

E-SERVICE LEARNING IN A DIGITAL MARKETING COURSE: DESIGN, IMPLEMENTATION, PERCEIVED EFFECTIVENESS, CHALLENGES AND WAY FORWARD

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ABSTRACT

Purpose of the Study: The recent trend of digitalization, online class enrollment, and remote work is adding more complexity to an already challenging digital marketing teaching environment. However, this trend also presents an opportunity to adopt online service learning (e-SL), a pedagogical approach that can effectively address these challenges. This research aims to highlight the benefits and challenges of e-SL by designing and implementing it in a digital marketing course where service components are delivered online.

Methods/ Design and Sample: We used a mixed-method research design to investigate e-SL in a digital marketing course. By design, the e-SL project incorporates three digital marketing pedagogical approaches: technical tools, knowledge, and experiential learning with a live community partner in an online environment. At the end of the project, students take an optional survey (n=52) and write a reflection report (n=61) describing their experiences. We analyze surveys, reflection reports, and evaluations from the community partner to get first-hand insights.

Results: E-SL is an effective pedagogical tool for enhancing meta-skills and preparing work-ready graduates with remote work skills. The effectiveness of e-SL in enhancing meta-skills is a testament to its potential, instilling confidence in its application. Communication, collaboration, and scheduling with teammates and the service partner are being identified as challenges that can be resolved using technology, establishing structured communication modalities, and emphasizing regular communication in an online environment. Further analyses provide a primer on differential efficacy and challenges between the two variants of e-SL. The data demonstrates that hybrid e-SL (in-person classes, online services) and extreme e-SL (online classes and online services) are effective, hybrid e-SL facilitates higher confidence in critical thinking, overall satisfaction, and industry involvement. Counterintuitively, the differential perceived efficacy of extreme e-SL is not significantly higher than that of hybrid e-SL for remote work experience in the present data. Students of the extreme e-SL report more group conflicts and communication challenges in their reflections.

Value to Marketing Educators: This research will significantly enhance educators' understanding and implementation of e-SL in a novel context, equipping them with practical insights. The research provides actionable knowledge that can be directly applied in the classroom, empowering educators to enhance their teaching methods. While the quantitative results reconfirm the effectiveness of the e-SL in a new context, the rich narrative and in-depth qualitative findings inform interested educators and provide a roadmap for successful implementation. Finally, the differential efficacy and challenges of two distinct approaches to e-SL may inspire marketing educators to study e-SL and its variants further, ensuring they are well-prepared for the evolving digital marketing landscape.

Keywords: Digital marketing, service learning, extreme virtual service learning, project-based learning, work-readiness

INTRODUCTION

Business education, which refers to teaching business-related skills and applications, demands a match between skills developed in the classroom and skills required to succeed in the workplace. However, neither the industry that tests those skills nor the employer's expectations are static. Academics leverage experiential learning, which refers to academic-related work experience (Strait & Sauer, 2004), to link

academic learning with workplace requirements. The benefits of experiential learning are evident in marketing pedagogical literature (Easterling & Rudell, 1997; Martin, 2015; McIntyre et al., 2005; Petkus, 2000). The application of experiential learning in novel contexts (McIntyre et al., 2005; Yorio & Ye, 2012) and courses (Gonzalez-Padron & Ferguson, 2015; Smith, 2004) motivates academics to study the application to facilitate pedagogical adoption by others.

The Association to Advance Collegiate Schools of Business (AACSB) International, a leading accrediting organization for business schools, also recognizes experiential learning as an indicator of quality curriculum that ensures students' continued success (Standard 4.3; AACSB, 2020). Marketing academics adopt experiential learning pedagogy to ensure relevant and current marketing education. An accumulating body of research covers the design, implementation, and effectiveness of service learning (SL), a form of experiential learning, across marketing courses, such as the principles of marketing (e.g., Klink & Athaide, 2004; Smith, 2004), sales (Hagenbuch, 2006; Hunt & Laverie, 2004; Shaw, 2007), promotion (Furlow, 2010), and service marketing (e.g., Fowler & Bridges, 2012; Gonzalez-Padron & Ferguson, 2015). This research aimed to contribute to these narratives by describing the design, implementation, efficacy, and challenges of adopting SL to a digital marketing (DM) course where the service component is delivered online, adding an electronic/online service learning (e-SL) approach. Marketing academics willing to adopt high-impact SL pedagogy, especially online, will benefit from the results of our research. In line with current practices, we label electronic/online SL as e-service learning or e-SL, in abbreviation.

In marketing, an examination of e-SL in a DM course is important for three reasons: (1) the increased demand for digital skills, (2) the increased complexity of DM pedagogy, and (3) the emerging trend of online enrollment. First, digitalization has recently increased, described as "a fast-moving tsunami" (Crittenden et al., 2019, p. 5). This rapid process of digitalization is challenging the practical relevance of marketing education (Schlegelmilch, 2020; Wymbs, 2011; Zahay et al., 2019), as employers are expecting dynamic digital skills (e.g., analytics, search engine optimization [SEO]) from marketing graduates (Zahay et al., 2022). Thus, academics, especially marketing academics, are under consistent pressure to develop a DM curriculum that reflects practice (Brocato et al., 2015; Munoz & Wood, 2015; Rohm et al., 2019; Wymbs, 2011) and prepares students regarding digital skills and meta-skills (Crittenden et al., 2019; Iqbal, 2023; Rohm et al., 2021; Williamson et al., 2002). Scholars (Iqbal, 2023; Rohm et al., 2019; Rohm et al., 2021; Zahay et al., 2022) and industry experts (Finch et al., 2012) prescribed the adaptation of experiential methods to develop meta-skills and context-specific applications. Thus, exploring experiential methods in a new context, like online, is particularly important to progress DM pedagogy.

Second, teaching DM is a unique challenge for marketing academics because the field constantly evolves. Academics must regularly update their knowledge and skills (Munoz & Wood, 2015; Zahay et al., 2019). For several reasons, digitalization profoundly impacts DM pedagogy and makes it more challenging. For example, the availability of an updated textbook is challenging as the DM tools and techniques are constantly changing (Miaskiewicz, 2022). Furthermore, most DM skills are developed in the industry (Rohm et al., 2021), and when industry practices change rapidly, educators lag (Munoz & Wood, 2015; Zahay et al., 2019). For instance, Google announced the phase-out of Universal Analytics and offered next-generation Google Analytics 4, effective July 1, 2023. More recently, in 2024, Google moved its free certifications to Coursera, where a \$49/ month subscription is required. Academics who used previous certifications must now develop new teaching material to accommodate this change. Learning these technologies is essential for effective DM skill development because they enable marketing to be precisely targeted and measured, differentiating DM from mass-communication-oriented traditional marketing (Wymbs, 2011). Thus, digital immigrant academics who trained themselves to be DM academics face constant challenges to keep pace with the dynamic industry and related tools (Crittenden & Crittenden, 2015).

Finally, the recent trend of working from home, hybrid classes, and virtual offices has added a new challenge to an already challenging DM course. Statista (2022) reports that many employers are permanently considering virtual or hybrid office formats, even post-COVID-19. Similarly, confirming Schlegelmilch's (2020, p. 104) prediction, McKinsey (2022) reported increased demand for online courses and increased competition among providers (e.g., universities, massive open online courses) for online students. For these growing online student groups, "reading or lecturing alone appears necessary, yet insufficient, for enhanced learning" (Crittenden et al., 2019, p. 7).

In the intersection of these three forces, DM academics face challenges in teaching relevant and updated digital skills that match the needs of employers and changing industries. Despite these challenges, DM academics work hard to minimize the gap between industry and knowledge. Their hard work is evident

in the frequent adoption of experiential project-based learning, particularly relevant to DM (Zahay et al., 2022). Most DM courses include experiential learning, where students apply theory to real-life projects (Brocato et al., 2015; Munoz & Wood, 2015; Zahay et al., 2019). However, a growing number of online classes and remote working practices add more complexity and challenges to an already challenging DM teaching environment. Hence, e-SL can offer a solution as the approach can facilitate experiential learning and provide a practical pedagogical approach to maintain a relevant and current DM education.

Despite the challenges of teaching DM, academics enthusiastically strive to manage changing industries through experiential learning approaches, such as SL, certifications, and simulations. While these studies have advanced our understanding of SL in DM courses, an online SL environment remains unknown. This research is posited to fill that gap. This course incorporates three DM pedagogical approaches: technical tools, knowledge, and experiential learning (Zahay et al., 2022) with live clients in an online environment.

Notably, the study addresses the following research questions (RQs) to fulfill the aim:

RQ 1: How can e-SL in a DM course be implemented effectively?

RQ 2: How do we know the course and e-SL effectively address learning objectives?

We examined pedagogical literature across disciplines to design and implement e-SL, thus answering RQ1. To answer RQ2, the study combined a survey (n=52), reflection reports (n=61), and feedback from the client and assessed the perceived (Bacon, 2016) effectiveness. The study also identifies challenges and offers solutions from these first-hand field data. The study finds that e-SL in DM courses is an effective pedagogical tool. E-SL positively impacts the work readiness of graduates in remote settings. It enhances program learning goals like teamwork, communication, and critical decision-making. Communication and collaboration are being identified as challenges of e-SL. These challenges can be resolved using technologies, establishing structured communication modalities, and emphasizing regular communication. Further analyses reveal differential efficacy in meta-skills and context-specific skills, as well as challenges for variants of e-SL.

The contributions of our paper are multifold. First, with a detailed description, the study provides a necessary outline for academics to adopt e-SL in a DM course. Second, the study adds e-SL to DM literature and other approaches such as traditional service learning, simulation, and certifications. The paper emphasizes the outcomes or skills desired for career readiness. It demonstrates the integration of social media/digital marketing and analytics in a DM course, responding to a recent call from Ye et al. (2023). We demonstrate how all three pedagogical approaches of DM (see Zahay et al., 2022)—marketing knowledge, technology and certifications, and experiential learning—can be integrated into a DM course. By describing e-SL with integrated digital/social media and analytics components (Ye et al., 2023) using three pedagogical approaches (Zahay et al., 2022), this paper offers valuable insights and guidelines for marketing academics and enhances DM pedagogy. Finally, with a few exceptions (e.g., Ye et al., 2017), extant pedagogical literature on DM primarily focuses on the work-readiness of marketing graduates. While addressing work readiness, this research adds a new dimension, namely, the online mode of service delivery, to the burgeoning DM pedagogical literature that may inspire academics to extend experiential learning beyond geographic boundaries. Further, we compared the differential effectiveness and challenges of variants of e-SL to progress the adaptation further.

The rest of this article is organized as follows. After a brief discussion on e-SL, the next section reviews the empirical studies on experiential learning with a focus on SL and e-SL, identifies the criteria of effective e-SL, and develops hypotheses linking the course and e-SL with in-demand skills. Then, answering RQ1, the following section describes the design and implementation of e-SL in DM courses. Then, to answer RQ2, three studies examine the effectiveness, challenges, and solutions for e-SL and its two variants qualitatively and quantitatively. Finally, the discussion section summarizes the benefits, limitations, and future research directions, followed by a conclusion highlighting the study implications.

LITERATURE REVIEW

Work readiness, skills, relevance, and experiential learning are closely interrelated. In this nexus, employers evaluate work readiness against desired skills (e.g., communication, teamwork, and technical ability) expected to be developed in classes. Academics use experiential approaches (e.g., service learning, projects, internship, and simulation) to ensure work readiness and maintain discipline relevancy. Experiential learning, which refers to academic-related work experience, bridges academic learning with the workplace (Strait & Sauer, 2004). The effectiveness of SL, a variant of experiential learning, is well-

documented. Academics also reported the effectiveness of e-SL, a variant of SL, across other disciplines. Thus, we expect an e-SL approach to be effective when designed and implemented following effective empirical SL approaches in a DM course, like other courses. The logical flow of the hypothesis is developed for current research as follows. Experiential learning and service learning, a type of experiential learning, are effective ways of developing skills and work-ready graduates. E-service learning, a further variant of service learning, has proven effective across disciplines other than marketing, particularly in digital marketing courses. Like traditional SL and e-SL in other disciplines, we expect e-SL will be effective in digital marketing. Notably, we review the literature on course design in the subsequent sections to support the course design for effective an e-SL. We briefly discussed SL and e-SL next. Then, we build our rationale for the effectiveness of e-SL in a DM course.

Service Learning (SL) and e-Service Learning (e-SL)

Experiential learning, which refers to academic-related work experience, bridges academic learning with the workplace (Strait & Sauer, 2004). E-SL is a pedagogical approach in which instruction and service components of a service-learning task are conducted online (Maddrell, 2014; Waldner et al., 2012). It is an electronic form of experiential education (Malvey et al., 2006). Across the discipline, e-SL generally refers to “e-Service Learning” (Maddrell, 2014; Malvey et al., 2006; Stefaniak, 2020; Strait & Sauer, 2004; Waldner et al., 2012) as well as online-SL (Guthrie & McCracken, 2010) and virtual-SL (Garcia-Gutierrez et al., 2021). Increasing enrollment in online courses calls for reconsidering the possibility of e-SL to expose online students to experiential learning (Waldner et al., 2012).

Based on the online/ in-person dichotomy of the learning component (i.e., instruction) and service component, Waldner and colleagues (2012) classified service learning into five classes (see Table 1). The learning component refers to instruction, lectures, and other teaching tools, whereas the service component refers to the service delivery and related interactions. Traditional service-learning conducts both the instructions (i.e., learning component) and services (i.e., service component) on-site- on campus and the client’s premises—the four other types of service-learning conduct at least learning or service or both online. The extreme form of E-SL facilitates both learning and service online. The other three types are Hybrid Type I (service entirely on-site and learning instructions fully online), Hybrid Type II (service fully online and learning instructions entirely on-site), and Hybrid III (blended format with partially online service and learning instructions).

Table 1: Types of e-SL in Waldner et al., 2012 and scope of this study

Project Components	Traditional SL	e-SL Hybrid Type I	e-SL Hybrid Type II	e-SL Hybrid Type III	Extreme e-SL
Service	On-site	On-site	Online	Blended	Online
Instruction	In-person	Online	In-person	Blended	Online
Examples	Kemp et al., 2019; Rohm et al., 2021	Guthrie & McCracken, 2010a; 2010c; Becnel & Moeller, 2017	Bourelle, 2014; Culcasi et al., 2022	Strait & Sauer, 2004; Volchok 2017	Waldner et al., 2010; Schmidt, 2024
Educational contexts (respectively)	Marketing	Social studies; Library science;	Technical communication; Psychology, education, and marketing communication;	Language and arts; Marketing research;	Public policy and marketing management (the course was blended); Psychology
Scope of this study			<i>The service component remains online for this in-person section.</i>		<i>The service component remains online for this online section.</i>

Each service-learning type delivers different deliverables (e.g., analysis, in-person presentation, on-site interaction) and outcomes. Scholars (e.g., Waldner et al. 2012) invited researchers to assess the

effectiveness of service learning if the service is delivered online.

The evolution of e-SL can be traced back to the early 2000s. Starit and Sauer (2004) described a teaching education program, Distributed Learning in Teacher Education or DLiTE. They introduced a blended class with on-site service components to facilitate service learning for online students. With the rapid growth of online enrollments, the need for service learning for online students intensified (Waldner et al., 2012). Attaining this emerging call, Guthrie and McCracken demonstrate that intentionally constructed online education can be effectively paired with on-site services (2010a; 2010c). With the same spirit, Becnel and Moeller (2017) adopt the Hybrid I approach for library science. Adopter of e-SL Hybrid I report the effectiveness of the approach to developing communal feelings (Becnel & Moeller, 2017), relationships with others (Guthrie & McCracken, 2010a), and experience social justice (Guthrie & McCracken, 2010c). Bourelle (2014) successfully used Hybrid Type II service learning for technical communication classes to bridge the classroom with the workplace. The longitudinal study of Culcasi and colleagues (2022) deployed online services with in-person instruction (Type II) to successfully develop soft skills. Pairing on-site service with a blended instruction modality (Hybrid Type II), Strait & Sauer (2004) observed e-SL as an experiential approach, whereas Volchok (2017) found the approach effective in developing bonding with the team and local business community. Pushing both instructions and services online (Xe-SL), researchers reported the effectiveness of e-SL in linking coursework to professional skills (Nielsen, 2016; Schmidt, 2024) while delivering satisfaction for students and clients (Waldner et al., 2010).

With a few notable exceptions (e.g., Volchok, 2017; Culcasi et al., 2022), e-SL has rarely been reported for marketing courses. To our knowledge, Xe-SL (both service and instructions online) is yet to be investigated for a marketing course. Against the backdrop of this gap, we review the present status of DM pedagogy with a particular focus on developing work-ready graduates.

Work-readiness and Skills

While the business schools accepted the task of preparing work-ready graduates (Greenacre et al., 2017), there is widespread consensus that with the changing needs of businesses, the knowledge and skills required to run a business change too. Scholars (Elhajjar, 2022; McArthur et al., 2017; Schlee & Harich, 2010; Yeoh, 2019) identified the work-readiness of marketing graduates in terms of skills and knowledge related to employability and career management. Employers look for these skills for entry, lower, middle, and upper-level jobs (Schlee & Harich, 2010).

Skills are the ability to perform a task. Employers look for knowledge, meta-skills, and technical skills in marketing graduates (McArthur et al., 2017; Schlee & Harich, 2010; Yeoh, 2019). Meta-skills are applicable to a wide range of contexts beyond disciplinary (e.g., Marketing) knowledge (McArthur et al., 2017). Meta-skills are also called non-technical, soft, and generic skills. Employers look for meta-skills such as communication, critical thinking, teamwork, and time management (McArthur et al., 2017; Yeoh, 2019). On the other hand, technical skills are task-specific competencies (Schlee & Harich, 2010). Technical skills change rapidly with the job environment. Newer studies (e.g., Yeoh, 2019) noted increased demand for DM skills related to websites, traffic, search engines, online advertisements, analytics, and social media for marketing graduates. In addition to meta-skills, as Yeoh (2019) reports, employers highly value the ability to apply knowledge, as evidenced by professional experience as well as in applied and project-based learning experiences.

To build the desired skills, scholars (Iqbal, 2023; Rohm et al., 2019; Zahay et al., 2022) emphasize the role of experiential learning to expose students to the real world, thus preparing work-ready marketing graduates. Recently, to cope with the dynamic needs, Zahay et al. (2022) proposed an integrated framework that encompasses knowledge (e.g., theories), experiential learning (e.g., SL, internships), and technology (e.g., industry certifications, badges) to ensure the development of desired DM and analytical skills among graduates. Exploring extant DM pedagogical literature aimed at developing work-readiness among graduates reveals that a substantial portion of literature used project-based SL, and the majority was conducted in an on-campus environment (Table 2).

It is noteworthy that, to the best of our knowledge, remote/online work experience has yet to be explored. Although various studies used client-based projects/SL, an online environment is seldom used during project application. This article will fill that gap by examining remote work as a context-specific desired skill for work-ready graduates. We develop hypotheses for these skills next.

Table 2: Selected Service-Learning Projects Aiming Job-readiness in Digital Marketing

Article	Summary of Projects	Class modality	Service delivery	New Tech. Certification	Experiential Learning	Live Client	Emphasized Outcomes
Atwong, 2015	In a team, students run social media campaigns applying the learned concepts.	In-person	In-person	-	√	-	Readiness for collaborative works
Staton, 2016	Students earn certifications within the coursework.	In-person	-	√	-	-	Job placement
Kemp et al., 2019	Students conduct research, calculate engagement rates, and provide recommendations regarding potential micro-influencers.	In-person	In-person	-	√	√	Earned critical thinking and confidence to be applied in a real-world marketing environment
Key et al., 2019	In a team, students run projects covering- blog creation, content development, keyword research, PPC campaign, analysis, and reporting.	In-person	In-person	√	√	-	Work-readiness
Laverie et al., 2020	Students earn certifications within the coursework.	In-person	In-person	√	√	-	Preparing students for the marketplace.
Hain & Ritz, 2021	In a team, students set and track the project KPI and prescribe recommendations through Enterprise Marketing Variation Model (EMVM).	In-person	In-person	-	√	√	Soft skills (interpersonal skills and critical thinking)
Rohm et al., 2021	First of two projects- In a team, students run campaigns for positive changes in the community. Second of two projects- In a team, students run paid search and paid social media campaigns for real-life clients.	In-person	In-person	-	√	-	Future proof and real-world readiness of students
		In-person	In-person	-	√	√	
Miaskiewicz, 2022	Students develop a website and run a website traffic campaign	In-person	In-person	-	√	-	Digital marketing skills employers are looking for
This Article	In a team, students work with one live client to develop a social media strategy, presenting buyer persona, social media audit, content calendar, and sample content for Facebook, Instagram, or LinkedIn.	Online and In-person	Online	√	√	√	Work-readiness in an immersive and online medium.

Across disciplines, academics used e-SL, like SL, with similar skill-building goals. The birth of e-SL can be traced back to the early 2000s with the emergence of online distance education (Strait & Sauer, 2004). Like traditional SL, e-SL can satisfy stakeholders (Waldner et al., 2010) and help to develop meta-skills, such as communication (Gallagher & McGorry, 2015; McGorry, 2012; Plata & Moredo, 2021), critical thinking (Ngai et al., 2023; Gallagher & McGorry, 2015; McGorry, 2012), and teamwork (Gallagher & McGorry, 2015; McGorry, 2012; Ngai et al., 2023). Thus, based on the empirical evidence, we expect that a well-designed DM course with e-SL will help students develop meta-skills. Acknowledging the existence of many meta-skills, we limit the examination of meta-skills within the university's scope. The midwestern university where the research was conducted expects business undergraduate students to have communication, teamwork, critical thinking, and ethical decision-making skills. The university communicates these expectations as Learning Goals (LGs). Aligning the learning goals of the university's undergraduate program, we selected meta-skills to be tested. We hypothesize as follows:

H₁: The course will improve students' meta-skills related to communication, teamwork, critical thinking, and ethical decision-making.

SL studies also reported the effective development of technical skills, such as influencer marketing (Kemp et al., 2019), platform-specific technical skills (e.g., Key et al., 2019; Miaskiewicz, 2022; Rohm et al., 2021), SEO (Miaskiewicz, 2022), and website development (Miaskiewicz, 2022). Additionally, these SL projects give students the confidence to perform similar real-life tasks (Atwong, 2015; Kemp et al., 2019) and boost employability (Staton, 2016). Similarly, e-SLs also reported that students found the project relevant (Gallagher & McGorry, 2015; Waldner et al., 2010) and helped them to develop a sense of community (Gallagher & McGorry, 2015). It is noteworthy that a significant number of e-SL programs (McGorry, 2012; Ngai et al., 2023) measured the effectiveness of the approach through the SELEB (Service-Learning Benefit) scale (Toncar et al., 2006) that emphasized, along with other skills, "citizenship skill" as a factor of understanding racial differences, social responsibility, and community engagement. Besides, the development of remote work expertise, a primary interest of this paper, is yet to be explored in e-SL literature. As e-SL participants reported the development of practical skills measured in real-world application and workplace and organization skills (McGorry, 2012; Ngai et al., 2023), we expect students of our e-SL program will develop remote work expertise through the project. Thus, we note the following e-SL-specific expectations:

H_{2a}: Students will gain remote work experience.

H_{2b}: Students will be more confident in working remotely.

H_{2c}: Students will improve their involvement with local businesses.

H_{2d}: Students will improve their professional relationships with the industry.

H_{2e}: Students will be more effective in teamwork and collaboration.

H_{2f}: Students will be more effective in professional communication skills.

H_{2g}: Students will be confident in solving real business problems.

COURSE DESIGN AND IMPLEMENTATION

The instructor previously ran an SL project with the same community partner (CP) in a DM course. A midwestern regional university in the USA has offered this course regularly since the fall of 2020. The university's total enrollment was 10,338 in Fall 2023.

DM is an upper-level required course for marketing major students. This research was conducted in the Spring of 2023 in two sections of the DM course. A total of 23 students were enrolled in the in-person section, and 39 were enrolled in the online section. All the students (62), regardless of online or in-person classes, participated in 5 e-SL projects in 13 teams (4-5 members). The project contributed approximately 50% of the final grade. A similar class in Fall 2023 comprised 75% female and 25% male students. Most students (82.75%) belong to the 19- 24 age group.

The Community Partner

The CP was a DM consulting firm in the Midwest region of the USA. The CP served as a single contact for the other participating organization, a non-profit organization of business owners in the local community. The instructor and CP worked together to design the e-SL based on their previous experience implementing SL in the same DM course. The instructor and CP collaborated to harmonize five components: syllabus, project descriptions, project delivery schedule, No Objection Letter, and Memorandum of Understanding (MoU). The instructor and CP collaborated toward a common goal of exposing students to remote work

experience and facilitating the application of course content. The CP expected innovative ideas and content from the students based on previous collaborations. The instructor facilitated the e-SL accordingly.

Characteristics of a Well-designed e-SL

SL and e-SL share some commonalities. In general, students conduct a project where they can apply their classroom knowledge to solve a real-life problem, and students reflect on their experience through a reflection report. However, Malvey et al. (2006) mentioned additional considerations to advance SL to an e-SL. They emphasized the technological readiness of students, faculty, and clients to conduct communication asynchronously (p. 190). Similarly, reviewing the extant literature, Waldner et al. (2012) identified several best practices of technology, communication, and course design in e-SL (p. 139). They emphasized technological readiness through training and combining both synchronous and asynchronous components. Additionally, they report that clear expectations from all participants, client's access to course content, use of group, and festive introduction to the client were among the best practices for effective communication. Finally, an explicit connection between course content and project tasks, reflection reports, time management, and feedback loop were emphasized for course design. We summarize the course schedule and design principles with literature support in Table 4.

Interviewing 19 experienced participants, Maddrell (2014) identified four particular design considerations of e-SL. First, e-SL should consider the goals of student participants, instructors, and clients. Successful e-SL gives students an opportunity to practice academic goals directly to a real-world problem that addresses client needs. A motivated faculty is also critical for a successful e-SL. Second, non-profit clients with a good understanding of the instructor are important. Notably, clients and faculty should select a project that can be completed virtually. Third, to mitigate the challenges of executing e-SL, academics should consider the time frame, protocol of role clarity, faculty control of the project, communication mechanism, and team formation. Finally, successful e-SL emphasizes both the learning process and the outcome of the project. Therefore, the assessment of both processes and end-products may determine student outcomes.

In summary, an e-SL can be effective if it: (1) is consistent with the goals of students, faculty, clients, and the institute; (2) connects course content and task; (3) ensures the technological readiness of all participants; (4) establishes a clear communication modality; and (5) emphasizes assessment of both process and outcome. The course addressed these design considerations as described in the following sections.

The e-SL Project Tasks

The e-SL project was designed to cover four learning cycles: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Easterling & Rudell, 1997; Kolb, 1984; Kolb & Kolb, 2017; Petkus, 2000). Table 3 summarizes the project's literary background. An activity schedule with a timeline was distributed, and all course materials, including slides and recorded video lectures, were accessible from the beginning.

Project Overview: The e-SL task was to develop a social media marketing plan for a specific platform for a non-profit client. It was a team assignment. Students chose from five project options involving two non-profit organizations and three platforms. Participants were expected to analyze the chosen organization's social media presence. They were to perform social media audits, content analyses, and competition analyses. They were instructed to identify the buyer's persona, outline strategies for each person based on analyses, develop a content calendar, and sample content.

Course Content Overview: The course was developed following an integrated approach (Zahay et al., 2022). Industry certifications, such as Google Analytics for Beginners, Google Ads Search, Google Ads Display, HubSpot social media, and HubSpot E-Mail Marketing, were embedded in each module. The students were expected to apply knowledge from class material and certifications in the e-SL.

The course introduced the fundamentals of digital platforms to the students and explored the marketing scopes on those platforms. It combined lectures, five exercises, five industry certifications, an individual website project, and a team e-SL project with a live client. The course was divided into six modules. These modules presented contemporary concepts and applications of analytics, SEO, online/advertising, social media, and e-mail marketing. The course evaluated student performance through class participation (if in-person), exercises (bonus/optional), industry certifications, service performance, and a reflection report. The instructor created a module on the Canvas learning management system (LMS) dedicated to the e-SL project. The e-SL module contained the following files: project timeline, project description from the CP,

HubSpot social media certification materials, workbook, deliverable outline, reflection report guidelines, MoU form, no objection certificate (NOC) form, peer evaluation form, and a sample deliverable from a previous semester.

Table 3: E-SL Design Considerations of Current Study

Theoretical Abilities (Kolb, 1984)	Application of Kolb's Framework in the current study	
	Activities in the e-SL project	Primary Learning Outcomes Addressed
Concrete experience Sensory and emotional engagement Evokes feelings.	Project work in teams Interaction with live client Interaction with the instructor	Remote work experience Community involvement Live industry experience Teamwork (meta-skill) Communication (meta-skill) Critical decision marketing (meta-skill) Ethical decision-making (meta-skill)
Reflective observation It involves watching, listening, recording, discussing, and elaborating on the experience.	Online meetings with the service partner Meetings with the instructor Feedback session with the instructor Reflection report	Self-reflection on all the goals
Abstract conceptualization Integrating Theory and Practices	Exploration of online lecture library, instructions, and interest Application of learned concepts	Remote work experience Live industry experience
Active experimentation	Project sections Project delivery Project ideas/ content selected by the service partner for execution	Teamwork (meta-skill) Critical thinking (meta-skill)

Technology

Following Waldner et al. (2012), an online environment was created leveraging familiar and available technologies. Students' remote work experience was facilitated through online meetings, receiving online instructions, collaborating online, delivering online, memo signing, consent signing, online feedback sessions with the instructors, online briefing sessions with the instructor, document management, and e-mail communication. The instructor and CP previously ran e-SL projects in the spring of 2022. Based on their previous experience, they were familiar with the required technology. Instructions on how to leverage available technologies, such as MS Teams, Zoom, and online LMS, were provided in the syllabus. The instructor also provided reminder e-mails before the deadline. The instructor, the CP, and the students were familiar with the required technology that satisfied the need for technological training (Malvey et al., 2006; Waldner et al., 2012). The instructor and the CP communicated through e-mail and Google Docs.

Complying with best practices (Malvey et al., 2006; Waldner et al., 2012), the course integrated synchronous and asynchronous tools. The instructor conducted two synchronous online meetings with the teams to finalize the project selection and to provide feedback on draft deliverables. The in-person section met the instructor in person. The CP conducted online meetings with each team through Zoom and Google Meet. Calendly (a scheduling platform) was used to schedule meetings. Both the instructor and the CP were available for additional meetings when necessary. The asynchronous tools included prerecorded video lectures (available from the first day of the course), e-mails, and group chats. Live meetings were recorded and were available for team members who could not attend them. Notably, prerecorded lecture videos benefitted students (Stefaniak, 2020).

Communication

Meetings, MoU and NOC: Communication expectations were established to ensure effective e-SL (Waldner et al., 2012). After the first meeting with the CP and the project assignment, the students, the CP, and the instructor signed a formal MoU. Each party acknowledged their commitment to complete the project. The students signed the NOC stating their consent to let the CP use their recommendations, ideas, and content, if applicable.

Video Instructions and Google Docs: The CP recorded video introductions for each of the five project options, which the instructor shared with all the participants. The CP also managed a Google Doc describing the communication policy, response time, contacts, project background, project goals, scope (expectations), project-specific required technologies, and deliverables. The online document was shared at the beginning of the semester, and the CP managed it.

The instructor formed the teams to mimic real-life business where participants would have limited power to choose their colleagues and ensured that all teams had equal time to complete the project.

Feedback process

Peer Review: At the end of the project, a peer evaluation was conducted to assess individual contributions.

Meetings: The first meeting with the instructor and the CP discussed the project, and follow-up meetings were scheduled when necessary. Before the final submission of the project, students were required to submit the draft report to the instructor. The instructor scheduled team meetings and provided feedback. Students were given two weeks to work on the project before final submission. Beyond the standard process, the instructor and the CP were available for consultation.

Course implementation

The implementation process emphasizes remote working experience as the source of learning and development and follows an implementation schedule (Table 4).

Table 4: Table: Summary of Design- Tasks and Responsibilities

Steps	Tasks in this e-SL implemented (This column of instructions and due dates were available in the syllabus.)	e-SL Design Principles/ Best Practices Adopted in this e-SL
Selection of client	<ul style="list-style-type: none"> ▪ Faculty select a local volunteer as a community partner. ▪ The community partner willingly agrees to facilitate the e-SL with five projects on social media strategy 	<ul style="list-style-type: none"> ▪ Faculty must have prior experience in running online classes and projects. Faculty screen organization according to prior experience. (Malevey et al., 2006).
Familiarity with concepts and tools	<ul style="list-style-type: none"> ▪ Students explore the video (lectures) library. ▪ Students explore the project descriptions and videos from community partners. ▪ Students, in a team, match their interests with available projects. 	<ul style="list-style-type: none"> ▪ All parties should receive an orientation to e-SL (Malvey et al., 2006) ▪ Asynchronous communication should offer flexible learning options (Malvey et al., 2006). ▪ Video recordings to present the project background (Bouelle, 2014; Malvey et al., 2006).
Know the team	<ul style="list-style-type: none"> ▪ The faculty has already created the team. (See Canvas) ▪ Students know their team members and contact them. ▪ Students <u>may</u> select a primary contact (volunteer) for the team. The primary contact is responsible for communicating with and scheduling meetings with the faculty and the service partner. 	<ul style="list-style-type: none"> ▪ Use of groups and a group space on the online course system to facilitate social support during disconnection and to facilitate transfer of learning (Stefaniak, 2020) ▪ Formation of the group to reduce the load on community partners (Bouelle, 2014; Volchok, 2017; Waldner et al., 2012)

	<ul style="list-style-type: none"> All team members should be in the loop (via e-mail) when the primary contact contacts the faculty and the service partner. 	
Select at least two projects from the five options and focus.	<ul style="list-style-type: none"> Students explore the online document outlining the project list, descriptions, project-specific required skills, and expected outcomes. Students discuss with the team before meeting the faculty. 	<ul style="list-style-type: none"> “Community-partner reveal” to establish student engagement and communication (Waldner et al., 2012, p. 142). Video recordings to present the project background (Bourelle, 2014; Malvey et al., 2006). Participants must clearly understand expected outcomes (Stefaniak, 2020; Waldner et al., 2012).
Faculty Consultation	<ul style="list-style-type: none"> Students schedule a meeting. 20- 30 minutes per team. <u>Students of the online section</u> should contact the faculty for an online schedule (location: MS Team). The faculty will assign meeting slots on a first-come, first-serve basis. <u>Students of the in-person section</u> will meet faculty as per the following schedule (location-classroom) Agenda: <ul style="list-style-type: none"> Linking course content and project Roles and responsibilities Memo of Understanding (MoU); No-objection Certification (NOC). 	<ul style="list-style-type: none"> Alignment of course content and service tasks to ensure transfer of learning (Bourelle, 2014; Stefaniak, 2020) All parties should receive an orientation to e-SL (Malvey et al., 2006); All parties involved are required to submit a confidentiality agreement (Malvey et al., 2006); MoU (Waldner et al., 2012) Synchronous communications (e.g., video conferencing) to ensure all participants contribute to problem-solving online (Malvey et al., 2006) There must be a bridge between synchronous and asynchronous communications (Waldner et al., 2012)
Meeting Service Partner	<ol style="list-style-type: none"> Students schedule an online meeting with the service partner. (See the project description file) 20-30 minutes per team. Agenda: <ol style="list-style-type: none"> Project-specific expectations, outcomes, deliverables, and communication modality. Selection of the project. 	<ul style="list-style-type: none"> Live online meetings with community partners to build rapport, understand the details, and set expectations (Stefaniak, 2020; Waldner et al., 2012). Community partners available for online meetings at specific times (Malvey et al., 2006)
MOU & NOC	Students sign the MOU and send it as per the instructions on the MOU form. Students upload the NOC through Canvas.	<ul style="list-style-type: none"> All parties involved are required to submit a confidentiality agreement (Malvey et al., 2006); MoU (Waldner et al., 2012)
Project execution	The (students) team executes the project.	<ul style="list-style-type: none"> Community partners must treat the students as consultants and contributors. (Malvey et al., 2006). Availability of community partners for meeting/ discussion (Waldner et al., 2010). Adequate technology support is to be ensured for all parties. (Malvey et al., 2006).
Project draft to	Students send the draft of the project	<ul style="list-style-type: none"> [Based on the faculty experience]

the faculty	to the faculty	Students may not review the detailed feedback if it is given after the end of the semester. Providing feedback on the draft and allowing them to work on recommended improvements facilitate their reflection on learning before the semester ends.
Faculty's feedback on the draft	The faculty sends feedback and recommends improvements. <ol style="list-style-type: none"> 1. Schedule a meeting. 2. 20- 30 minutes per team. 3. <u>Students of the online section</u> should contact the faculty for an online schedule (location: MS Team). The faculty will assign meeting slots on a first-come, first-serve basis. 4. <u>Students of the in-person section</u> will meet faculty as per the following schedule (location-classroom) 5. Agenda: <ul style="list-style-type: none"> o Improvement of the written draft. 	<ul style="list-style-type: none"> ▪ Synchronous communications (e.g., video conferencing) to ensure all participants contribute to problem-solving online (Malvey et al., 2006) ▪ Adequate technology support is to be ensured for all parties. (Malvey et al., 2006)
Submission of the final project	Students- <ol style="list-style-type: none"> 1. Incorporate recommended updates. 2. Send the final project to the service partner. 3. Upload the project for grading. Each member must upload the project. 	<ul style="list-style-type: none"> ▪ [project deliverables]
Submission of reflection paper	Students complete the reflection paper based on their project experience. Individually submit the reflection paper for grading.	<ul style="list-style-type: none"> ▪ Students reflect on their experiences and newly acquired skills from the e-SL to ensure the transfer of learning (Stefanik, 2020). ▪ Open-ended questions to guide the reflection on learning (Guthrie & McCracken, 2010)
Communication with the service partner	As per the MoU	<ul style="list-style-type: none"> ▪ Availability of community partners for meeting/ discussion (Waldner et al., 2010).

The course offers four weeks of exploration before deciding on a project. Exploration includes all course material, assignments, expectations, deliverables, meeting schedules, necessary documentation, and guidelines for collaboration. Students submitted a reflection report and an optional survey at the end of the fourteen-week semester.

ANALYSIS AND FINDINGS

The efficacy, challenges, and solutions of e-SL are examined with a mixed-method approach. Three studies are combined: a survey (n = 52), a semi-structured reflection report (n = 61), and the community partner's feedback to test the perceived effectiveness of challenges and solutions for implementing e-SL. Our measures are indirect and assess the perceived effectiveness only (Bacon, 2016).

First, all enrolled students were invited to attend the optional survey for bonus course points. We

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received 52 usable responses. An independent sample t-test ($n=52$) was conducted to quantitatively test the hypotheses related to the perceived effectiveness of e-SL. Further analyses were conducted to examine the differential efficacy between two approaches of e-SL, namely e-SL hybrid type II ($n=16$) and extreme e-SL ($n=36$). SPSS 27 was used to conduct the analysis.

Second, the source of data is reflection reports. The reflection report was the required and graded component. Through this semi-structured reflection report, all the students shared what they had learned and experienced during the project. The reflection report specifically asked the students to report challenges they faced during the project and recommend solutions. Semi-structured reflection reports were analyzed to identify challenges and ways forward.

Third, the CP's perception of efficacy was also incorporated in the qualitative findings. Students were the prime participants in the survey and reflections. Participants provided informed consent. The university's institutional review board (IRB) approved the research process.

Study 1: Quantitative results of the survey

Data: Survey instruments were developed around the skills of interest described in developing hypotheses. The survey questions asked students to mark their agreement or disagreement with the statements. The first question, covering a set of survey items, reflected the skills (i.e., remote work experience, community involvement, teamwork, and solving real business problems) as outlined in the Literature Review section. The second set of survey items captured students' perceptions about the effectiveness of the e-SL project in achieving the university's undergraduate program learning goals/meta-skills. Two items testing the effectiveness of teamwork, communication, and critical thinking/problem-solving skills were present in both questions for e-SL and the overall course. These three items, teamwork, communication, and problem-solving skills, demonstrate robust correlations (0.92, 0.85, and 0.81, respectively, at a 0.01 significance level) and, thus, the consistency of responses.

Students received bonus points (approximately 5% of the final grade) for participation in the voluntary survey. An alternative essay carrying the same points was also offered simultaneously. Two sections of DM courses were invited. 52 usable responses were recorded, yielding an 83.87% response rate.

Analytical Approach: The study measured the variables on a 7-point scale from 1 (strongly agree) to 7 (strongly disagree). The average of these possible values is 4. The study used 4 as the test statistics to test the null hypotheses. The null hypothesis states that the observed mean was not significantly different from the test value. A one-sample t-test was conducted to test the hypothesis. The null hypotheses expect their mean sample value to be close to the hypothesized mean = 4 (neither agree nor disagree). As the smaller values indicate more robust agreement to favorable statements, smaller means indicate greater perceived effectiveness. Our quantitative analysis is consistent with pedagogical literature (e.g., Smith, 2004; Calco & Veeck, 2015).

Effectiveness of e-SL (Combined results for both Xe-SL and Hybrid e-SL Type II) : The first set of hypotheses tested the perceived effectiveness of meta-skills (H_{1a} , H_{1b} , H_{1c} , and H_{1d}) and overall satisfaction (H_{1e}). This set states that students perceived that the course enhanced their meta-skills. As Table 5 indicates the means for (a) communication ($Mean (M) = 2.31$; $Standard Deviation (SD) = 1.19$), (b) teamwork ($M = 2.35$; $SD = 1.35$), (c) critical thinking ($M = 2.4$; $SD = 1.31$), (d) ethical decision-making ($M = 2.58$; $SD = 1.34$), and (e) satisfaction ($M = 2.19$; $SD = 1.37$) are significantly smaller than the test value (i.e., 4) for all meta-skills- communication [$t(51) = -10.19$, $p = 0.00$], teamwork [$t(51) = -8.79$, $p = 0.00$], critical thinking [$t(51) = -8.73$, $p = 0.00$], ethical decision marketing [$t(51) = -7.61$, $p = 0.00$], and satisfaction [$t(51) = -9.49$, $p = 0.00$]. We reject the null hypotheses. In summary, students perceived that the course enhanced their meta-skill effectively and expressed overall satisfaction.

Table 5: Course-level Effectiveness in Developing Meta-skills (combined)

H_o	Supported	Item	Mean	SD	Mean Difference	t	df	p
H_{1a}	Yes	Overall, the course enhanced my communication skills.	2.31	1.1	-1.69	-10.19	51	0.00
H_{1b}	Yes	Overall, the course enhanced my teamwork skills.	2.35	1.3	-1.65	-8.79	51	0.00
H_{1c}	Yes	Overall, the course enhanced my critical thinking skills.	2.40	1.3	-1.59	-8.73	51	0.00
H_{1d}	Yes	Overall, the course enhanced my ethical decision-making skills.	2.58	1.3	-1.42	-7.61	51	0.00

		ethical decision-making.		4				0
H _{1e}	Yes	Overall, I am satisfied with the course.	2.19	1.3	-1.80	-9.49	51	0.0
				7				0

The question asked the participants to rate the effectiveness of the course overall. The items were introduced after the following sentence- "Please use the scale below to indicate your level of agreement with the provided statement about the course (overall)." Ranking scale 1- 7; 1= Strongly agree in positive evaluation; 4= Neither agree nor disagree; 7= Strongly disagree.

A smaller value indicates stronger agreement with the favorable statement.

Respondents (n)= 52; Response Rate: 87 percent.

The test statistic: 4.00.

Table 6 presents the students' perceived effectiveness of e-SL in developing skills. The second set of hypotheses (*H_{2a}*, *H_{2b}*, *H_{2c}*, *H_{2d}*, *H_{2e}*, *H_{2f}*, and *H_{2g}*) tested the perceived effectiveness of e-SL. Notably, these hypotheses contain technical skills (*H_{2a}*, *H_{2b}*, *H_{2c}*, and *H_{2d}*) and meta-skills (*H_{2e}*, *H_{2f}*, and *H_{2g}*). As Table 6 states, the means for (a) remote work experience (*M* = 2.00; *SD* = 0.97), (b) remote work confidence (*Mean* = 2.37; *Standard Deviation* = 1.28), (c) local business involvement (*Mean* = 2.54; *Standard Deviation* = 1.35), (d) industry relationship (*Mean* = 2.58; *Standard Deviation* = 1.32) are significantly smaller than the test statistic for all technical skills- remote work experience [*t* (51) = -14.84, *p* = 0.00], remote work confidence [*t* (51) = - 9.18, *p* = 0.00], local business involvement [*t* (51) = - 7.80, *p* = 0.00], and industry relationship [*t* (51) = - 7.88, *p* = 0.00]. Thus, we reject the null hypotheses for these technical skills. For meta-skills, respondents' perceived effectiveness in developing meta-skills through the e-SL converges with their perceived effectiveness of the course, which they reported previously (Table 5). We find that the means for (e) teamwork and collaboration (*M* = 2.35; *SD* = 1.52), (f) professional communication (*M* = 2.33; *SD* = 1.32), and (g) problem-solving (*M* = 2.38; *SD* = 1.36) are significantly smaller than the test value (i.e., 4) for teamwork and collaboration [*t* (51) = -7.84, *p* = 0.00], professional communication [*t* (51) = - 9.11, *p* = 0.00], and problem-solving [*t* (51) = - 8.56, *p* = 0.00]. We reject the null hypotheses.

Table 6: Project level Effectiveness in Developing Context-Specific Skills (combined)

H _o	Supported	Item	Mean	SD	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>
H _{2a}	Yes	Gained experience in a remote work environment	2.00	0.97	-2.00	-14.84	51	0.00
H _{2b}	Yes	Developed more confidence in working remotely	2.37	1.28	-1.63	-9.18	51	0.00
H _{2c}	Yes	Enhanced sense of involvement with local business	2.54	1.35	-1.46	-7.80	51	0.00
H _{2d}	Yes	Enhanced professional relationship with industry	2.56	1.32	-1.44	-7.88	51	0.00
H _{2e}	Yes	Become more effective in teamwork and collaboration	2.35	1.52	-1.65	-7.84	51	0.00
H _{2f}	Yes	Enhanced my professional communication skill	2.33	1.32	-1.67	-9.11	51	0.00
H _{2g}	Yes	Developed more confidence to solve real business problems	2.38	1.36	-1.61	-8.56	51	0.00

¹Note: This question particularly asked the participants to measure the effectiveness of the e-SL project.

The items were introduced: "Please use the scale below to indicate your level of agreement with the provided statement related to the online service-learning project." The ranking scale is 1- 7; 1 = Strongly agree in positive evaluation; 4 = Neither agree nor disagree; 7 = Strongly disagree.

A smaller value indicates stronger agreement with the favorable statement.

Respondents (n)= 52; Response Rate: 87 percent.

The test statistic: 4.00.

In summary, students perceived that e-SL gave them remote work experience and made them more confident about working remotely. The students also believed that e-SL allowed them to be involved in local businesses and enhance professional relationships within the industry. In addition, e-SL enhanced their teamwork, communication, and critical thinking.

Differential Effectiveness of Hybrid e-SL Type II and Xe-SL: We examined the data further to find differential efficacy in e-SL approaches (we thank one of the anonymous reviewers for this suggestion). Acknowledging the limitations of the small sample size, we consider the findings a primer for further examination. We conducted an independent sample t-test to compare the reported effectiveness of meta-skills and context-specific-skills in Xe-SL and Hybrid e-SL Type II. We used a conservative *Welch's* t-test and a two-tailed significance level to identify the distinctiveness of the two populations. We also report the effect size (Cohen's *d*). We report the results in Tables 7 and 8.

Table 7: Course-level Differential Effectiveness of Meta Skills of Xe-SL and Hybrid e-SL

Item	Xe-SL (n= 36)		Hybrid e-SL (n=16)		Test Results ^a				
	Mean	S.D.	Mean	S.D.	Mean diff.	t	df	p	Cohen's d
Enhanced communication skills	2.42	1.317	2.06	0.854	0.354	1.156	42.933	0.254	1.197
Enhanced team-work skills	2.53	1.483	1.94	0.929	0.590	1.741	44.028	0.089*	1.341
Enhanced my critical thinking skills	2.58	1.422	2.00	0.966	0.583	1.724	41.354	0.092*	1.302
Enhanced ethical decision-making	2.58	1.422	2.56	1.209	0.021	0.054	33.648	0.967	1.362
Overall satisfaction with the course	2.42	1.500	1.69	0.873	0.729	2.197	46.136	0.033**	1.343

Participants (n)= 52; Response Rate: 87 percent.

Note: ^a We used Welch's t-test (equal variance is not assumed) results to address unequal sample sizes and subsequent potential heteroscedasticity.

* Refers to significance at a 0.1 level

** Refers to significance at a 0.05 level

Note further: A smaller value indicates stronger agreement with the favorable statement.

Between Xe-SL and Hybrid e-SL Type II, there is no statistically significant difference in communication skills [$M_{Xe-SL} = 2.42$, $SD_{Xe-SL} = 1.317$ and $M_{Hybrid\ e-SL\ Type\ II} = 2.06$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.854$; $t(42.933) = 1.156$, $p = 0.254$, $d = 1.197$], and ethical decision marketing [$M_{Xe-SL} = 2.58$, $SD_{Xe-SL} = 1.422$ and $M_{Hybrid\ e-SL\ Type\ II} = 2.56$, $SD_{Hybrid\ e-SL\ Type\ II} = 1.209$; $t(33.648) = 0.054$, $p = 0.967$, $d = 1.362$]. However, respondents from Hybrid e-SL Type II reported significantly higher effectiveness than those from Xe-SL in team-work [$M_{Xe-SL} = 2.53$, $SD_{Xe-SL} = 1.483$ and $M_{Hybrid\ e-SL\ Type\ II} = 1.94$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.929$; $t(44.028) = 1.741$, $p = 0.089$, $d = 1.341$], critical thinking [$M_{Xe-SL} = 2.58$, $SD_{Xe-SL} = 1.422$ and $M_{Hybrid\ e-SL\ Type\ II} = 2.00$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.966$; $t(41.354) = 1.724$, $p = 0.092$, $d = 1.302$] and in overall course-satisfaction [$M_{Xe-SL} = 2.42$, $SD_{Xe-SL} = 1.5$ and $M_{Hybrid\ e-SL\ Type\ II} = 1.69$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.873$; $t(46.136) = 2.197$, $p = 0.033$, $d = 1.343$].

Between Xe-SL respondents and Hybrid e-SL Type II respondents, in our data, there is no statistically significant difference in remote work experience [$M_{Xe-SL} = 1.89$, $SD_{Xe-SL} = 0.961$, and $M_{Hybrid\ e-SL\ Type\ II} = 2.31$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.946$; $t(29.254) = -1.580$, $p = 0.125$], developing more confidence in remote work [$M_{Xe-SL} = 2.33$, $SD_{Xe-SL} = 1.454$, and $M_{Hybrid\ e-SL\ Type\ II} = 2.44$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.844$; $t(47.110) = -0.329$, $p = 0.743$], enhancing professional communication skills [$M_{Xe-SL} = 2.44$, $SD_{Xe-SL} = 1.403$, and $M_{Hybrid\ e-SL\ Type\ II} = 2.06$, $SD_{Hybrid\ e-SL\ Type\ II} = 1.124$; $t(45.824) = 1.045$, $p = 0.303$]. Interestingly, compared to Xe-SL respondents, Hybrid e-SL Type II respondents reported an enhanced sense of involvement with local business [$M_{Xe-SL} = 2.83$, $SD_{Xe-SL} = 1.424$, and $M_{Hybrid\ e-SL\ Type\ II} = 1.88$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.885$; $t(44.267) = 2.953$, $p = 0.005$], enhanced professional relationship with the industry [$M_{Xe-SL} = 2.78$, $SD_{Xe-SL} = 1.436$, and $M_{Hybrid\ e-SL\ Type\ II} = 2.06$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.854$; $t(45.568) = 2.230$, $p = 0.031$], and developed more confidence to solve real business problems [$M_{Xe-SL} = 2.67$, $SD_{Xe-SL} = 1.454$, and $M_{Hybrid\ e-SL\ Type\ II} = 1.75$, $SD_{Hybrid\ e-SL\ Type\ II} = 0.856$; $t(45.824) = 2.835$, $p = 0.007$]. Notably, Hybrid e-SL respondents also reported becoming more effective in collaborating with others [$M_{Xe-SL} = 2.56$, $SD_{Xe-SL} = 1.647$, and $M_{Hybrid\ e-SL\ Type\ II} = 1.88$, $SD_{Hybrid\ e-SL\ Type\ II} = 1.088$; $t(42.303) = 1.761$, $p = 0.085$].

Table 8: Project-level Differential Effectiveness of Context-specific Skills of Xe-SL and Hybrid e-SL

Item	Xe-SL (n= 36)		Hybrid e-SL (n=16)		Mean diff.	t	Test Results ^a		
	Mean	S.D.	Mean	S.D.			df	p	Cohen's d
Experienced remote work experience	1.86	0.961	2.31	0.946	-0.451	-1.580	29.254	0.125	0.956
Developed more confidence in working remotely	2.33	1.454	2.44	0.814	-0.104	-0.329	47.110	0.743	1.296
Enhanced sense of involvement with local business	2.83	1.424	1.88	0.885	0.958	2.953	44.267	0.005**	1.286
Enhanced professional relationships with the industry	2.78	1.436	2.06	0.854	0.715	2.230	45.568	0.031**	1.290
Become more effective in collaborating with others	2.56	1.647	1.88	1.088	0.681	1.761	42.303	0.085*	1.501
Enhanced professional communication skills	2.44	1.403	2.06	1.124	0.382	1.045	35.653	0.303	1.325
Developed more confidence to solve real business problems	2.67	1.454	1.75	0.856	0.917	2.835	45.824	0.007**	1.304

Participants (n)= 52; Response Rate: 87 percent.

Note: ^a We used Welch's t-test (equal variance is not assumed) results to address unequal sample sizes and subsequent potential heteroscedasticity.

* Refers to significance at a 0.1 level

** Refers to significance at a 0.05 level

Note further: A smaller value indicates stronger agreement with the favorable statement.

In summary, further analyses find that both modalities effectively achieve the goals related to remote work, community/ industry relationships, teamwork, communication, critical thinking, ethical decision-making, and overall satisfaction. However, Hybrid e-SL facilitates significantly more perceived effectiveness in industry relationships, critical thinking, ethical decision-making, and overall satisfaction at the course level. Moreover, Hybrid e-SL respondents reported a higher enhancement of involvement and professional relationships with local industry and higher confidence in solving real business problems and collaborating with others from project activities.

Study 2: Qualitative Results from Reflections Reports

Data: The second source of data was the students' self-reflection reports. A semi-structured questionnaire guided the students' responses. We asked students to write reflection reports and answer six specific questions. The first two questions asked them to describe the firm they worked for and recall how they used particular marketing concepts (e.g., buyer persona) during projects. The third question asked them to delineate their relationship with the client as a local community partner. The fourth and fifth questions probed students to identify challenges they faced during the project and how they overcame them. Finally, they were asked to share ideas to avoid these challenges in the future. Students did not receive any bonus points for the reflection report.

Analytical Approach: We received a total of sixty-one reflection reports from students. Overall, we received responses in an organized way thanks to semi-structured instructions. We treated each report as content and conducted manual content analysis. We analyze them by first-cycle exploratory electric coding (Saldaña, 2021) and second-cycle focused coding (Charmaz, 2014). At first, we identified and coded

specific challenges, solutions, and recommendations (e.g., communication). Then, we categorized the responses based on frequently appearing codes (Charmaz, 2014). We summarize the challenges, solutions, and future ideas below. We also used NVivo 14 to generate word clouds of combined and modality-specific challenges and solutions to verify our manual fine-grained analysis. We presented representative quotations from the reflections in Table 9.

Perceived Effectiveness: Overall, students reported perceived effectiveness in multiple ways across modalities without any notable modality-specific differences. First, students reported their local involvement in the project. They were surprised to observe the effort and time behind the social media presence of a local, relatively small firm. Their expectation of “easy” marketing on social media platforms was challenged. Second, the students noted the possible ways of transferring their relevant learning. Students reported their involvement with a local firm and the project's impact on an actual client. Most students reported their surprise at the time and effort required of a small local firm to manage its social media presence. Students also reported realizing the real-life job requirements. Additionally, experienced students reported the incremental benefits of participating in e-SL. Finally, students acknowledged the challenges of e-SL tasks and potential benefits.

Table 9: Selected Extract on Context

Context	Representative Extract
Local business	<p><i>“This project helped me to realize just how much time and work goes into marketing for a local, smaller, organization. ... I do social media and other digital marketing as a full-time job for a much larger, manufacturing company. It takes a ton of time to strategize, produce content, and plan posts.” [Xe-SL participant]</i></p> <p><i>“... local organizations by allowing me to develop and implement marketing strategies, monitor results, and make recommendations to enhance the efficacy of the marketing strategy. It can also assist me with building relationships within the local community and gaining valuable experience working with non-profit organizations.” [Hybrid e-SL participant]</i></p>
Practical relevance	<p><i>“I got to experience firsthand what it would be like to meet with a client and listen to what they would like as a result of the improvements, and then proceed to put together a collection of my ideas and receive feedback from the organization.” [Xe-SL participant]</i></p>
Benefits	<p><i>“I work for a B2B firm as a marketing specialist currently, so this project gave me insight to an agency setting. ... I was able to gain experience from a local organization that I wouldn't have gotten otherwise.” [Xe-SL participant]</i></p> <p><i>“This project forced me out of my comfort zone and into a place that I am now more comfortable exploring further.” [Xe-SL participant]</i></p>
Scheduling	<p><i>“As this class was completely virtual for my teammates and I, it was difficult to find times to meet that worked with everyone's schedules. Had this been an in person class, we would've most likely had class time to work on the project, but since that was not the case, a lot of information tended to get lost in the emails between my teammates and I.” [Xe-SL participant]</i></p> <p><i>“Time to meet- often it is difficult to schedule around several working college student's lives with everyone having their own obligations.” [Hybrid e-SL participant]</i></p>
Intensity of communication issue	<p><i>“... , I believe my whole group would agree that there was a large lack of communication throughout the entire project. To start, online meeting notes were never shared. I also noticed after a short while that our group was preparing two different projects. The MoU we submitted had a different project name than the title of our marketing analysis. My pointing this out led to an argument between certain members, including screenshots, paragraphs, and ultimately, an email to you, our professor.” [Xe-SL participant]</i></p> <p><i>“... Having to email and use teams is okay but not every check their emails or teams. It can take a long time to get answers then planning things is hard.” [Xe-SL participant]</i></p> <p><i>“Some challenges we faced during this project is communication not just between each other but [community partner] as well.” [Hybrid e-SL participants]</i></p>
Gravity of team	<p><i>“XXX did not show up to any team meeting, and he did not communicate with us at</i></p>

issues	<p><i>all over email or teams. We outlined the group tasks expecting he would show up to do his part, but he never did. [Xe-SL participant]</i></p> <ul style="list-style-type: none"> • <i>The hybrid e-SL participants reported zero issues identifying any team members.</i>
Solutions to the communication issue	<p><i>"..., we were eventually able to find a time that worked for everyone to get the project underway. After that first meeting, we were able to divide up the work on a week-by-week basis. Each week we had a scheduled meeting at 7:30pm on Monday nights. At that time, we would meet to discuss what we worked on that week and what still needed to be done." [Xe-SL participant]</i></p> <p><i>"To overcome these issues we basically had to schedule times that worked best for the majority of the group and made sure everyone stayed in the loop on what we were doing." [Hybrid e-SL]</i></p>

Challenges: Communication and scheduling conflicts were frequently reported challenges. Students faced challenges while scheduling meetings with team members and the CP. Students overcame this challenge by exercising (1) flexibility, (2) video recordings of discussions/ meetings, (3) chain e-mails, (4) group chats, and (5) meeting minutes. Table 10 summarizes the challenges and possible solutions. Communication within the team was the most frequently mentioned challenge. A few students noted the CP's schedule and response time as challenges. Two students mentioned the instructor's late response under similar challenges.

Table 10: Challenges of e-SL and Possible Way Forward

Challenges	Way Forward
Communication	Flexibility; group chat; chain mail; video recording of meetings; meeting minutes
Scheduling conflicts	Flexibility: Afternoon, evening, and weekend meetings
Task-division	Group chat; equal distribution of task
Technical inexperience	Peer learning

Scheduling a suitable time for online teams is a frequently reported challenge. The following extract on scheduling issues reflects the differential challenges of Xe-SL and e-SL. Unlike scheduling, the communication challenges across the variants of e-SL have been reported with varying intensity. While Xe-SL participants mentioned communication issues with team members, hybrid e-SL participants suggested a lower intensity of issues within the group.

Communication within the team was another challenge. Several students noted the challenge when working with team members without prior interaction. Group chat, e-mail, MS Teams, and Zoom calls served as the primary communication platforms among the involved stakeholders. Continuous follow-up within the team resolved most of the issues related to communication. Students also reported the emergence of a leader to lead the team and serve as a contact point with the CP and instructor. Students found it difficult to find meeting times that worked with everyone's schedules. Many students worked and studied full-time and needed to adjust their schedules to accommodate meetings. Students reported their flexibility as they scheduled meetings during afternoons, evenings, and even weekends. Many of them reported recording meeting discussions to share with the members who were absent from meetings. Additionally, they shared meeting notes within the team to ensure everyone was on the same page. Notably, hybrid e-SL participants reported no issues identifying other teammates. However, we received mate-specific complaints from Xe-SL participants.

Solutions: In most cases, students divided project tasks. Regular follow-up mechanisms were in place to track the project's development. Almost all teams reported that they overcame the issue with repeated communication. A few members reported the absence and the indifference of other members to complete assigned tasks. These events hindered the timely progression of the project tasks of that team. The communication challenges were overcome by group chat and equal distribution of project tasks. Above all, pushing beyond their comfort zone, the online project offered students a unique opportunity to collaborate and communicate in an online environment:

One of the primary aims was to challenge the students' comfort zone and technical expertise. Students reported challenging encounters with a content calendar and Excel expertise. Students also needed help applying analytics in a context where the competitor or the client had limited social media activities. Peer

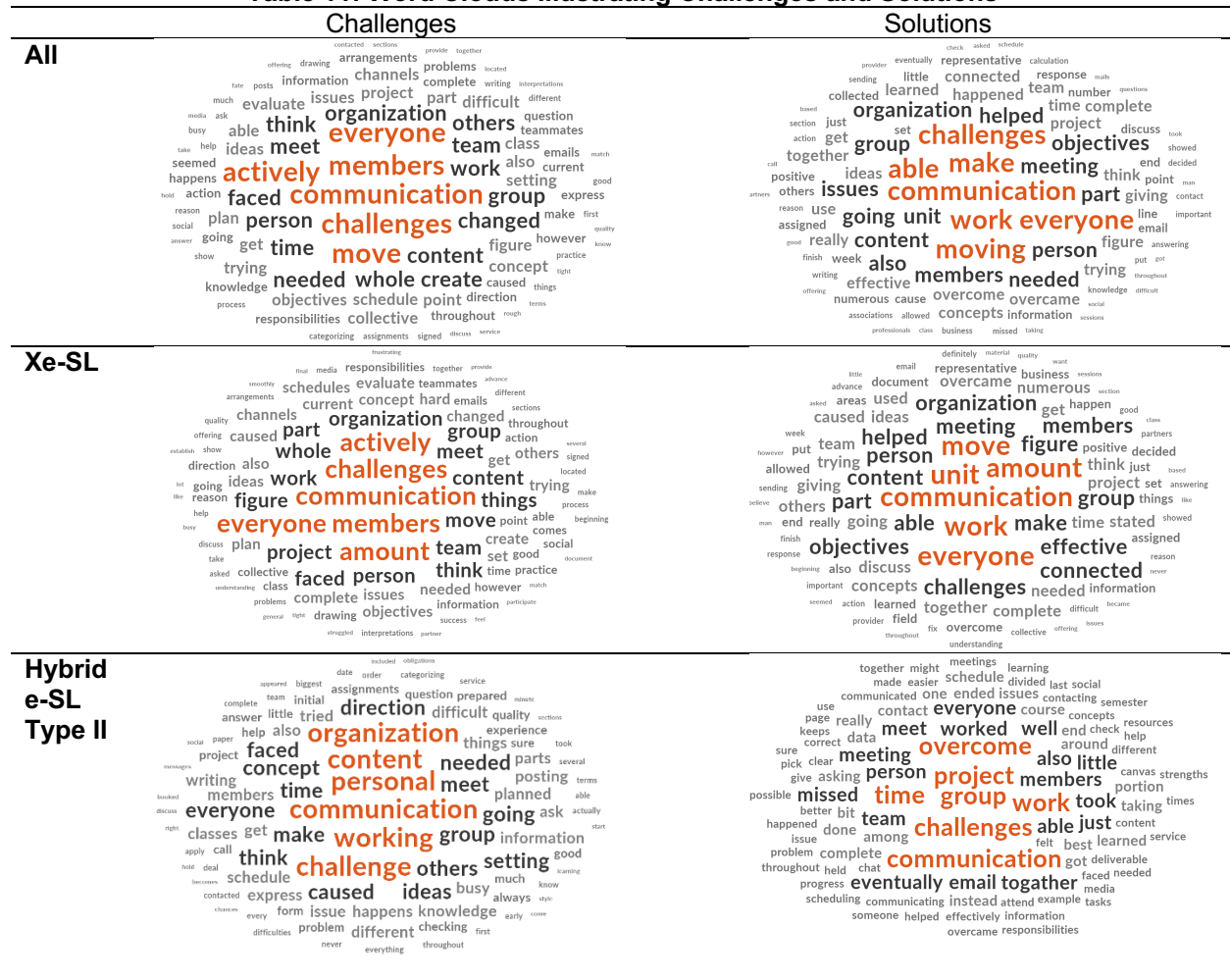
learning and discussion played an essential role in overcoming these challenges.

Students suggested flexibility in team and CP selection. Some students suggested smaller teams to reduce the number of touchpoints and scheduling conflicts. A smaller team could facilitate comparatively more straightforward team communication. They also suggested a strip-down version of the project matching the number of team members. A few proposed to complete the project individually. Some students, particularly from the asynchronous online section (Xe-SL), suggested this for future classes, citing coordination issues as full-time workers. It is noteworthy that challenging communication among team members, CP, or faculty was reported from both sections; however, students from the online section suggested smaller teams, smaller projects, and individual projects more frequently than the students from the in-person section did.

Students emphasized time management as a critical component to overcoming challenges and suggested an additional allotment of class time for project activities if offered in person. Some students recommended additional meetings with the faculty and CP. This recommendation is idiosyncratic, as the instructor and the CP observed the absence of some students during two mandatory team meetings. One possible explanation could be students' perception of being able to join more meetings if they had multiple meetings.

Surprisingly, some students suggested an "early" assignment for the project. Notably, all the resources were available from the first day of the semester. By design, the project officially started after four weeks so that they could make informed decisions when choosing projects. In future designs, an early start could be considered for experimentation.

Table 11: Word Clouds Illustrating Challenges and Solutions



Differential Intensity of Challenges and Solutions: Notably, while analyzing the reflection reports, students from online sections (e.g., Xe-SL) more frequently emphasized communication challenges than the in-person section (e.g., Hybrid-eSL) did. Additionally, group conflicts and free-riders were reported in online sections (e.g., Hybrid-eSL). These findings call for a more granular examination of the effectiveness of e-SL. We call for more investigation on differential challenges in e-SL approaches.

Study 3: Evaluation from the Community Partner

Data: The third set of information comes from the CP. We asked the CP for his view on effectiveness, challenges, and solutions. The CP responded in a written reply, which we summarize below.

Advantages: The CP appreciated the students' deliverables' creativity, effort, and conceptual soundness. Their creativity was evident, particularly in the sample posts. They also provided valuable insight when analyzing competitor profiles in social media audits. While conceptually sound, the sample content requires further refinement and alignment with brand standards before it is considered work-ready.

Improvement Areas: The CP considered time constraints a significant challenge, particularly when reviewing submitted work. The format of deliverables, often lengthy written documents, made it difficult to grasp the students' recommendations quickly. However, the instructor appreciated the written document as the students explained the logic behind any decision and recommendations.

Future Recommendations: The CP recommended a more formal follow-up to ensure ongoing communication. It would also be beneficial to encourage students to present their recommendations succinctly, such as through slides or video presentations.

DISCUSSION: LESSONS LEARNED AND RECOMMENDATIONS

Answering both of the RQs, our research suggests that it is possible to implement a service-learning course for a notoriously changing marketing course like Digital Marketing. Moreover, an e-SL can enhance meta-skills and contemporary skills if appropriately designed. The mixed-method approach facilitated two classic avenues of marketing service-learning research: assessment of learning outcomes and improving an implementation strategy (Petkus, 2000, p.70). Our quantitative assessment of effectiveness and qualitative analysis of implementation design offer novel insight for pedagogical research, particularly for emerging online modalities.

While answering, our findings both conform and contradict the extant literature across disciplines. For example, we find the perceived effectiveness of e-SL in a DM comparable with other courses across modalities- traditional (e.g., Smith, 2004), Xe-SL (e.g., Schmidt, 2024), Hybrid e-SLs (e.g., Culcasi et al., 2022). Our results also conform with meta-analytics reviews (e.g., Warren, 2012; Yorio & Ye, 2012) asserting the positive effect of service learning on student's understanding of social issues, personal insights, and cognitive development.

During comparative analysis of Xe-SL and Hybrid e-SL, counterintuitively, we did not find any significant difference in the perceived enhancement of remote work experience between the Xe-SL and hybrid e-SL. As the Xe-SL uses both instruction and services online, we intuitively expected a significantly enhanced remote work experience for them. In the absence of a comparative study on variants of e-SLs, we compare the findings of comparative studies done by McGorry (2012) and Ngai et al. (2023). Our findings on remote work experience conform with McGorry's (2012) findings that found no significant difference between the traditional group (both classes and services online) and the online group (online class and on-site services) of Marketing Strategy and Marketing Research classes in developing "practical skills" (McGorry, 2012, p.51). However, our findings for other differential meta-skills and context-specific skills deviate from McGorry's (2012). Interestingly, our findings on students' higher enhancement of skills like critical thinking, teamwork, overall satisfaction, attachment to the local business community, professional communication, collaboration, and business problem-solving are comparable with Ngai and her colleague's (2023) findings (particularly, p.15). They found that traditional (onsite classes and services) deliver better experiences regarding community involvement, teamwork, interactions, effort, and instructions. Regarding the comparative efficacy across modalities, our finding accentuates the potentiality of Hybrid e-SL where at least one component requires in-person/ on-site communication, assuming similar efficacy of traditional SL and Hybrid e-SL (McGorry, 2012) and higher efficacy of Hybrid e-SL over Xe-SL (Ngai et al., 2023).

One plausible explanation for this differential efficacy is the need for collaboration, interaction, and teamwork in a service-learning design, thanks to the significant moderating effect of design on the service-learning experience (Yorio & Ye, 2012). Our data's word clouds (Table 11) also indicate students' emphasis

on communication, collaboration, teamwork, time, and schedules while reporting challenges and solutions. Regardless of modality, we believe a clear communication modality, teamwork (if applicable), and overall project structure are critically important for a positive experience.

From design to implementation, we adopted best practices, as prescribed by seminal articles (Malve et al., 2006; Waldner et al., 2010; 2012), of e-SL to deliver the best possible experience to all parties involved. For example, we adopted best practices for e-SL, such as live sessions with clients, selection of clients willing to adopt online technology, reflection, recorded sessions, and video lectures to reduce the number of “disconnected students” (Waldner et al., 2010, p. 848). Complaints about other teammates are common in group projects (Volchok, 2017). We are considering receiving only one case of complaint about our teammates. We consider the design a notable success of our design to ensure student engagement. Students across modalities reported the primary communication challenges within the team and scheduling. However, they also reported their solutions by adopting technology and flexibility. Some of them reported the clients’ and faculty’s busy schedules. Empirical qualitative studies on traditional SL (Petkus, 2000) and e-SL (Bourelle, 2014) also reported challenges in communication. Workload—another classic challenge (Petkus, 2000) of SL is also being reported. However, we believe SL, in any form, requires time and effort from all involved parties.

Nevertheless, in designing the course, we faced challenges in developing a structure that facilitated creativity and guidance. The forms, such as MoU, NOC, Google Docs, project timelines, and syllabus, were developed to impose structure. Additionally, during the project, the instructor shared a document listing desired components of the report and related course content to inspire creative applications from the students. During the project, the instructor received frequent e-mails from students. The instructor also held additional virtual meetings for online teams when necessary. Peer mentoring was critical in teaching new skills, like MS Excel. Students helped each other and overcame the challenges. Regarding deliverables, while the CP preferred a succinct format, the instructor suggested the students present a detailed analysis of buyer persona, social media audit, content calendar, and logic behind their recommendations. Students exercised all four abilities in this e-SL project (see Table 2). The e-SL helped them develop their competencies in real life. The authors believe the e-SL enhanced the students’ ability to work in a remote setting. They also developed skills like communication and teamwork in online spaces to help them improvise in novel situations. Students reported their perceived effectiveness in the survey and reflection reports. The CP also reported innovative ideas and analytical insights from the students. It is noteworthy that imposing and managing the structure of e-SL is time-consuming and requires much effort from students, faculties, and community partners.

In summary, the stakeholders believed that the E-SL project was practical. Although some students suggested more structure and meetings, the authors believe a rigid structure may hinder students’ creative participation.

Based on our experience, we offer the following key recommendations.

- The faculty posted pre-recorded video lectures of the course on the online learning system to facilitate students’ learning with asynchronous flexibility. While others suggested video recording of e-SL project descriptions and alignments (Bourelle, 2014; Malvey et al., 2006), we suggest additional prerecorded video lectures to facilitate students learning of course content and making informed on e-SL selection.
- Selection of community partners is a critical step. Faculty may offer students the option to choose firm and community partners. Several students recommended the solution. However, interested faculty should be aware of the potential delay of this process, which may jeopardize on-time learning and project execution.
- We used various technologies—prerecorded videos, synchronous meetings, Google Docs, Canvas, and e-mail. However, we found that in addition to these options, most teams used group chat for their regular e-SL-related communications. We suggest future experiments with group/project social media channels and regular discussion boards on online learning systems. Notably, whiteboards are frequently suggested communication mechanisms in e-SL pedagogical literature (Waldner et al., 2012). We support giving options to students and service partners so that they can choose appropriate mediums based on their type of communication (Bourelle, 2014).
- We used a reflection report at the end of the semester, following the norm of traditional service learning. The emergence of e-SL opened the door to experimentation with reflections throughout the semester through discussion boards, blogs, and journals (Waldner et al., 2012). Future e-SLs can be designed, including these platforms as an additional mechanism of regular reflection.

- A balance between formal structure and flexibility is essential for student engagement. Generally, formal structures, including multiple forms (e.g., MoU, consent forms) and deadlines, help faculty with ease of execution. However, online students may prefer flexibility. We observed low participation of Xe-SL online students during two mandatory follow-up online meetings with the faculty and the community partner. Future studies may select a group leader or representative to offer flexibility.
- A follow-up mechanism, beyond peer review at the end of the semester, can be considered to monitor contributions at the team level. The faculty may consider sending communication that emphasizes teamwork and encourages them to contribute to teams. Faculty may use e-mail, class discussions, team meetings, and online discussion boards for this communication.
- For online classes, individual sections can be considered as students' reported challenges in communication with team members whom they never met in person during the semester. Faculty may offer flexibility to the students to form their teams. As teamwork and work schedules are repetitively emphasized by the students, choosing teammates may empower students and have a positive experience. Some scholars (e.g., Stefaniak, 2020) support the idea of flexibility in e-SL. However, based on our experience, we suggest interested educators' discretion on flexibility as the flexibility may hinder the smooth execution of e-SL, especially on a scale.
- Peer evaluation can be proactively used to influence grades substantially. We found reports of non-performing teammates. Like Volchok (2017), we think that students will be "active team players" when they know the severe role of teammates' evaluation when awarding grades (p. 5).
- We concur with the classic truth about the required time and involvement from all parties- students, faculties, and clients- to implement e-SL successfully. We, like McIntyre et al. (2005), recommend additional allocation of resources from the university end to inspire faculties to incorporate service-learning in their courses.

CONCLUSIONS

We described a novel approach to DM pedagogy. Our approach has several implications for marketing academia. First, we tried a novel approach- e-SL- for marketing pedagogy to run service-learning projects in a challenging DM course. The initiative is significant and timely as we are experiencing increased enrollment and pressure to build skills for online courses. This paper is one of the first articles to explore e-SL learning in marketing, particularly in a DM course. Thus, it is a reference point for starting a timely academic conversation around e-SL in marketing. Theoretically, this paper extends the e-SL in a DM course. Thus, this article joins the narratives emerging across disciplines (Becnel & Moeller, 2017; Bourelle, 2014; Culcasi et al., 2022; Guthrie & McCracken, 2010a; 2010c; Strait & Sauer, 2004; Volchok, 2017; Waldner et al., 2010; Schmidt, 2024). Concurrently, the paper attains calls from marketing scholars to examine e-SL (McGorry, 2012).

Second, we contribute to the literature on SL and e-SL by exploring a new skill, namely remote work, and by comparing two emerging modalities of SL, namely Xe-SL and hybrid e-SL Type II. We explored a timely but unexplored skill- remote work experience. Based on experience and extant literature, we designed the course to set up the context (i.e., e-SL) to assess efficacy and identify challenges and solutions to this skill. Thus, we add the exploration of a new skill to DM pedagogy. Moreover, we presented a detailed course design supported by experiential learning theory (Kolb, 1984; Kolb & Kolb, 2017). We integrated all three components of DM pedagogy (for details, see Zahahy et al., 2022) and leveraged cross-disciplinary e-SL literature (Malvey et al., 2006; Waldner et al., 2012). Thus, we contribute to the service-learning literature by investigating and offering first-hand insights into a sought-after contemporary skill, namely remote work. Additionally, we offer a comparative picture of two approaches based on a mixed-method research design. Thus, we also respond to the cross-disciplinary call for comparative studies in SL and e-SL (McGorry, 2012; Ngai et al., 2023; Schmidt, 2024).

Third, methodologically, by incorporating and analyzing multiple stakeholders' inputs, we enhanced the accuracy of our empirical findings (Salam et al., 2019; Ye et al., 2023). Finally, we hope the statistical details presented in this article will contribute to future meta-analyses (Warren, 2012).

Finally, we adopted the best practices of SL informed by seminal articles (Malvet et al., 2006; Waldner et al., 2010; 2012). We offered a detailed description of the challenges faced by the students in Study 2 and Study 3. Marketing academia may find these fine-grained descriptions of challenges informative. They may take notes and design the course to avoid them. Moreover, the paper also identified ways to address

those challenges (see Study 2, Study 3, and the previous section). The mixed-method exploration appeals to the approach's transferability by assessing effectiveness and discussing related challenges and ways forward. Finally, as detailed documentation and guidance of a novel approach, we hope that, the manuscript will inspire other faculty members to attempt e-SL.

Despite our sincere efforts, some limitations lead to exciting avenues for future research. First, the study was conducted at one institute and may not be generalizable across institutes. Other universities may experience different levels of effectiveness and challenges. Their ways to mitigate challenges may be different than the solutions offered here. Thus, future studies should assess the effectiveness, challenges, and solutions across contexts. Additionally, the study used a cross-section dataset. Although a qualitative exploration offered rich insights, time-series data could complement the quantitative examination. Future studies can use longitudinal data examining the effectiveness at two points in time to examine the effectiveness of e-SL in DM. Assessing the same students over time on a different course with a similar approach, longitudinal studies may also shed light on how students retain skills over time. Moreover, we measured the effectiveness of students' self-reported perceived learning. As the students worked on the instructor's feedback on the draft before final submission, the students' outputs largely met the instructor's expectations. Thus, we could not measure the direct measures of effectiveness. Evaluating the effectiveness based on students' tasks (e.g., assignments, project grades) can be another avenue to progress the scholarship.

Second, the study selected items related to the skills of interest. Although scholars (Miaskiewicz, 2022) used a similar approach to evaluate the effectiveness of SL, alternative scales, such as SELEB (Toncar et al., 2006), could have been used. However, the authors think a survey with relevant and a limited number of items eased the students' participation. Moreover, conventional scales are instrumental in paired-sample or longitudinal tests. Future studies can explore that avenue.

Third, while analyzing the survey, we found that despite the significant efficacy of e-SLs, students in Hybrid e-SL (i.e., in-person class and online SL) reported higher perceived effectiveness in industry relationships, critical thinking, ethical decision-making, and overall satisfaction than the students of Extreme e-SL (i.e., both class and SL online). Additionally, students from online sections (i.e., Extreme e-SL) more frequently emphasized communication challenges than the in-person section (i.e., Hybrid e-SL) did. Additionally, group conflicts were reported in online sections. Counterintuitively, our data suggest no significant difference in remote work skill development between hybrid and extreme e-SL. Due to the limited sample size of the current study, we call for caution. Nevertheless, these findings call for a more granular examination of the effectiveness of e-SL. Future studies should investigate this differential outcome from variants of e-SL (see Table 1). Particularly, Xe-SL is rarely researched (McGorry, 2012). With the changing pedagogical need, granular investigation and actionable recommendations on each variant of e-SL will be an exciting avenue for future research.

The study describes the design, implementation, effectiveness, and challenges of an e-SL in a DM course. The study established the approach's effectiveness in developing remote work experience, industry involvement, communication, teamwork, and critical thinking skills. Moreover, the paper offers an initial examination of the differential effectiveness and challenges of the variants of e-SL. With a recent trend of increasing online course enrollment and remote work, e-SL can facilitate pedagogical relevancy online. Thus, e-SL is an opportunity to overcome the challenges of digitalization by internalizing digital space in DM pedagogy.

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