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The Google Online Marketing Challenge and Research Opportunities

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Abstract

The Google Online Marketing Challenge is an ongoing collaboration between Google and academics, in order to give students experiential learning. The Challenge gives student teams $US200 in AdWords, Google's flagship advertising product, to develop online marketing campaigns for actual businesses. The end result is an engaging in-class exercise that provides students and professors with an exciting and pedagogically rigorous competition. Results from surveys at the end of the Challenge reveal positive appraisals from the three – students, businesses and professors – main constituents, general agreement between students and instructors regarding learning outcomes, and a few points of difference between students and instructors. In addition to describing the Challenge and its outcomes, this paper reviews the post-participation questionnaires and subsequent datasets. The questionnaires and results are publicly available, and this paper invites educators to mine the datasets, share their results and offer suggestions for future iterations of the Challenge.

Introduction

In 2008 Google launched the Google Online Marketing Challenge (hereinafter Challenge), a global student competition. The Challenge attracted over eight thousand students along with 339 instructors and 1619 businesses from 47 countries. In teams of four to six, the students crafted and ran three-week online marketing campaigns for real businesses, using real advertisements that represented real money. Furthermore, students could access near real time reports on the web-based advertisements they created.

To improve the logistical and pedagogical aspects of the Challenge, as well as spur research of online marketing and student learning, Google distributed post-exercise questionnaires to all Challenge

participant groups – students, professors and businesses. The survey datasets, as well as other online marketing, teaching and learning resources are available at the Challenge Research Center (www.google.com/onlinechallenge/research.html). Via the Challenge, Google envisions ongoing academic collaboration to encourage research of teaching, learning and online marketing. This paper, an early step in the partnership, describes the inaugural Challenge and Challenge datasets for academic use. In addition, the paper investigates an overarching question. Was the Challenge a successful collaborative teaching and learning tool for students, professors and businesses?

This study begins with a brief overview of the Challenge origins and its goal of collaboration among businesses, students, Google and academics, particularly the last two stakeholders. This section also briefly describes AdWords and its role in the Challenge, before reviewing the logistics of the Challenge and the role of experiential learning in the Challenge. Next, the paper explains the development and administration of three questionnaires for participating students, professors and businesses, and subsequent data cleaning of their responses. After a cursory overview of key responses, the manuscript compares and discusses business, student and professor responses. The paper closes with a few ideas for future research using the datasets and a call for future collaboration.

Evolution of the Challenge

The Challenge began in early March 2007. A Google employee and his former professor discussed giving students a real-world experiential online marketing exercise, which aligned with a growing shift in university education, away from instruction and toward learning. The Learning Paradigm argues that "students must be active discoverers and constructors of their own knowledge" (Barr & Tagg, 1995, p. 21). To help decide whether students participating in the Challenge should work individually or in groups, among other things, the originators noted the standards set by the Association to Advance Collegiate Schools of Business (AACSB). When accrediting business schools, the AACSB seeks evidence of professors encouraging collaboration among students – Standard 13 – and students learning from each other – Standard 14 (AACSB, 2008). The practitioner and academic envisioned the Challenge as a fun and exciting competition that helped students learn experientially, working in groups with real clients and spending real money.

The two originators, and a small team of Google employees and academics, kept these goals in mind and developed a basic framework of student experiential learning via AdWords. Google's flagship product, AdWords, lets advertisers display relevant and targeted text ads above and alongside Google search results. Google separates organic search results from ads for user distinction, labeling these as 'Sponsored

Links'. Figure 1 shows the results of a Google search for 'hand delivered flowers', with relevant AdWords advertisements above and to the right of the search results. Advertisers design AdWords ads to target user interests, choosing search keywords and phrases that relate to their website or products. When a user enters the same or similar keywords into a Google search, the advertiser's ads are eligible for display.

Figure 1: Sponsored Links Appear Above and to the Right of Organic Search Results

In addition to search results, Google displays AdWords ads on millions of partner websites, such as the New York Times newspaper (www.nytimes.com) and Edmunds car-buying guide (www.edmunds.com), in over 100 countries and 20 languages. Visitors to these sites see ads related to the web page content. Figure 2 shows relevant AdWords ads appearing on the content network, in this case a web page on www.bobvilla.com, a website for home improvement advice.

Figure 2: Sponsored Ads on the Content Network
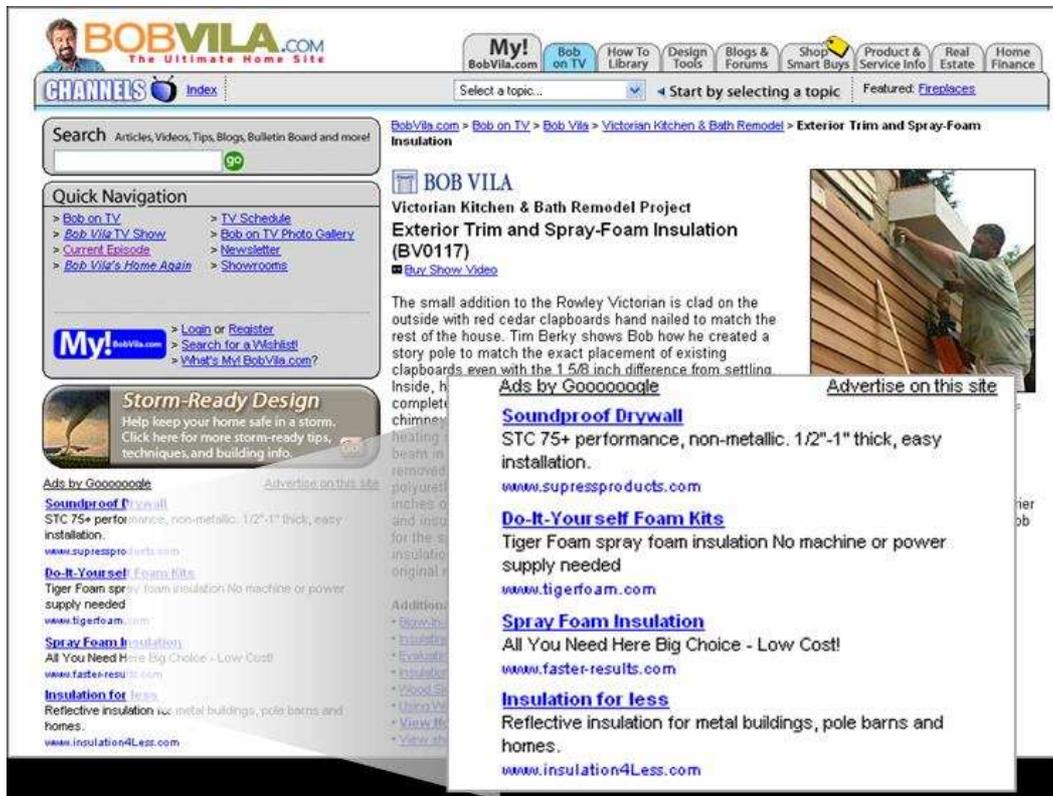
Both models, displaying AdWords on search queries or partner websites, are usually a cost per click (CPC) model; advertisers pay only when a visitor clicks on an ad. Advertisers can tweak the placement of their ad based mainly on two factors, the ad's relevance and the maximum CPC bid. The more relevant the ad and the higher the CPC bid, the better the ad's position toward the top of a list of ads. Advertisers can set when their ads run such as during business hours or on weekdays, and where their ads run such as in designated cities, countries or regions. The Challenge model that progressed had student groups construct ads for businesses that they recruited.

A key decision by the small cabal of academics and Googlers was to design the Challenge as an academic exercise and to target academics more than students or businesses. To construct a global competition, the developers recruited 14 academics from eight countries, each with a passion for and experience in online marketing. This Global Academic Panel (www.google.com/onlinechallenge/panel.html) helped manage academic aspects of the Challenge such as developing materials for students, instructors and businesses, and ultimately choosing regional and global winners.

Four test runs helped refine the Challenge logistics. Three beta tests of the Challenge concept were with an undergraduate class in Australia, an undergraduate class in Singapore and a graduate class in Australia. These test implementations led to myriad changes, particularly fine-tuning the instructional materials, integrating the student registration process with a pre-paid US dollar account and developing a proprietary algorithm for judging campaign performance. The final pre-test was an informal contest for bragging rights among the Global Academic Panelists and a few colleagues.

Concurrently with developing an academic guide and three student guides, and integrating these guides with a textbook, the panelists and Googlers developed the Challenge website (www.google.com/onlinechallenge), which went live on 2 November 2007. Once live, the panelists promoted the Challenge with colleagues and via academic listservs such as ELMAR, Trinet, ISWorld, EMMA and IFITT. Google employees invited former professors to participate and Google public relations promoted the Challenge in early January 2008. Registrations closed in late January 2008.

Challenge Logistics

Instructors registered their class at the Challenge website, indicating contact details and likely student numbers. Google then provided necessary materials to the instructor and sign-up information for the student teams. Once registered, the Challenge followed the steps in Figure 3. After the instructor divided the students into groups of four to six (groups of three to six in 2009), the groups recruited a client business. Based on their research of the business, its market and its competitors, teams developed an AdWords campaign for the business. Google provided each team with US$200 AdWords credit to spend during a three-week campaign. To accommodate class schedules across six continents, students could run their campaign for any three consecutive weeks between 10 February and 24 May 2008.

Figure 3, How the Challenge Works

Students spent their AdWords budget, bid for keywords and adjusted their campaigns based on monitoring near real-time reports. These reports included metrics such as the geographic location of visitors, number of clicks on each ad, impressions or the number of times Google displayed the ad on a

web page, the subsequent click-through rate for each ad, and the cost per click for each ad. Students chose to run their ads on Google search results and the Google content network (see Figures 1 and 2 earlier). It was entirely up to the students where they placed their ads and how much they spent on search results or the content network. Students competed for ad placement and position with online advertisers around the world, as well as with student groups – locally, regionally and globally. Google and the Academic Panel selected the winning teams on one quantitative and two qualitative aspects.

Students tended to spend the most time, and have the best time, during the live three-week campaign. Students often commented on the enjoyable and addictive nature of following their results. For example, "The real time reports made the whole experience very exciting" and "I found the reports that we could generate very helpful, so we used them to perfect our strategy during the campaign." One team captain summed the pleasant experience, saying:

> "I was surprised by two things: by how much time it took out of my schedule (I was the team captain.) and by how much I didn't mind that. I really loved this campaign. Extremely compelling. Do people really get paid to do this?! It's so much fun! Very addictive."

Apart from the fixed US$200 budget and three-week campaign, how students managed their Challenge experience depended on the business and student team. For example, some businesses worked with students to improve the website while other businesses did not want website recommendations, or had no idea how to change the website. Most businesses took an active interest in the campaign. A constant component for students in the Challenge was two written reports, explained later. For academics and students interested in participating in the Challenge, a recent article gives additional background on the Challenge as well as tips for being competitive (Jansen, Hudson, Hunter, Liu, & Murphy, 2008).

The Challenge quantitative evaluation component, Campaign Statistics, is a proprietary Google algorithm examining over 30 campaign factors across five broad areas: account structure, optimization techniques, account activity and reporting, performance and budget, and relevance. Google used the algorithm to select the top 50 teams in each of three regions (Americas, Europe, and Asia-Pacific) from the 1,619 participating teams. Then in a qualitative step, Google AdWords specialists used their expert judgment to trim these 150 teams to five teams per region, or 15 teams. Finally, in the second qualitative step the Academic Panel chose regional and global winners from these 15 teams, based solely on two written reports. Two panelists, whose teams made the final 15, abstained from all judging.

Student groups submitted two written reports, a <u>Pre-Campaign Strategy</u> and a <u>Post-Campaign Summary</u>, to Google and their client business. Most instructors assessed their students on these reports. The Pre-Campaign Strategy included a client overview and proposed online advertising strategy with target audience settings, keyword examples, advertising copy and projected success metrics. The Post-Campaign Summary incorporated an Industry component and a Learning component. In the former, teams focused on the campaign results and recommendations for their client. The Learning component had teams reflect on what they learned by covering learning objectives and outcomes, group dynamics and client dynamics. The logistics of the Challenge, and the pedagogy underpinning the learning component were in large part guided by Experiential Learning, a valuable knowledge transfer model (Armstrong & Anis, 2008; Petkus, 2000).

Experiential Learning

Experiential learning, as the name suggests, involves students experiencing a task or set of tasks, and ultimately learning from their actions. Many university educators have analyzed or incorporated experiential learning in areas such as Marketing (Bobbitt, Inks, Kemp, & Mayo, 2000; Munoz & Huser, 2008), Marketing Research (Bridges, 1999), Services Marketing (Gremler, Hoffman, Keaveney, & Wright, 2000), Economics (Hawtrey, 2007), Entrepreneurship and Retail Management (Daly, 2001), and community-based Service Learning (Andrews, 2007; Govekar & Rishi, 2007; Petkus, 2000). In addition to educators valuing experiential methods, students perceive applied, interactive and real-world oriented assignments as effective for learning (Karns, 2005).

Yet experiential learning has critics. Some argue that self-discovery techniques such as experiential learning, accompanied by little or no guided instruction, result in less effective outcomes for students than traditional instruction (Kirschner, Sweller, & Clark, 2006; Mayer, 2004). To help address these concerns, the Challenge provides an academic guide with learning objectives, tips for managing student teams, suggested milestones, student-grading criteria and more.

Experiential learning activities also provide opportunities for undesirable student behaviors such as recycling previous students' papers, overplaying a simulation repeatedly until the students wins, and free-riding in groups (Schibrowsky & Peltier, 1995). The Challenge logistics help deal with these issues. For example, reusing old papers is difficult; each student group works with a unique organization and in a unique group. Groups cannot overplay because the Challenge is a live competition, with a finite $US200 budget and finite three-week campaign. Being an engaging activity, and mandating a written reflective

component on group dynamics, helps address free-riding. This reflection is also the last phase in Kolb's (1984) Experiential Learning Cycle.

The Experiential Learning Cycle

Although over two decades old, the four phases – abstract conceptualization, active experimentation, concrete experience and reflective observation – in the experiential learning cycle provide a useful framework for discussing the Challenge. Abstract conceptualization weaves theory and concepts into the learning process. The Pre-Campaign Strategy document, described above, encourages students to think about promoting their business using marketing theories and online advertising concepts. For example, a quick search of advertising journals or texts would provide students with basic copywriting concepts.

In the active experimentation phase, students construct their campaigns with a 'trial and error' approach. A typical student group would assemble multiple ads and campaigns to see which keywords and geographically targeted campaigns, for example, are effective. As students use real advertising dollars in their accounts, this trial and error approach takes on added importance relative to simulated competitions.

The concrete experience stage engages students with the learning process. The Challenge facilitates this via instantly published ads, and interaction with the campaign reporting functions. Students feel the emotional connection with their campaign, a concrete experience, when they see their ads online immediately and available wherever they choose. Real-time analytics provided in the AdWords interface allow students to ride the peaks and valleys of their campaigns' successes and failures.

Finally, reflective observation provides an opportunity for students to think about what they learned during the process. The Learning Component, described above, formalizes this reflection by having students compare initial campaign goals with their actual results. Students must also reflect upon and describe group dynamics and interactions with their client, a small to medium sized enterprise (SME). The student questionnaire, described next, strengthens the reflective observation component.

Questionnaire Development and Administration

The questionnaires for the three participant groups – students, SMEs and instructors – stemmed from an iterative quasi-Delphi process over six months. The initial goals and content of the questionnaires, to improve the Challenge experience, originated from feedback by students and instructors that participated in beta versions of the Challenge.

The next round of questionnaire development involved Googlers and the Academic Panel collaborating via email, Google Docs (docs.google.com) and both traditional and voice over Internet protocol telephony. This stage added questions related to teaching and learning, particularly group work. As this was the inaugural Challenge, the rule of thumb was to include questions at the expense of short questionnaires. Most questions used seven-point Likert scales, from strongly disagree to strongly agree. Table 1 below categorizes the survey questions across topics for each participant group.

Table 1: Survey Questions Categorized across Topics

	Professors (N=135)	Students (N=685)	Businesses (N=103)
SME Participation	2	5	6
SME Engagement		3	
Institutional outreach	8		
Teacher/Student Involvement	6	7	
Working with Students			3
Class Logistics	8	5	
Campaign Management	14	12	
Challenge Effort	4	6	3
Marketing Orientation	1	1	
Team Selection	1		
Student Learning	12	14	
Group Dynamics		15	
Online Marketing Experience			4
Online Budget			2
AdWords Experience	5		2
Class Time	2		
Future Intentions	6	6	7
Teamwork		4	
Demographics	9	13	7
Advertising Opinions			1
Industry Status			1
Suggestions	10	7	7
Overall	3	2	1
Total Questions	91	100	44

In line with its origins, as well as for speed, efficiency and data quality, Google used an online survey. Web-based surveys strengthen conclusion validity due to few data entry errors, and strengthen construct validity due to minimal interviewer influence (Bryant, Hunton, & Stone, 2004). Native language speakers

at Google translated the SME version into 10 languages in addition to English. The professor and student questionnaires were in English only.

A series of pretests using members of the Academic Panel and some non-participating students helped reduce technical problems, coding errors and formatting anomalies due to browser differences. Drawing on elements of Wang and Strong's (1996) data quality framework helped improve data quality. Using radio button responses with answer options for example, strengthened representational data quality – interpretability, ease of understanding, representational consistency, and concise representation.

The low response rates for students (9%) and businesses (6%) relative to the instructors (40%) resulted in part, from implementation problems. Google had instructor email addresses, but no SME contact details and only the email address of each student group's team captain. Finalizing, as well as forward and backward translating the surveys into ten languages, took months longer than anticipated. By the time Google emailed survey invitations to the instructors and team captains, early June 2008, many classes had finished. The students and instructors may have been on summer holidays or the student email addresses were no longer valid. Furthermore, the team captains had to forward the survey website address to their team mates and client business.

Data Cleaning

Following data collection, cleaning the datasets was a multilevel process to ensure data validity, data quality, and respondent privacy. Apart from deleting names of individuals, institutions or other possible identifying information, the qualitative responses were left as is, replete with typographical errors by all three participant groups. A cursory categorization of the open-ended responses into topics and sub-topics yielded insights and confirmed quantitative responses for revising the 2009 Challenge, such as changing the page lengths for the two written reports and permitting teams of three students. The qualitative responses are available categorized and uncategorized.

For cleaning the quantitative data, the first step was a check for empty, redundant and incomplete cases. For the next step, checking for implausible or impossible responses, three Challenge academic panelists agreed on thresholds for questions with numbered responses, such as hours spent on the Challenge. This step also compared the time to complete the questionnaire with the average response time. The next step was scanning the database for excessive repetition in the same answer category to check for patterns of non-responsiveness (Johnson, 2001). Finally, two multivariate methods – cluster and principal component

analyses – helped detect outliers. The final datasets contained 103 SME cases, 136 instructors and 685 students.

Describing the Samples

The student sample was 53% male with an average of just over four years of education beyond high school. Responding students came from universities in 42 countries with the United States (25%), Australia (14%), Germany (7%), Spain (5%), France (5%), Singapore (4%), Hungary (4%), Switzerland (3%), Italy (3%) and South Africa (2%) comprising the top ten countries. On average, students spoke two languages fluently, with more students listing English (41%) as their first language than any other language. Almost half the students undertook the Challenge as part of an undergraduate class, while 34% were in graduate classes. The remaining students competed in the Challenge outside a traditional class.

On average, instructors in the Challenge had almost 10 years of teaching experience, with more than half of responding instructors ranked Associate Professor or Professor. Their institutions' student body varied greatly in size – 5% came from schools with fewer than 500 students and 6% taught in schools with 40,000 students or more. Most (63%) instructors taught the Challenge class in English followed by Spanish (7%), Portuguese (6%), Hungarian (5%) and German (5%).

The SMEs participating in the Challenge were small, with half employing seven or fewer people. One third of businesses had a website for more than five years, and 40% spent nothing on online marketing in the previous year. Retailers represented 16% of the businesses in the Challenge, followed by business and industrial (15%), technology (13%), education and entertainment (12%), and travel (10%).

Brief Results

From logistical and pedagogical points of view, feedback from the three main stakeholders – students, instructors and businesses – was overwhelmingly positive. A brief analysis of their responses helps address this paper's research question of evaluating the success of the Challenge. Almost 87% of the responding students agreed that the Challenge engaged them better than other teaching tools such as cases and simulations, and 92% were pleased with the overall experience. Instructor responses revealed that 90% believed their students were enthusiastic participants, 95% thought the ability to spend real money contributed positively to the learning experience, and 96% would run the Challenge in a future class. The inaugural Challenge was a success.

Where students and professors answered similar questions, they usually shared strong positive opinions. For example, recruiting clients to participate in university education is traditionally time consuming and difficult. In the inaugural Challenge, more than 80% of students and professors found it easy to identify suitable businesses, and almost 82% found it easy to persuade them to participate. The realities of a live worldwide competition also impressed students and professors. Almost 76% perceived that competing against students globally increased student involvement and almost 92% believed the Challenge effectively illustrated the difficulties of developing a web advertising campaign that stands out from billions of others.

Although they tended to agree, this study employed a Mann-Whitney test to investigate significant differences between students and professors on 30 similar questions. As the response options for these questions were a seven-point scale from strongly agree to strongly disagree, the non-parametric Mann-Whitney test is appropriate for ordinal responses (Aczel & Sounderpandian, 2002). The results in Table 2 show the mean rank for professors and students; the lower the mean rank the more respondents agreed with the statement. On 22 of the 30 questions, the academics had lower mean ranks and thus agreed with the statements more than students did. Eight of these 22 differences were significant at p<.05.

Table 2: Comparing professor and student perceptions

Question	Mean Rank Profs (N)	Mean Rank Students (N)	Mann-Whitney U	Z	Sig. (2 tailed)
It was easy to identify small to medium-sized enterprises that could benefit from participation in the Google Challenge	383.24 (134)	402.78 (664)	42309	-.932	.351
It was easy to persuade small to medium-sized enterprises to participate in the Challenge	385.40 (134)	399.96 (660)	42598.5	-.703	.482
[Students were /I was] enthusiastic about participating in the Challenge	424.90 (134)	396.81 (668)	41620	-1.363	.173
The "real time" ability to monitor the AdWords campaign contributed positively to [student/my] involvement	401.96 (134)	408 (679)	44817	-.289	.772
The ability to spend "real money" contributed positively to [student/my] involvement	344.43 (134)	419.35 (679)	37108	-3.651	<.001
Compared to other teaching tools (simulations, case studies, class projects for local businesses, etc.), [students were/I was] more deeply engaged	439.86 (134)	401.12 (680)	41224	-1.841	.066

with the Challenge				
The opportunity to compete against student teams worldwide contributed positively to [student/my] involvement	382.05 (134)	414.29 (683)	42149.5	-1.488	.137
The "Marketing and Advertising Using Google" textbook was a useful instructional tool	365.85 (135)	406.35 (663)	40210	-1.949	.051
The "Student Guide" was a useful instructional tool	408.38 (132)	406.73 (681)	44764.5	-.078	.938
The "Guide to Running Your AdWords Account" was a useful instructional tool	372.02 (134)	412.14 (676)	40805.5	-1.913	.056
The "Pre-Campaign Strategy" report was useful for [student/my] learning.	330.17 (134)	423.89 (682)	35198	-4.381	<.001
The "Post-Campaign Summary" report was useful for [student/my] learning	311.71 (134)	425.8 (679)	32724.5	-5.333	<.001
The page length restriction for the 'Pre-Campaign Strategy' report was (much too short, much too long)	394.11 (133)	408.93 (679)	41150	-1.851	.064
The page length restriction for the 'Post-Campaign Summary' report was (much too short, much too long)	374.49 (134)	414.59 (681)	43505.5	-.743	.457
[Most of my students were/I was] familiar with keyword (search) advertising before participating in the Challenge	499.94 (134)	389.45 (681)	32992	-5.025	<.001
Participating in the Challenge improved [my students'/my] ability to select appropriate keywords	374.49 (134)	414.59 (681)	41137	-1.908	.056
Participating in the Challenge improved [my students'/my] ability to write compelling advertising copy	413.84 (134)	406.85 (681)	44845	-.327	.744
Participating in the Challenge improved [my students'/my] ability to use the feedback metrics provided by Google	356.44 (134)	414.64 (681)	38718.5	-2.752	.006
Participating in the Challenge improved [my students'/my] ability to discuss online marketing	388.6 (134)	411.82 (681)	43028	-1.105	.269
Participating in the Challenge improved [my students'/my] ability to discuss media planning	442.35 (133)	398.26 (677)	40120	-2.046	.041
Participating in the Challenge gave [my students/me] insights related to the problems of working with 'real' business clients	351.38 (134)	417.39 (678)	38041	-3.141	.002

Participating in the Challenge gave [my students/me] insights related to working in groups	370.52 (134)	414.79 (680)	40604.5	-2.106	.035
Participating in the Challenge improved [my students'/my] understanding of online marketing terms such as banner advertisement, click-through-rate, conversion, landing page, optimization techniques, ROI, text advertisements, mass advertising and context-sensitive advertising	366.54 (134)	416.16 (681)	40072	-2.373	.018
Participating in the Challenge illustrated to [my students/me] the advantages and disadvantages of three online advertising payment models: pay-per-click, cost per thousand (CPM) and affiliate	412.75 (134)	407.06 (681)	44990	-2.69	.788
Participating in the Challenge illustrated to [my students/me] how technical or cultural factors affect the success of online advertising campaigns	440.97 (134)	400.3 (679)	40940.5	-1.894	.058
Participating in the Challenge illustrated to [my students/me] the difficulties of developing a web-based marketing campaign that will stand out among the billions of web pages available	385.76 (134)	411.78 (680)	42647.5	-1.247	.212
Based on participating in the Challenge, I would recommend using AdWords to businesses/enterprises	384.85 (134)	411.37 (679)	52524.5	-1.275	.202
I would use AdWords if I had to promote a website	390.66 (135)	410.85 (679)	43559	-.967	.334
I would like to obtain certification as a Google AdWords Professional	377.06 (130)	406.23 (672)	40502.5	-1.374	.170
To what extent do you think this competition was about online marketing versus about Google AdWords? (high mean rank means tending towards Google AdWords)	280.61 (135)	431.60 (677)	28703	-7.088	<.001

Compared to the students, the academics perceived significantly more value in four student outcomes due to participating in the Challenge: improved use of Google feedback metrics, insights into working with real clients, insights into working in groups, and improved understanding of online marketing. The professors also reported more favorable responses than students did on the usefulness of both the Pre-Campaign Strategy and Post Campaign Summary reports, and spending real money increasing student

involvement. Finally, the professors viewed the Challenge as more of an online marketing than Google AdWords exercise relative to the students. Although differences on these eight variables were significant, they do not reflect student dissatisfaction. For example, 91% of the students agreed that using real money contributed positively to their involvement and 80% said the Post Campaign Summary was useful for their learning.

The students had stronger positive perceptions than the academics did on eight questions, significantly so on two questions. The professors underestimated students' perceived familiarity with keyword advertising and the insights students gained about media planning.

That students and professors reported significant disagreement on ten of 30 variables is in part an artifact of the large sample, yet does highlight pedagogical findings for experiential learning. Perhaps most importantly, instructors – as well as Google and the Global Academic Panel – should accept that their sanguine views tend to overestimate the classroom reality. Instructors could work on aligning the views, for example by increasing classroom discussion of the significant variables and online marketing. Students could share their insights on topics such as working with clients, the value of the written reports or watching their AdWords budget shrink. This discussion should help both constituents, increasing students' positive perceptions of experiential learning, and illustrating to instructors how to increase the value and realities of experiential learning.

The results also highlighted that instructors underestimated their students' experiences and knowledge. That students reported gaining more knowledge about media planning than the instructors realized suggests an opportunity for more mention of this topic in class. As students had significantly more familiarity of keyword advertising than the instructors imagined, instructors could go into depth on keyword advertising. Although insignificant, professors underestimated their students on two other variables: participating in the Challenge illustrated how technical or cultural factors affect the success of online advertising campaigns (p=.058), and students were more engaged with the Challenge compared to other teaching tools (p=.066). Instructors could delve into technical and cultural aspects of online advertising, and if in doubt, adopt the Challenge for future classes. In closing, students and professors had favorable responses towards participating in the Challenge. The same percentage of student and professors, 94%, said they were pleased with their Challenge experience.

Businesses also rated the Challenge positively. Although there was no financial investment by the businesses, they tended to work closely with the student teams, perhaps to ensure that they got the most

from their US$200 AdWords spend. Most businesses reported active engagement with the teams in developing (86%) and managing (85%) the AdWords campaigns. More than three quarters believed the Challenge was positive for their business and 84% enjoyed working with students. Importantly for university outreach, 80% of responding businesses indicated they would like to be involved in future student projects with their local university.

In summary, all three groups overwhelmingly endorsed the Challenge. Over three of four SMEs and students would like to participate again, compared to 96% of the professors interested in further participation. Accordingly, when it came to recommending the Challenge to friends, colleagues and businesses, 96% of the professors, 85% of the students, and 89% of the SMEs expressed their intention to do so. Finally, 66% of the SMEs stated that they plan to continue using Google AdWords in the future. An even higher proportion of professors (96%) and students (91%) intend to recommend AdWords to businesses.

Future Research

The Academic Research Center section (www.google.com/onlinechallenge/research.html) of the Challenge website offers nine datasets available for future research. For each constituent group – academics, SMEs and students – there are quantitative responses to the questionnaires, qualitative responses to the questionnaires and categorized qualitative responses. Researchers can use these datasets to expand the body of marketing education knowledge.

A key future research contribution of these datasets is their global scope – 42 countries for the students, 33 for the instructors and 31 SME countries. General areas of future research include cross-cultural educational experiences, advertising copywriting, online marketing, marketing education, experiential learning, action learning, international marketing, and student group work.

For example, students working in groups are a common learning structure in universities, and educators frequently seek ideas to improve group effectiveness. These datasets measure many aspects of group attitude and behavior, from both student and educator perspectives. Professors can analyze the reflective evaluations of students to investigate social loafing (Aggarwal & O'Brien, 2008), student collaboration in online classes (Cox & Cox, 2008), group integration and interdependence (Skilton, Forsyth, & White, 2008) and other aspects of group dynamics. Analysis of reflective evaluations and in-class surveys could lead to new insights of group dynamics.

Another avenue for continued research is to use the open-ended responses to expand and explain the brief quantitative findings in this paper that compared student and instructor perceptions. Savvy researchers could mine the qualitative data to reveal nuanced understandings of these differences along with implications for marketing educators.

Researchers may want to use the datasets to see which variables help predict the future intentions of students, instructors and businesses. For example, how did having students recruit a business impact their experience? How much importance did instructors place on the materials provided? What factors were businesses considering when deciding to participate? Researchers can use these findings to help design future experiential learning activities.

Participating instructors interested in how students learn may want to include Kolb's (1999) Learning Style Inventory in their post Challenge feedback forms. They might then hypothesize that student teams with a good balance of learning styles perform better on the Challenge.

Google and the Academic Panel welcome suggestions and comments from academics and practitioners to improve future iterations of the Challenge, and post-participation questionnaires.

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