

Future Proof and Real-World Ready:

The Role of Live Project-Based Learning in Students' Skill Development

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The past 20 years represent a significant and disruptive shift in marketing practice, fueled by the growth of digital pioneers, such as: Facebook, Google, Amazon and Apple; the development of cloud computing; the emergence of powerful smartphones as the primary marketing mechanism available to companies and brands with which to reach consumers; and direct-to-consumer business models. The extent of change taking place has made it difficult for practitioners to stay current. Industry experts have argued that companies that do not embrace these new and disruptive digital elements face the risk of no longer being relevant and even going out of business (Constellation Research, 2018). This pace of change makes it even more difficult for marketing educators to stay current and effectively prepare students for future careers.

In tandem with the changes taking place in marketing practice (e.g., search and social media advertising, over-the-top media services, influencer marketing, retailing, retargeting, sophisticated analytics), marketing educators and their curricula struggle as well to keep pace with innovations and developments in technology, particularly as they seek to develop work-ready graduates (Greenacre et al., 2017). Crittenden and Crittenden (2015) argue that marketing practice is in a continual state of reinvention and disruption and so must marketing education. The Association to Advance Collegiate Schools of Business (AACSB, 2020) highlights the role of business curricula and educators in helping businesses respond to the profound changes taking place today. In the service of our students, educators are forced to continue to reimagine and

redesign their marketing courses and content to keep them fresh and current in today's era of digital disruption (Crittenden and Peterson, 2019). This includes the development of technical and meta skills as well as the realization that learning how to use technology and the related tools is insufficient in itself.

In this paper, we highlight the role of project-based learning (PBL) in students' development of technical as well as meta skills—specifically, creativity, critical thinking, collaboration, and communication, or what we refer to as the 4Cs— that are critical to their learning as they enter the workforce after graduation (Dahl, Peltier & Schibrowski, 2018; McCale, 2008; Razzouk, Seitz & Rizkallah, 2015; Ye et al., 2017). We contribute to the growing body of marketing education literature examining curricula and skill development among students in three ways. First, we discuss the importance of technical and meta skill development among marketing students and how the nature of these skills is evolving as the digital marketing ecosystem becomes more complex. We illustrate the central role of live PBL in helping students develop these skills as they prepare for careers after graduation. Second, we describe the direct and indirect assessment process that connects skills-based learning objectives to a core assessment rubric. Third, we highlight several recommendations for marketing educators, including the benefits of building ambiguity into course projects, adding elements of marketing *reality* by seeking real clients to participate in these projects as well as developing funds for actual project activation, and balancing the needs of key stakeholders including students, industry partners and the local business community at large.

In the next section, we discuss the role of skill development in helping students become ready for post-graduation careers. We then describe the role of PBL involving live, real-life projects in promoting technical as well as meta skill development. We present examples of live

PBL and an in-depth assessment process by which we seek to understand the extent of students' skill development and levels of preparation for post-graduation careers. We conclude with a discussion of the implications and lessons learned for marketing educators.

Skill Development and Career Readiness

Marketing educators have long identified the need for students to develop the essential skills, including the technical skills as well as higher-level meta skills, that will effectively prepare them for future careers in marketing (e.g., Clark, King & Jurn, 2012; Dahl, Peltier & Schibrowski, 2018; Finch, Nadeau & O'Reilly, 2012; McDermott, 2012; Schibrowski, Peltier & Boyt, 2002; Schlee & Harich, 2010; Walker et al., 2009; Ye et al., 2017). Inherent in the "digital challenge" facing educators today (Crittenden & Crittenden, 2015, p. 71) is that these skills, particularly the technical skills needed to stay current in the marketing field, will most certainly change as technology and consumer behavior continues to change. Technical "how to" skills such as being able to navigate paid search (e.g., Google Ads) and paid social media (e.g., Facebook Ads) platforms evolve and change so rapidly that it is not sufficient to merely teach these skills out of a digital marketing textbook or through conceptual class projects.

At the same time, it is important for marketing educators to develop in our students those higher-level meta skills that can help prepare them for the myriad career paths they may encounter after graduation. Meta skills involve more generalizable skills such as analytical thinking, creative problem solving, interpersonal relations, and teamwork and communication skills that can magnify and activate other essential technical and practical skills. Skills such as these become even more critical to future student success as they enter the workforce. Bacon (2017) argues that the increasing types of marketing careers and pathways available to students today make it even more difficult to teach students those specific skills required for specific

career paths. From employers' perspectives, generalizable skills such as problem solving, communication skills and interpersonal skills are as beneficial to career success as are specific technical or discipline-specific skills (Bacon, 2017). To provide further guidance, the AACSB (AACSB, 2020) has established the importance of higher-level skill development among accredited business schools.

The challenge that marketing educators face is how to expose students to the technical skills that will help them become stronger job candidates upon graduation and at the same time balance the need for them to develop the higher-level meta skills to add depth to their training and career readiness. As we highlighted previously, a wide array of studies and authors have identified the need for graduates to develop the essential skills, both technical skills as well as meta skills, to help prepare them for future careers (Aoun, 2017; Bacon, 2017; Clark, King & Jurn, 2012; Dahl, Peltier & Schibrowski, 2018; Finch, Nadeau & O'Reilly, 2012; Greenacre et al., 2017; Hopkins, Raymond & Carlson, 2011; McCale, 2008; McDermott, 2012; Schibrowski, Peltier & Boyt, 2002; Strauss, 2011; Walker et al., 2009; Ye et al., 2017).

The prominence of digitization, including search and social media advertising, is similarly reflected in industry hiring trends. Today, some of the most in-demand marketing jobs for recent graduates include digital marketing, social media marketing and marketing analytics positions. Even so, companies and hiring managers are often challenged to find the right talent to fill these positions, in part because of the shortage of entry-level talent with the necessary skillsets. Industry research also highlights the gap between industry needs and skill development among college and university graduates. A recent survey of advertising industry hiring managers indicated that intern and entry-level candidates consistently fell short of the required experience and understanding of the industry and its current challenges (Ad Industry Talent Study, 2016).

The study noted that strategy, digital media and analytics were among the most difficult positions to fill with qualified candidates.

To address this opportunity and more effectively teach and assess skill development among marketing students, we highlight the application of live PBL to help students develop technical and meta skills and so help them become future proof and real-world ready. Through a thematic analysis and assessment of student learning, we illustrate how live PBL can help students develop the foundational skills that will lead to resilience and the ability to adapt to today's fast-changing marketing environment. We contribute to the marketing education literature by highlighting the role and structure of course projects in students' skill development as well as the process by which we assess the key learning outcomes aligned with their skill development.

Technical Skills

Although the number of potential technical skills necessary for students to learn are too numerous to detail in this article, we focus on specific technical skills related to today's digital and adaptive media environment, including digital platforms such as Google Ads and Facebook Ads that enable advertisers to measure, adapt, and optimize digital advertising in real-time. Exposing students to adaptive media skills addresses a significant issue facing both industry practitioners and marketing academics: how to immerse students in the process of creating and managing paid search (using Google Ads) and paid social media (using Facebook and Instagram Ads) campaigns. These skills also include using A/B testing for campaign optimization, optimizing websites for search, and measuring campaign performance over time. Indicative of the relevance and importance of these technical skills, global digital advertising spending is forecast to reach \$380 billion in 2021 and account for over half of worldwide advertising

spending (E-Marketer, 2020). Of this growth, search (or pay-per-click) and social media advertising (e.g., Google, Facebook, Instagram) represent a significant portion of total spending. Moreover, search and social media advertising taken together represent a major portion of companies' and brands' advertising budgets. We argue that the importance of developing these technical skills related to digital advertising and marketing will become even more prominent in years to come.

Meta Skills

Beyond technical skills, Bacon (2017) and Walker et al. (2009) highlight the numerous challenges facing new marketing graduates as they begin full-time work. These challenges include the ability to contribute immediately with little or no on the job training, the need to develop more sophisticated content- or discipline-specific communication skills, and the opportunity to hone their critical thinking and problem-solving skills. In addition, Ye et al. (2017) highlight the role of adaptability and collaboration in helping to prepare work-ready graduates. Even today, new workplace norms brought on by the current global coronavirus pandemic, combined with millions of people working from home and communicating and collaborating through web-based platforms, will continue to magnify the importance of adaptability and meta skill development as educators seek to prepare students for the new “normal” workforce (Leonhardt, 2020).

Based on a survey of marketing practitioners, Finch, Nadeau, and O'Reilly (2012) argue that marketing programs and curricula, in addition to strengthening students' familiarity with technical concepts, should prioritize the development of students' meta skills. These meta skills include their ability to apply both creativity and critical thinking to identifying, analyzing and solving problems, communicating and defending those solutions, and establishing priorities.

Taken together, it becomes clear that the development of these essential meta skills, summarized in Table 1, plays an important role in today's marketing curriculum in preparing students for their future.

[Insert Table 1 About Here]

The 4Cs. The Partnership for 21st Century Learning has identified several skills and competencies necessary for future success in the workplace (Pearson, 2018). These higher-level meta skills include creativity, critical thinking, collaboration, and communication and form what we refer to in our assessment process as the 4Cs. Addressing the need to better equip graduates for their future careers, Aoun (2017, p. xviii) argues that “a robot-proof model of higher education is not concerned with topping students off with high-octane facts. Rather, it refits their mental engines, calibrating them with a creative mindset and the mental elasticity to invent, discover or otherwise produce something society deems valuable....” By incorporating and assessing both technical and meta skills within a live PBL approach, we aim to prepare our students for the complexity and challenges representative of the modern-day marketing landscape and workplace. In short, through the 4Cs, we seek to prepare students to be robot proof, future proof and real-world ready.

Of the 4Cs, *creativity* has been conceptualized as deriving or generating “solutions that are novel and appropriate to the task at hand...” (Titus, 2000, p. 226) and is considered an increasingly important skill in demand by the marketing industry (Bacon, 2017; Finch, Nadeau & O'Reilly, 2012; Hopkins, Raymond & Carlson, 2011). On top of this, a recent study highlighted creativity as one of the most highly rated skills demanded by recruiters in the creative marketing (e.g., advertising, branding) industries (Ad Industry Talent Study, 2016). In addition to creativity, *critical thinking* is conceptualized as students' ability to interpret, analyze,

evaluate, make inferences about, and explain data (Abrami et al., 2015; Dahl, Peltier & Schibrowsky, 2018). Critical thinking is an important skill for student development given the prominence of data and the growth of performance marketing (Aoun, 2017; Bacon, 2017; Dahl, Peltier & Schibrowski, 2018; Finch, Nadeau & O'Reilly, 2012; Hopkins, Raymond & Carlson, 2011; McDermott, 2012; Strauss, 2011).

Drawing from the collaborative community literature, we view *collaboration* as encouraging students to “continually apply their unique talents to group projects—and to become motivated by a collective mission, not just personal gain or the intrinsic pleasures of autonomous creativity.” (Adler, Heckscher & Prusak, 2011, p. 4). The ability to collaborate, work and function effectively as part of a team has always been an important skill, especially in business and particularly in marketing (e.g., Razzouk, Seitz & Rizkallah, 2015; Schlee & Karns, 2017; Strauss, 2011). As the modern workplace evolves from physical spaces that invite direct collaboration to those that involve remote, work from home settings, some argue that the ability to work as a team becomes an even more critical skill (Spataro, 2020).

Fourth, numerous academic and industry studies have shown the importance of *communication* as one of the most valued skills among entry-level marketing candidates (Ad Industry Talent Study, 2016; Chad, 2012; Razzouk, Seitz & Rizkallah, 2015), where we broadly conceptualize communication as involving students’ verbal and non-verbal communication skills. These skills are even more relevant today as organizations move increasingly toward more agile ways of thinking and executing (Rohm, Stefl & Saint Clair, 2019).

Live Project-Based Learning

Through our experience developing numerous digital marketing courses and direct assessment of students’ skill development, we have discovered that designing and incorporating

live projects with real clients and real project activations enables students to develop both the technical as well as meta skills that can better prepare them for future jobs and careers. In reality, marketing practitioners must deal with imperfect information, be able to adapt to uncertainty and deal with ambiguity. For our students, we argue that live PBL helps students generate and process primary and secondary data (the *known knowns*), fill gaps in the information they need but do not have (the *known unknowns*), and deal with the uncertainty and ambiguity of what they don't know they even need to know (the *unknown unknowns*).

In terms of skill development, Walker et al. (2009) argue that general and specific marketing skills progress across three stages of professional development: novice, advanced beginner and competent. Undergraduate students generally begin their skill development as novices and beginners. Through live projects, they strengthen their technical skills in areas such as the use of earned, owned, and paid media, analytics, and A/B testing and campaign optimization. They also develop the meta skills (including the 4Cs) that will benefit them as they graduate and enter the real world (e.g., Dahl, Peltier & Schibrowski, 2018; McCale, 2008; Razzouk, Seitz & Rizkallah, 2015; Ye et al., 2017). Ye et al. (2017) propose that meta skill development among students helps them to become more competitive and successful in the marketplace when compared with those who possess a more limited set of skills such as marketing vocabulary, frameworks, and theory. Related to the challenges facing educators today, Alim (2020) argues that, given the current challenges brought on by the COVID-19 pandemic, business schools can no longer turn out graduates who lack the critical thinking and creativity skills, plus the adaptability, required to address the related economic and social challenges.

Within the context of PBL, there is significant support for client-based and group projects in the marketing literature. Dingus and Milovic (2018) argue that client-based projects help to

integrate theory and practice and Strauss (2011) finds that client-based projects help prepare students to deal with ambiguity and stimulate meta skill development. Others (e.g., Lange et al., 2018; Razzouk, Seitz & Rizkallah, 2015; West, 2011) suggest that client-based and group projects create learning settings that are more realistic and relevant and help prepare students for real-world work, interactions and challenges. Course projects involving clients and real-world applications can provide students with experience in managing real projects, real budgets and real results, all the while keeping pace with widespread and ever-evolving industry technologies and platforms such as Google Ads for search advertising and Facebook Ads for social media advertising. Further, the development of meta skills and the 4Cs is particularly important in fields such as marketing, where it is difficult for educators today to know which specific technical skills our students will need to master tomorrow (Finch, Nadeau & O'Reilly, 2012; Hopkins, Raymond & Carlson, 2011; McCale, 2008; McDermott, 2012; Strauss, 2011).

Live PBL involves projects where students either work with actual clients or initiate and launch concepts that they have created themselves; however, both types of projects involve real-world applications and real results. Through live PBL, we seek to incorporate the development of technical as well as meta skills (framed by the 4Cs) within student projects. To develop the *creative* skills necessary to prepare students for future marketing roles (e.g., Finch, Nadeau & O'Reilly, 2012; Strauss, 2011), we incorporate project elements such as having students create marketing content (for instance, Google search and Facebook and Instagram advertising copy and visuals as well as video content). Project elements like these enable students to develop and flex their creative muscles and learn by experimentation through iterative content creation and optimization strategies designed to ensure the effectiveness of the content. In this way, students begin to develop their creativity skills that help prepare them for internships and full-time

positions after graduation.

Live PBL also helps engage students and develop their *critical thinking* skills (Finch, Nadeau & O'Reilly, 2012; McCale, 2008; McDermott, 2012; Walker et al., 2009). As an example, students can analyze and apply qualitative and quantitative research findings to the development of creative content, develop and execute multi-channel communication campaigns, analyze data from Google Analytics and Instagram and perform A/B testing to optimize paid search and paid social media campaigns. They also learn to identify, frame and solve problems and to prioritize their work in doing so. Live PBL enables students to interpret, design, create, launch and learn. In the process, it is less about getting the right answer (moreover, where there often *is* no “right answer”), and more about understanding how the variables inform or suggest a host of possible answers.

Past research has shown the role of PBL in helping students develop *collaboration* and teamwork skills (Strauss, 2011). Through live PBL, students learn how to effectively manage complex group work and team dynamics, take on different roles, give and receive feedback, work together to address challenges and solve problems, and be individually accountable for their collective team roles and output. Further, students collaborating on multi-disciplinary teams have been found to perceive greater degrees of career preparedness (Wickliff, 1997).

Live PBL also helps students develop crucial *communication* skills (Clark, King & Jurn, 2012; McCale, 2008; Walker et al., 2009). Through frequent small- and large-scale presentations, students hone the written and verbal communications and presentation skills that are critical to their future success. Students also learn the importance of managing client communications, engaging an audience (faculty, peers, industry panelists or clients) and defending their assumptions, opinions, and insights.

Live PBL Design and Structure

In this section, we discuss the structure of two real-time project types (student-initiated and student-led as well as client-based) designed to promote technical and meta skill development: 1) the *Marketing for Good* project, in which student teams create and activate or bring to market a social good initiative; and 2) the *Adaptive Media* project, in which student teams work with an external client to create and execute paid search and paid social media advertising campaigns. The underlying objectives for both projects are to 1) help students develop and strengthen their technical as well as meta skills in a real-life setting and 2) help them learn to adapt to uncertainty and manage the ambiguity inherent in real-life projects.

The first project, *Marketing for Good*, is sequenced early in students' upper-level marketing coursework (typically during the first semester of their junior year) to provide a broad platform of skill development. The second project, *Adaptive Media*, blends continued 4C development along with deeper level technical skills related to digital marketing, including paid search and paid social media advertising, optimization techniques and campaign analytics. In both projects, we seek to progressively build students' skills in an iterative approach by sequentially introducing new marketing concepts and tools such as design thinking, insight generation, campaign creation, organic and paid search and social media advertising, optimization strategies, and budgeting and ROI measurement.

We designed these projects to provide students with real-life experiences in working with actual clients along with real budgets and real results. We based the design of these two projects on the development of technical skills (e.g., Facebook and Google Ads, campaign performance measurement and ROI, Simmons Market Research, A/B testing) as well as the 4Cs. Throughout both projects, student outcomes and performance are assessed based on the 4Cs in addition to

their ability to demonstrate a mastery of technical skills.

Marketing for Good Project

In the *Marketing for Good Project*, student teams create and execute ideas and campaigns designed to apply marketing as a force for good and to effect positive change within their community around themes of sustainability, quality of life and social justice. Students work through a process guided by the human-centered design thinking process to identify a new product or social cause that is focused on community betterment. Project teams then create messaging and advertising content on Facebook and Instagram. Teams also create experiential marketing events designed to promote their project causes and products. Examples from past projects include increasing public awareness of food waste, developing toys to help relieve separation anxiety in household pets, creating and delivering branded raincoats to the area homeless during a recent *El Niño* rainy season, and helping lower-income women gain access to hygiene products and health-related information.

Teams' project executions are focused on promoting positive attitudinal and behavioral change through campaigns run on digital media such as Facebook and Instagram and developing and executing experiential marketing events. Project funding dedicated to driving engagement with their respective *Marketing for Good* causes is supported with an industry outreach initiative that enables student teams to spend real money (approximately \$500 per team) and manage their campaign activation and spending. In addition to the development of the 4Cs, technical skills developed include conducting and synthesizing original and secondary research to generate insights that help inform their Facebook and Instagram campaigns and creative work, targeting specific audiences and optimizing advertising spending on Facebook and Instagram, and learning to use sophisticated online social listening platforms.

Adaptive Media Project

In the *Adaptive Media Project*, students choose from a portfolio of real-life clients representing both internal and external partners, including for-profit and non-profit organizations. Teams spend the semester creating and executing paid search and paid social media campaigns using Google and Facebook advertising for their respective clients. Students create search advertising copy in addition to social media copy and images (including static images and videos) for Google search as well as Facebook and Instagram campaigns and analyze their weekly campaign performance using Google Analytics. They also apply A/B testing and optimization strategies to increase campaign performance over time. Student teams can choose to work on a personal passion project (for instance, a custom T-shirt company that one of the team members has launched), partner with a startup from the college's entrepreneurship program (for instance, a women's swimwear brand), or choose to work with a local for-profit or nonprofit organization (for instance, a startup vegan breakfast food brand or an organization helping displaced families find places to live). Through the *Adaptive Media Project*, students learn relevant technical skills such as digital marketing concepts (paid search, paid social media and optimization techniques) and continue to develop their meta skills framed by the 4Cs. The "live" nature of this project take place as students manage real budgets, initiatives and clients.

In summary, the project elements described here are purposefully tied to helping students strengthen their technical and meta skills. Students learn to collaborate throughout both projects as they work in teams, divide responsibilities and workloads, learn to be accountable for their contributions, and meet strict deadlines. Through these projects, students also learn to deal with the ambiguity inherent in live PBL.

Technical and Meta Skills Assessment

Marketing educators highlight the role and importance of direct assessment of actual student learning (e.g., Bacon, 2016; Lange et al., 2018). Drawing from Bacon (2016) and reflecting the program-level assessment of learning outcomes detailed by Lange et al. (2018), we evaluate the development of students' technical and meta skills in a 360-degree assessment process (see Figure 1). This process involves both direct and indirect assessment of skills-based learning outcomes as well as the application of assessment learnings to help inform future course revisions and development.

We begin with a direct assessment of technical and meta skill development associated with predetermined learning outcomes. Between three and five industry and faculty panelists attend the final presentations for both the *Marketing for Good* and *Adaptive Media* projects and provide feedback related to students' application of the related technical and meta skills using a detailed rubric. We analyze the emergent themes from the panelists' project comments to assess students' ability to apply these skills as they develop and execute their projects. Indirect assessment includes pre- and post-project surveys related to perceived specific skill development, a reflective writing assignment to capture students' learning experiences throughout the semester, and student and panelist open-ended comments related to the projects and outcomes. We then apply the results from both the direct and indirect assessment to help inform and revise course content in future semesters.

[Insert Figure 1 About Here]

Learning Outcomes

Learning outcomes for assessing students' specific technical and meta skill development are shown in Table 2. Technical skill development includes developing research skills, gaining a working knowledge of paid search platforms (Google Ads) and paid social media (Facebook

Ads), optimization (e.g., A/B testing) techniques and how to track and measure campaign performance over time. For instance, through the *Adaptive Media Project*, students undergo Google Ads certification and learn how to create paid search ads, including keyword choice, bidding, ad copy, and week-to-week search campaign optimization. In the project, students also learn to navigate the Facebook ad platform, including audience selection and targeting techniques, selecting campaign objectives (e.g., awareness or conversions), campaign budgeting over time, learning how to apply A/B testing techniques to optimize performance, and analyzing performance with Facebook's analytics dashboard.

Learning outcomes applied to meta skill development involve the 4Cs. Outcomes related to *creativity* include the design of visual brand elements and content creation (in the *Marketing for Good Project*) as well as creating Facebook and Instagram ads and visual elements (images, GIFs, video content), writing ad copy and deciding on ad format (static images, carousel ads, video). In the *Adaptive Media Project*, learning outcomes include creating search and social media advertising copy and visual elements. Outcomes related to *critical thinking* include applying team research findings and insights to developing campaign concepts in the *Marketing for Good Project* and analyzing weekly campaign performance and optimization strategies in the *Adaptive Media Project*. Learning outcomes involving *collaboration* include assigning team roles and accountability (both projects). Finally, learning outcomes related to *communication* include developing and delivering effective and persuasive final team campaign presentations (both projects).

[Insert Table 2 About Here]

Direct Skills Assessment

Based on the specific learning outcomes shown in Table 2, direct assessment of project

outcomes is based on a detailed assessment rubric (see Table 3) that objectively scores student performance on a battery of metrics tied to learning outcomes that are classified as either technical or meta skills. At the beginning of the semester, student teams are introduced to the assessment rubric so that they know what is expected of them and how their projects will be evaluated. At the end of the semester, final team project presentations (in-person or conducted remotely online) are assessed and evaluated with the assessment rubric by a panel of marketing faculty and select marketing managers and executives from industry. Course co-instructors evaluate student performance related to the rubric and skills-based learning outcomes. In this way, a student's performance is assessed through the lens of how well she is able to apply the technical and meta skills tied to the respective learning outcomes.

[Insert Table 3 About Here]

In addition to the direct assessment of project outcomes, and to provide a more holistic 360-degree view of skill development, we incorporate the three indirect assessment techniques that include 1) pre-project and post-project tests of perceived student development and growth linked to specific learning outcomes, 2) a reflective learning assignment involving a written project reflection blog to capture students' weekly experiences, and 3) student and industry partner qualitative open-ended comments (see Tables 4a and 4b) that help illustrate their unique perspectives related overall learning and skill development.

[Insert Tables 4a and 4b About Here]

Taken together, the direct and indirect assessment process evaluates performance on skills-based attributes at the student- as well as at the project level. Even though we do not have a "test group" (for instance, students in similar yet purely conceptual projects) with which to compare findings, the assessment results over the past three years suggest that students

consistently perform strongly (“outstanding” to “good”) on technical and meta skill development.

Lessons for Marketing Educators

By incorporating live PBL and through the direct and indirect assessment of skills-based learning outcomes, we sought to develop an effective approach to teaching to help students develop technical and meta skills and learn to adapt to uncertainty. As noted by numerous marketing educators (e.g., Crittenden & Crittenden, 2015), a key challenge for educators in the future will be to continue to develop and evolve course (and project) content so that it keeps pace with frequent industry, technological, and even socioeconomic developments. This is particularly relevant when developing and teaching courses containing digital marketing content, particularly as industry leaders such as Google and Facebook continue to update their advertising platforms and models. In the marketing field, live PBL approaches can help educators introduce new content geared toward advancing both technical skills and meta skill development among students, ensuring that their courses and content stay relevant given industry developments and shifts in consumer behavior. Similarly, live PBL offers students unplanned learning opportunities involving ambiguity and uncertainty—for instance, when a client does not provide clear feedback, what to do when a user gets locked out of a social media account, or when a social media platform algorithm rejects an ad for unknown reasons. Here, we close by offering several lessons for other marketing educators seeking to bolster and assess student skill development.

First, *build in ambiguity*. We often find that students struggle with the uncertainty associated with live projects. Beyond knowing what they already know, through live projects students must also dig for and uncover information or data that they need—the known unknown—as well as deal with the ambiguity inherent in simply not knowing what they need to

know. Rather than providing students with a strict list of specific boxes to check in order to receive an “A,” we structure the projects around higher-level milestones such as problem identification, research and insights generation, proposed solutions, product development where applicable, campaign and messaging creative, and measurement. This provides some necessary structure and direction, yet it also requires the student to fill in the blanks and apply the tools and skills taught in the course to address the unknowns and complete the project. Compared to conceptual projects, ambiguity is also embedded in the “live” nature of the projects themselves, where real-life and client-based work is often characterized by imperfect data, communications and outcomes. Thus, we believe that students’ skills evolve more fully in a real life “test-and-learn” environment rather than in a “here’s how it would work in a perfect world” conceptual project context.

Second, *keep it real*. A prominent challenge outlined in the marketing education literature related to PBL is the complexity involved with client-based projects (e.g., Clark, King & Jurn, 2012; Parsons & Lepkowska-White, 2009). However, clients can also add a dimension of reality that theoretical approaches do not. Based on our experience, having real clients participate in live projects adds the important dimensions of direct industry experience and actual results. Client-based projects also require students to manage the client relationship, which alone can be a significant learning outcome. Live projects that receive funding (either from external participating partners or internal budgets) force students to be scrappy and strategic with their spending, to engage more fully in the product development process (including sourcing and negotiating), and to strengthen their knowledge of media planning as they manage budgets and spending. In this way, they learn about actual advertising rates and costs. In terms of client selection, we recommend that educators and administrators develop a source for project “clients”

from a pool of local small businesses and startups, some that even may have been started by current or past undergraduate and graduate students.

Third, make projects a *three-sided win*. Studies suggest that, despite the added complexity and time demands associated with live projects, client-based projects can be beneficial for multiple stakeholders, including the local business community, the students, as well as the client him- or herself (Shanahan, Palmer & Salas, 2019). Lange et al. (2018) highlight the different interests and motivations for both students and industry project partners that need to be considered in project design. Student interests involve gaining practical and relevant skills and forging important industry connections. Industry partners may be extrinsically motivated by the opportunity to connect with prospective employees and intrinsically motivated by the opportunity to simply “give back” and help students in the same way that others had helped them during their education. Moreover, the local business community at large can benefit from a wider pool of future-proof and real-world ready entry-level talent.

Finally, *be proactive* in working with local businesses and with university or college development teams for project funding opportunities. With college and department budgets stressed resulting from the global pandemic, funding projects so that students gain the experience of working with live clients and managing real executions and budgets presents a challenge. Donors, however, may be motivated to fund initiatives such as live industry-based projects that provide students much needed practical experience. One approach is to develop a project funding budget through ongoing college development initiatives or solicit industry sponsors from companies or agencies that may have a vested interest in the project theme. For example, with our *Marketing for Good Project*, we worked closely with local consumer product brands whose

missions aligned with social good and social justice to help fund the project and help students not only create but actually execute and bring their ideas to life.

Conclusion

It has become increasingly difficult for marketing educators and their course content to keep pace with the rapid changes and developments taking place in marketing and digital technology (e.g., e-commerce, online search, targeting and retargeting practices, privacy regulations, mobile and social media marketing). In response to this challenge, we detail two projects—the *Marketing for Good Project* and the *Adaptive Media Project*—that aim to help students develop not only the technical skills necessary for their future development, but important meta skills as well.

Through live PBL, we highlight how well-crafted projects can lead to the development of what we have defined as the 4Cs as well as numerous technical skills. As technology continues to advance, students will need to continue to adapt to social and economic changes. It therefore becomes even more important for educators to help students develop higher-level meta skills such as creativity, critical thinking and analysis, collaboration and communication in addition to the technical skills they learn. Research has shown that higher-level skill development among students can help them adjust to industry shifts and adopt new technology and tools (Ye et al., 2017). Students who develop both meta skills and technical skills have an advantage over those who possess a more limited set of skills (Ye et al., 2017). Our recent experience in teaching through the global pandemic shows us that this broader scope of skill development can be even more important in helping students cope with and adapt to change. In this way, live PBL serves as an important component to students' learning, engaging students in both technical skill *and* meta skill development and helping them learn to adapt to future and unknown challenges.

Although developing live projects that involve either real clients or real budgets, or both, can be more complex and costly, we believe the depth and relevance of student learning that takes place in the context of live PBL will help prepare students for future employment and careers—in other words, to become *future proof* and *real-world ready*. It is our hope that our experiences and the lessons learned from the projects and the assessment practices detailed here will help inform and inspire the development of even more innovative and progressive marketing curricula, courses and pedagogy in the service of our students and industry.

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Table 1 4Cs Meta skill development in marketing education

<i>4Cs Meta skills</i>	<i>Support in Marketing Practice and Education</i>
<p><i>Creativity</i> Coming up with solutions that are unique and novel and useful and appropriate to addressing the challenge or opportunity (Titus, 2000).</p>	<p><i>Ad Industry Talent Study, 2016; Bacon, 2017; Finch, Nadeau & O'Reilly, 2012; Titus, 2000</i></p>
<p><i>Critical Thinking</i> Developing students' ability to interpret, analyze, evaluate, infer and explain (Abrami et al., 2015; Dahl, Peltier & Schibrowsky, 2018).</p>	<p><i>Ad Industry Talent Study, 2016; Bacon, 2017; Dahl, Peltier & Schibrowsky, 2018; Finch, Nadeau & O'Reilly, 2012; Hopkins, 2011; McDermott, 2012; Strauss, 2011</i></p>
<p><i>Collaboration</i> Encouraging students to apply their unique talents to group project, motivated by a collective goal or mission (Adler, Heckscher and Prusak, 2011).</p>	<p><i>Ad Industry Talent Study, 2016; Razzouk et al., 2015; Schlee and Karns, 2017; Strauss, 2011</i></p>
<p><i>Communication</i> Developing students' verbal and non-verbal communication such as presentation skills and other forms of interpersonal communication (e.g., emails, phone calls, written reports).</p>	<p><i>Ad Industry Talent Study, 2016; Chad, 2012; McArthur et al., 2017; Razzouk et al., 2015</i></p>

Figure 1 360-Degree Skill-Based Assessment Process

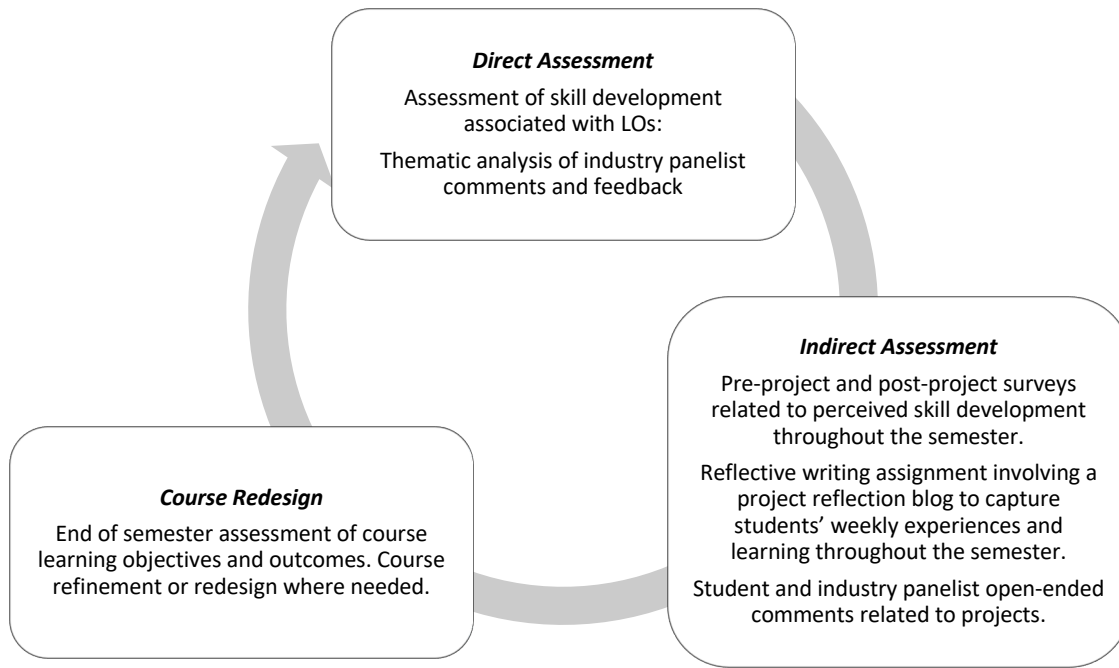


Table 2 Assessment of project learning outcomes (LO)

Skills-Based Learning Outcomes Technical and Meta Skills
<p>Technical Skills</p> <p>LO1 Working knowledge of paid search platforms (Google Ads)</p> <p>LO2 Working knowledge of paid social media platforms (Facebook and Instagram Ads)</p> <p>LO3 Apply human-centered design thinking and methodology to frame problem and potential solutions</p> <p>LO4 Conduct primary research and evaluate, apply secondary research and identify potential target audiences using Google and Facebook audience development platforms</p> <p>LO5 Create search and social media advertising copy and visuals</p> <p>LO6 Prepare comprehensive campaign performance reports identifying KPIs, apply optimization strategies and track campaign performance</p> <p>Meta Skills</p> <p>LO7 Develop distinctive visual brand identity (Creativity)</p> <p>LO8 Create communication elements (video, websites, social media, presentation content) (Creativity)</p> <p>LO9 Synthesize primary and secondary research to generate insights (Critical Thinking)</p> <p>LO10 Analyze weekly campaign performance (Critical Thinking)</p> <p>LO11 Develop teamwork and collaboration skills (Collaboration)</p>

LO12 Develop project management skills (Collaboration)
 LO13 Develop oral and written presentation skills (Communication)
 LO14 Develop clear and persuasive weekly campaign reports and effectively incorporate weekly campaign data (Communication)

Table 3 Skill Development Rubric

<i>Skill Type</i>	<i>Four Assessment Levels: Outstanding; Good; Fair; Needs Improvement</i>
<p>Paid Media</p> <p>LO1 Conceptualize and launch search keyword strategies consisting of branded and non-branded terms on Google Ads.</p> <p>LO2 Launch, test and optimize paid social campaigns on Facebook and Instagram.</p>	
<p>Research and Audience Development</p> <p>LO3 Design and implement design thinking methodology to inform brand positioning.</p> <p>LO4 Develop and analyze primary secondary research and apply Google and Facebook tools to uncover insights and inform campaign and media concepts.</p>	
<p>Campaign Development and Tracking</p> <p>LO5 Craft a clear and concise creative brief and create search and social media advertising copy and visuals.</p> <p>LO6 Identify and analyze KPIs such as search and social media engagement metrics, apply optimization strategies and track campaign performance.</p>	
<p>Creativity</p> <p>LO7 Generate original strategic and brand content ideas that are distinctive and address client objectives.</p> <p>LO8 Create unique communication elements (video, websites, social media, presentation content).</p>	
<p>Critical Thinking</p>	

LO9 Analyze large amounts of information and extract insights that inform brand and creative strategy.	
LO10 Apply data to analyze campaign performance over time.	
Collaboration	
LO11 Ability to work in multidisciplinary teams on fast-paced and complex real-world projects.	
LO12 Demonstrate effective project management skills.	
Communication	
LO13 Present and defend strategic and creative ideas orally and in well-designed presentation decks.	
LO14 Illustrate campaign performance over time by incorporating weekly campaign data.	

Table 4a Representative Student Project Comments

Respondent	Comments
Student, junior	Developing an actual product helped make the project real.
Student, junior	It gave me exposure to real life marketing and advertising.
Student, junior	Super applicable to real life.
Student, junior	Real life experience, felt like an internship.
Student, junior	It combined all parts of business and we were given enough creative control to become very passionate about marketing.
Student, senior	Hands-on learning. Managing + controlling our campaigns. Lots of responsibility!
Student, senior	Being able to use money to actually run the campaigns. There was added pressure to perform since more was at stake.
Student, senior	This is the most effective, relevant and fascinating course I've taken.
Student, senior	Being able to run ads/optimize campaigns in real life vs. just learning from lectures.
Student, senior	I've learned so much by working with a real brand running ads with real money.
Student, senior	Having so much contact with the 'outside world' makes the class feel very real and quite valuable. Industry is so baked into nearly every class that it's hard to forget that we're learning things that are so prevalent in the

	professional setting we'll be entering upon graduation.
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Table 4b Representative Industry Partner Comments

Respondent	Panelist Feedback
CEO, Advertising Agency	Over several years, [agency name] has had the privilege of collaborating with a number of [your] students who personify what it means to be real-world ready. I was impressed with the students' ability to create a visual identity and communicate how they brought their Marketing for Good projects to market!
Senior Manager, Digital Media Agency	This program bridges the gap between industry need and entry level readiness like nothing I have witnessed before. Students are learning ever changing real-world skills from industry leaders and entering the workforce prepared for success. I can personally attest to the value put on candidates coming out of the program. They meet and beat expectation every time, and that's rewarded.
Founder, Start-up Accelerator	I was so incredibly impressed by everything the teams accomplished in the Marketing for Good projects. They all did a terrific job and you should be proud...I sure am. So, thanks for letting me be a part of the journey.
Executive Director, Consortium of Advertising Professionals	By working directly with industry experts and, not only studying, but creating real world marketing solutions, the students step into the world confident, experienced and ready to take on the industry.
Chief Strategy Officer, Advertising Agency	The ambition of the [projects] is not to develop book-smart students who not only have an appreciation for the accepted rules of marketing, but real-world ready students.