketing do you perform to promote your business?

4. What kind of "keywords" or "keyphrases" would your potential use or type into a search engine that you would want to be associated with your website. Please list as many as you can think of.

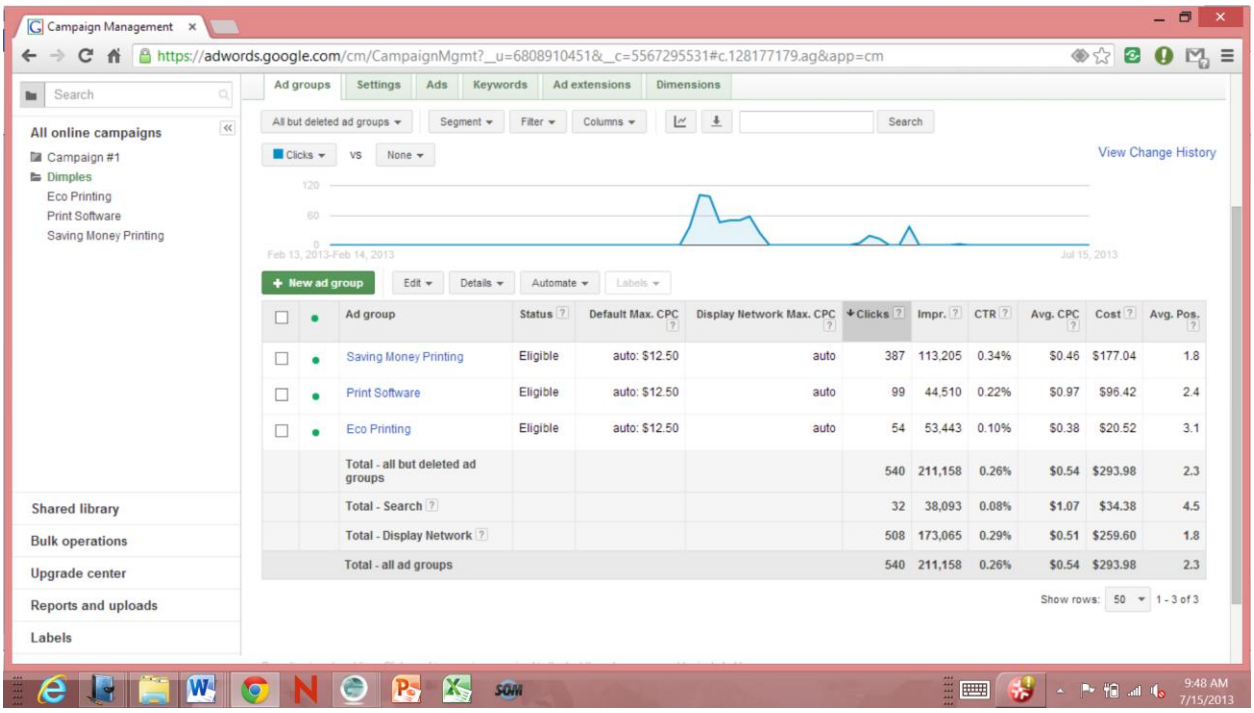

Figure 3. Google Adwords Campaign Metrics for a GOMC Campaign. This figure displays metrics from Google Adwords for one of the clients that participated in the exercise.

The figure above indicates that this particular campaign generated 211,158 ad impressions which led to 580 "click throughs" for a click-through-rate of .26%. This is an overall satisfactory rate however as can be seen from the metrics, the "saving money printing" ad group outperformed the others significantly. The total cost of these clicks was $293.98. The metrics also indicate that the average position of these displayed ads was position 2.3.

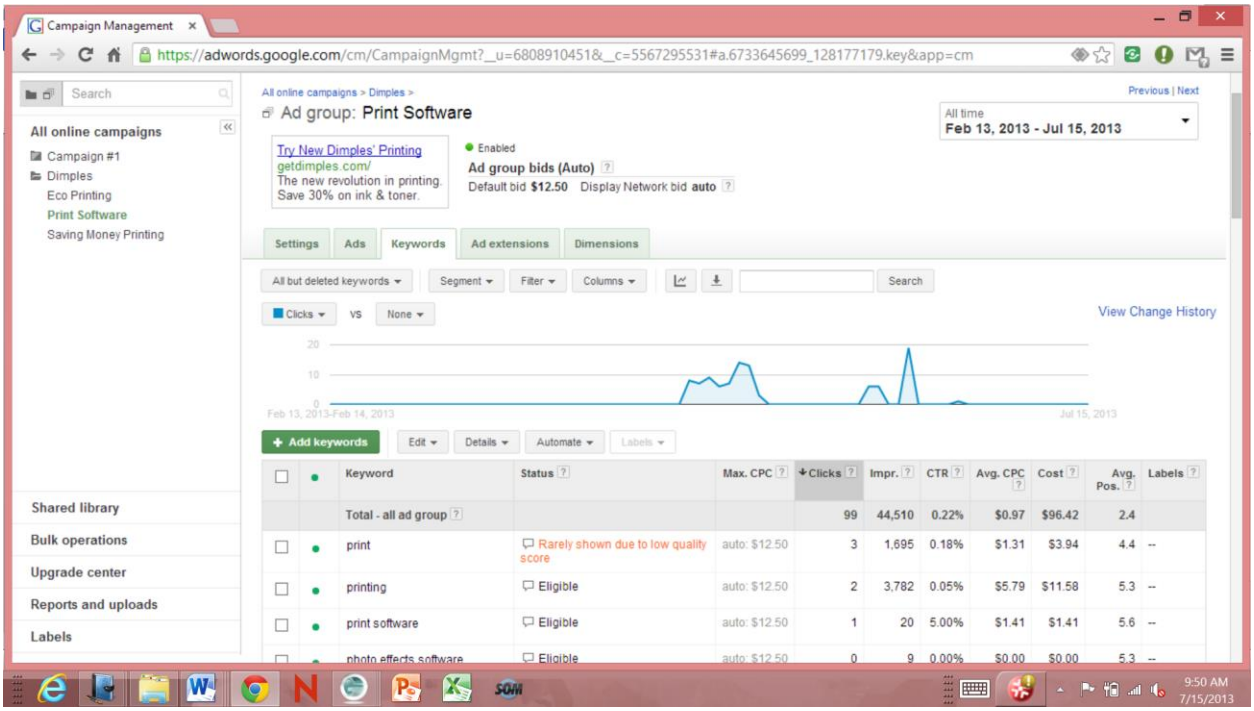

Figure 4. Ad Group Performance. This figure displays performance metrics from Google Adwords for a particular Ad Group for one of the clients that participated in the exercise.

The figure displays ad group level metrics for the campaign referenced in Figure 4. Specifically, this figure displays keyword metrics for the ad group "Print Software".

AUTHENTIC LEARNING CHARACTERISTIC	MANIFEST IN THE GOMC ASSIGNMENT
Problem has real-world relevance	Students research, design, and implement a live PPC advertising campaign for an actual small business client utilizing a $250 credit provided through the GOMC.
Problem is open-ended	While all student teams implement a PPC campaign using Google Adwords, student teams were each assigned unique clients. The uniqueness of each client and their marketing needs challenged each student team to design, implement, monitor, and improve a distinct campaign utilizing different approaches, ad groups, geo-targeting, and keyword targeting.
Task to be investigated over a sustained period of time	A requirement of the GOMC is that campaigns last no longer than three consecutive weeks. However, student teams are tasked with interviewing clients and determining the needs of their client before designing the campaign. These efforts were structured over 5-weeks of a semester.
Allow for exploring a task from different perspectives	The students participating in this exercise were from various majors with about half of the team members having technical majors of either management information systems or computer science while the other half were either management or marketing majors. This resulted in a different focus as students collaborated on designing, implementing, and monitoring PPC campaigns for their clients.
Provide for Collaboration	Students worked together in teams of 4 to 5 to complete the assignment. Students were required to use Google Docs and Apps (Google Drive) to collaborate on the pre-campaign and post-campaign report deliverables. As well, students met with clients in a group setting and collaborated on the design of the campaign in structured time within the classroom.
Provide an opportunity to reflect on the experience	The design of the GOMC requires student to monitor the performance of the campaign that they have designed and to tweak parameters if it is not meeting goals. As well, the GOMC requires the creation of a post-campaign report which asks student to reflect on the strengths and weaknesses of their campaign.
Activities encourage interdisciplinary perspectives and diverse roles of participants	In order to complete the GOMC assignment, student teams were required to complete various tasks including understanding the marketing needs of their client, learning the Google Adwords system, and designing an effective campaign. These tasks required different skills sets including the ability to communicate with the client, the ability to synthesize information, and the creativity to design effective ads and an effective campaign utilizing a structured information system. Students gravitated toward various roles on the exercise and applied different lenses and perspectives in completing the exercise.
Seamlessly integrate with assessment	Students were graded based on the effectiveness of their campaign and the quality of the GOMC-required pre-campaign and post-campaign reports.
Create polished products in their own right	Students created a live PPC advertising campaign using Google Adwords for actual small business clients. Clients received the benefit of a $250 Google Adwords advertising credit and the work associated with designing, implementing, and maintaining a PPC advertising campaign. This type of a work is a service that is readily available for a fee through third-party vendors. The actual product of this exercise however may be the learning the student experienced by participating in the challenge.
Allow competing solutions and a diversity of outcomes	Students designed PPC campaigns that utilized various ads for their clients. Students monitored the results for each of these ads including their click-through-rates. Ads which received lower click-through-rates were pruned.

Table 1. *The GOMC and Authentic Learning Characteristics*