ORIGINAL RESEARCH ARTICLE

Pursuing professional learning by using social media: how do instructional designers apply self-regulated learning?

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The instructional design and technology field is dynamic, requiring instructional designers to stay abreast through timely professional learning. Social media offers characteristics to collapse the time, geographical, and financial limitations of informal professional learning, but challenges exist. Continuous professional learning requires proactive actions, wherein self-regulated learning (SRL) plays an important role. However, not all professionals know the effective strategies to promote SRL skills. This study examines instructional designers' (*N* = 17) experiences of professional learning on social media through an SRL lens. Data collected through semi-structured interviews were analyzed using thematic analysis. Findings include SRL strategies conducted by instructional designers and the challenges they faced. This study informs instructional-design professionals and educators of ways to encourage continuous professional learning using social media while fostering SRL simultaneously.

Keywords: instructional designer; professional learning; self-regulated learning; social media

Introduction

Instructional design is 'a system of procedures for developing education and training materials in a consistent and reliable fashion' (Branch, 2018, p. 23). Instructional designers are typically responsible for designing and developing instructions and learning materials and utilizing technology to enhance learning, among others (Jaramillo Cherrez, 2021). They may work in higher education (e.g. colleges/universities), school, military, government, corporate, and non-profit settings (Richey et al., 2011). The instructional design and technology field are dynamic, requiring instructional designers to stay abreast with the field (Sharif & Cho, 2015; Wang et al., 2021) and conduct continuous professional learning. On the one hand, pursuing continuous professional learning requires proactive actions, strategic goal setting, and planning, wherein self-regulated learning (SRL) plays an important role. Unfortunately, not all professionals know the strategies to foster SRL skills (Siadaty et al., 2016a, 2016b).

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On the other hand, instructional designers may encounter constraints when pursuing just-in-time learning (e.g., time, geographical, and budget limitations) (Muljana et al., 2020, 2021). The omnipresent social-media technologies offer affordances to collapse such constraints, allowing them to reach out to remote colleagues and search for timely information and resources (Muljana et al., 2021). However, social media may cause a distraction (Dabbagh & Kitsantas, 2013). Additionally, there remains a question about translating information gained from social media into practice (Eaton & Pasquni, 2020). Being on social media poses challenges as people may encounter abundant information, rude comments, among others (Carpenter & Harvey, 2019; Dabbagh & Kitsantas, 2013; Dabbagh et al., 2015). This study was purported to address the aforementioned problems and explore instructional designers' SRL experiences conducting professional learning in social media and the challenges. Two research questions guided this study: (1) How did instructional designers describe their SRL experiences of conducting professional learning in social media environments? (2) What challenges did instructional designers experience when conducting professional learning using social media?

Literature review

Instructional designers and professional learning

Instructional designers need to pursue continuous professional learning to maintain job competencies (Ritzhaupt & Kumar, 2015). Their work may extend beyond creating learning interventions, artifacts, and instructions (Tracey & Boling, 2014). They help enhance organizational performance by providing training opportunities to the employees; therefore, their work influences the knowledge and skill improvement of targeted learners (Tracey & Morrison, 2018). Instructional designers often work with subject matter experts (SMEs) to convey information and select appropriate strategies to address learning goals (Bratton-Jeffery, 2018; Litfield, 2018). When courses were converted into a remote mode to respond to the COVID-19 pandemic, they assisted instructors and served as 'first responders' (Abramenka-Lachheb et al., 2021, p. 294). Instructional designers sometimes encounter time pressure when the project requests increase, and the deadlines are tight. Some projects may involve unfamiliar topics wherein they may have a knowledge gap. Therefore, they need flexible learning opportunities to seek ready-to-apply information, enabled through an informal learning format, as it is not bounded by curriculum and timeline (Carliner, 2018).

Self-regulating professional learning

Continuous professional learning requires proactive actions, wherein SRL plays a crucial role. Notably, its role in working professionals' career growth has been perceived as imperative (Littlejohn, 2017; Littlejohn et al., 2012; Siadaty et al., 2012, 2016a, 2016b). If they understand the value and relevance of acquiring up-to-date information and ensuring successful job performance, they are more likely to connect and interact with peers and collective knowledge (Littlejohn, 2017; Littlejohn & Hood, 2016). There is an awareness among working professionals that learning the strategies from others who have been in similar experiences can be effective, and these strategies are likely to work in a relevant context (Littlejohn, 2017). However, not all working professionals have the skills to initiate and regulate their professional learning (Siadaty et al., 2016a, 2016b). Most of the SRL-related literature tends to focus on the

formal educational setting (Dabbagh & Kitsantas, 2012; Järvelä et al., 2015; Laru & Järvelä, 2015; Matzat & Vrieling, 2016). Research exploring the application and support of SRL for working professionals, such as instructional designers, in the informal learning context is much needed to expand the literature (Siadaty et al., 2016a, 2016b).

Zimmerman's SRL model is one of the most commonly cited SRL frameworks, encompassing and organized into three distinct phases. While it is cyclical in nature, it allows us to look deeply into the three phases and examine the strategies within each phase in a granular manner. Zimmerman's SRL model is employed as the theoretical framework for this study. SRL is a self-directive learning process involving learners' thoughts, behaviors, and affects to achieve their goals purposely and strategically in improving learning (Zimmerman, 2002). Learners applying SRL initiate their proactive learning process by determining the sources of motivation, implementing goal-driven strategies and strategy monitoring, including help seeking, and adjusting these strategies to improve learning (Bembenutty, 2011). Zimmerman's model consists of three recursive phases: (1) *forethought phase*: learners set a goal and identify the sources of motivation, (2) *performance phase*: learners determine, execute, and monitor their learning strategies; and (3) *self-reflection phase*: learners self-evaluate their performance and plan to adopt and/or adapt a better strategy for improving learning. In the professional learning context, the forethought phase entails thought processes wherein learners familiarize themselves by conducting task analysis and setting goals and strategic plans (Siadaty et al., 2012, 2016a, 2016b). The performance phase is when learners conduct the task while executing suitable strategies, monitoring, and revising the strategies (Siadaty et al., 2012, 2016a, 2016b). During the self-reflection phase, learners actively evaluate their progress while reflecting upon and sharing their own experiences (Siadaty et al., 2012, 2016a, 2016b).

Social-media supported professional learning

Instructional designers may encounter constraints when pursuing professional learning opportunities, such as funding, time, and travel restrictions (Muljana et al., 2020, 2021). Social media can accommodate the urgency of pursuing just-in-time learning without being limited by such barriers. When instructional designers need to learn new strategies (i.e., using the newly updated authoring software or creating a learning intervention for a discipline that is not in their expertise) or encounter design constraints, they reach out to colleagues in their networks for advice (Muljana et al., 2021). In addition to seeking and processing knowledge, professionals share information and resources, contributing to the knowledge-building and practice-building community (Gruzd et al., 2016; Littlejohn, 2017; Milligan et al., 2014).

The definition of social media adopted for this study is 'Internet-based tools that allow users to build networks through which they may then communicate and share information with each other' (Dennen, 2018, p. 237). This definition indicates that social media tools are beyond social networking sites like Facebook and Twitter. Luo et al. (2022) have provided various social media examples. For instance, blogs allow users to publish text-based content, including images and/or videos. YouTube allows users to upload and share video, including educational content, subscribe to the producer's channel, and watch videos. Put simply, social media includes expansive genres such as media sharing sites, social networking sites, discussion forums, social bookmarking, blogging, and messaging (Luo et al., 2022; Ottenbreit-Leftwich & Brush, 2018). This study utilizes this definition and classification of social media, including

various social technologies, that working professionals (e.g., instructional designers) use for professional purposes.

Despite the benefits of using social media for professional learning, there exist challenges. Social media allows users to interact without meeting in person or knowing each other personally, providing an outlet for freedom to express insights and comments. Shaming others and cyberbullying may occur in this environment, in addition to concerns about cyber safety and privacy issues (Dabbagh et al., 2015). Also, it can be challenging to balance the use of social media for personal and professional purposes (Carpenter & Harvey, 2019). Because of the potential mis- and dis-information, professionals may not want to simply absorb the information on social media (Greenhalgh et al., 2021). Nevertheless, the practices of pursuing professional learning using social media deserve an in-depth investigation (Luo et al., 2020).

Method

We employed phenomenology to acquire insights based on the participants' experiences (Goulding, 2005) and gain an in-depth comprehension of the phenomenon under study (Welman & Kruger, 2001). We recruited participants from Facebook and LinkedIn groups joined by instructional designers. The call for research participants included a study description, ethical considerations, consent form, eligibility questionnaire, and interview sign-up form. The questionnaire specifically asked whether they were working professionals holding instructional-design related responsibilities for at least one year and used social media for professional purposes.

Seventeen instructional designers from various sectors (e.g., corporate, government, self-employed, and higher education) participated in this study (Table 1). They had various job titles (e.g., instructional designer, curriculum specialist, learning designer, and learning analyst) and were on different career levels. These diverse backgrounds served as a triangulation because we could contrast data with different meanings and validate those with similar meanings (Arksey & Knight, 1999; Bloor, 1997; Groenewald, 2004; Holloway, 1997).

We used semi-structured interviews to acquire experiences from the participants. We conducted the interviews conversationally to encourage detailed responses (Smith et al., 2013). All interviews were recorded and transcribed. All participants member-checked the transcript and the interviewer's notes. One question asked in the interview was related to typical tasks, and the participants reported similarly, such as:

- analyzing performance gaps
- identifying learning objectives
- performing needs analysis
- designing courses or learning solutions and performing design iterations
- developing learning solutions by using authoring tools (some solutions might be in non-learning formats, such as job aid)
- coaching others (e.g., teaching courses and providing consultation and training to instructors)
- collaborating with SMEs and other design team members
- managing projects

Table 1. Participants' information.

Pseudonym	Academic degree	Sector	Years of experience
Abigail	Master's	Self-employed	11–15 years
Angela	Master's, doctoral coursework	Higher education (HE)	6–10 years
Ari	Master's	HE	0–5 years
Emilio	Master's	HE	6–10 years
Gwen	Master's, doctoral coursework	HE	0–5 years
Jin	Master's	HE	6–10 years
Jovina	Master's	HE	6–10 years
Kelsey	Master's, doctoral coursework	Corporate	6–10 years
Kiara	Bachelor	HE	0–5 years
Ning	Master's	Corporate	0–5 years
Pam	Doctoral	Self-employed	6–10 years
Payton	Doctoral	HE	6–10 years
Prisca	Master's	Corporate	6–10 years
Pru	Doctoral	HE, government, self-employed	16–20 years
Sari	Master's, post-master certificate	Corporate	6–10 years
Tamara	Master's	HE	6–10 years
Whitney	Master's	Non-profit	6–10 years

- assisting in the implementation
- conducting evaluation.

For data analysis, we employed thematic analysis (TA) (Braun & Clarke, 2006), consisting of six phases: (1) familiarizing with data; (2) generating initial codes – we employed deductive coding to address the first research question (RQ1) using Zimmerman's (2002) three SRL phases as coding scheme and inductive coding to address the second research question (RQ2); (3) searching for themes; (4) reviewing themes; (5) defining themes; and (6) producing the report. When analyzing data, phenomenological researchers should consider the context under study as a whole (Hycner, 1985). Performing TA helped us follow Hycner's suggestion because TA provided guidelines for 'analyzing meaning across the entire data set' (Braun & Clarke, 2012, p. 58).

Results

RQ1: Instructional designers describing their SRL experiences

Forethought phase

Table 2 shows instructional designers' activities during the forethought phase.

Sources of motivation. Ning noted the value of acquiring multiple perspectives: 'It's really healthy to have different perspectives beyond your workplace co-workers'.

Table 2. Participants' forethought phase experiences and number of mentions.

Pseudonym	Sources of motivation	Proximal goals: long-term goals	Proximal goals: short-term goals	Task analysis	Strategic planning
Abigail	•	•	•		•
Angela	•		•		•
Ari	•		•	•	
Emilio			•		
Gwen	•		•		•
Jin	•	•	•	•	•
Jovina	•		•	•	•
Kelsey	•	•	•	•	
Kiara			•	•	
Ning	•	•	•	•	•
Pam	•		•		
Payton			•		
Prisca	•	•	•	•	•
Pru			•	•	•
Sari			•		
Tamara	•		•		•
Whitney	•		•		•
Number of mentions	23	9	89	15	16

Note: The symbol • shows that the respective participant's experience supported the theme.

Tamara believed it could increase her self-efficacy, which 'helped me [become] more confident, then could play into my own performance and work'. The participants seemed to perform a metacognitive process to understand where they were and wanted to be regarding their performance quality.

Proximal goals: long-term and short-term goals. For a long-term goal, Kelsey aspired to be a future learning and development (L&D) leader. Therefore, she created podcast episodes to engage in relevant conversations about L&D. Short-term goals were related to what they needed to achieve at that moment. When Abigail was learning to use Articulate, she would reach out to colleagues in professional communities to 'see if someone has had the same challenge, and how they've solved it'.

Task analysis. When assigned with a project, instructional designers analyzed the steps required to complete the project. When Ari was new at work, he never said, 'I didn't know' how to complete a project. He accessed LinkedIn Learning to learn the required tasks or steps or fill in any knowledge gaps. Kiara shared an experience regarding creating learning materials for a business course; she 'had to go to YouTube and watch the videos […] for understanding [a new topic]'.

Strategic planning. Participants' strategic planning included continuous professional learning and searching for non-traditional learning resources using social media. Tamara engaged with colleagues on LinkedIn to find mentors. Angela actively searched for innovative strategies for facilitating online learning conducted by others.

Performance phase

Table 3 lists instructional designers' activities conducted during the performance phase.

Help-seeking. Instructional designers sought help using social media when they needed to find ideas for better design strategies. Tamara said, '[…] it can feel sometimes isolating. So, having others out there is helpful'. Sari saw people who 'were stuck for ideas, and they were able to get help with ideas, such as how to reformat their resume, interview help, […] creative solutions to develop e-learning or ideas for instructor-led training […]'.

Applying new tips and adjusting current practices. Learning about 'what's worked well' for their peers could assist instructional designers in completing their tasks successfully. Kiara applied the tips suggested by colleagues in social media communities and said, 'Just a few tips that people give, and […] you just put them in your instructional design, and […] it works'. She believed her work quality had increased; her design team did not ask her to clarify her storyboards anymore.

Learning and engaging with colleagues on social media influenced participants' current practices. It inspired them to either tweak or change their practices. Abigail noted, '[…] when I realized if there's quick […] shortcuts […] in Storyline […]; those are things that I end up applying'. In other words, Abigail 'tweaked' her design strategy.

Self-reflection phase

Table 4 shows instructional designers' activities performed during the self-reflection phase.

Table 3. Participants' performance phase experiences and number of mentions.

Pseudonym	Seeking help from colleagues	Trying and applying tips suggested by colleagues	Adjusting current practices
Abigail	•	•	•
Angela		•	
Ari		•	
Emilio	•		•
Gwen	•	•	•
Jin	•		•
Jovina	•	•	•
Kelsey	•	•	
Kiara		•	•
Ning	•		•
Pam	•		
Payton		•	•
Prisca	•	•	•
Pru	•	•	•
Sari	•	•	•
Tamara	•		•
Whitney	•	•	•
Number of mentions	20	12	25

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Table 4. Participants' self-reflection experiences and number of mentions.

Pseudonym	Open-mind-edness	Reflecting on the information (consisting of three sub-themes)			Sharing learning experience
		1. Checking the information	2. Selecting the information	3. Reacting to the information	
Abigail	•	•	•	•	•
Angela	•	•	•		
Ari		•	•		
Emilio	•		•		•
Gwen	•	•	•	•	
Jin		•	•	•	•
Jovina	•			•	
Kelsey	•	•	•		
Kiara	•				
Ning	•	•		•	
Pam		•	•	•	
Payton	•	•	•		•
Prisca				•	•
Pru		•	•		
Sari			•	•	
Tamara	•	•	•		
Whitney		•	•	•	•
Number of mentions	14	20	22	11	9

Open-mindedness to orient self-reflection. Instructional designers noted that being open-minded could help them reflect on their performance. Ning reported, '[…] the way that I've done things in the past is not always the most effective way[,]' and there-fore, she kept an open mindset for better design strategies.

Reflection on the information. Participants reflected on the information gained from social media. They checked the information accuracy first. For example, Pru used her 'own diagnostic to see what makes the most sense'. Next, they selected and com-bined the information based on their contexts and needs. Jin synthesized informa-tion from an 'infographic found on a LinkedIn post and the knowledge […] learned from LinkedIn Learning'. There appears to be an application of critical thinking in this regard.

Sharing learning experiences. Instructional designers reported that sharing their learn-ing experiences and resources was an outcome of their self-reflection. For instance, Abigail created YouTube videos to share helpful tips regarding challenges she had faced in the past in hopes of helping other instructional designers to overcome similar challenges. This sharing activity appears to involve a reflection on which design strat-egies worked and which did not.

RQ2: Challenges faced by instructional designers

Table 5 lists the challenges reported by instructional designers.

Table 5. Participants' challenges and number of mentions.

Pseudonym	Information overload	Ethical and privacy concerns	Issues encountered individually
Abigail	•	•	•
Angela		•	
Ari			
Emilio	•	•	•
Gwen	•	•	
Jin	•		
Jovina	•		
Kelsey	•	•	
Kiara		•	•
Ning	•		
Pam	•		
Payton			•
Prisca	•	•	•
Pru	•	•	•
Sari		•	•
Tamara	•		
Whitney	•	•	
Number of mentions	24	14	12

Information overload

Most participants encountered irrelevant and inaccurate information on social media. Gwen remembered receiving poor advice. Ning noted, 'There are also people who don't know what they're talking about'.

Ethical and privacy concerns

Instructional designers had concerns regarding ethics and privacy. Ensuring that everyone had appropriate netiquette regarding using social media was difficult. Kelsey had met 'haters, […] disrespectful people […] who just want to argue'. Additionally, they were worried about their activities being tracked on social media. Emilio said, 'Our actions are tracked beyond for the purposes of selling us more things […]. Some seem to be fairly harmless; some seem to be nefarious purposes […]'.

Additional challenges

Those located outside the US sometimes experienced unreliable internet. Kiara lost the internet connection during the interview. A few instructional designers had a fear of judgment when posting questions. They worried colleagues might misinterpret their knowledge and skills. Prisca stated, 'I don't want to appear stupid […] asking my question'. They had a fear of judgment or self-confident issues when deciding to post questions or comments, possibly because they had seen rude comments and snarky remarks in argumentative discussions.

Discussion and implications

Our findings suggest that instructional designers strategically utilize social media in SRL phases with an emphasis on having motivation as a foundation of the forethought activities, modifying current strategies during the performance phase, and being open minded to prepare for the self-reflection phase. They also acknowledge the challenges, especially in seeing overwhelming information and being afraid of asking questions.

Forethought activities include task analysis, goal setting, and plan making that require motivation (Zimmerman, 2002). Our participants report similar activities, especially in the motivation aspect. When they need to improve skills or acquire ideas on design strategies, they are motivated to set goals and make plans. Even when they do not perceive an urgent need, they proactively acquire new knowledge because they want to be prepared for potential future projects requiring innovative strategy. According to the literature, working professionals seek learning opportunities to keep up with job demands, stay abreast with the profession, and ensure successful job performance (Littlejohn, 2017). Therefore, it is expected that participants in this study have a short-term goal behind their social media usage (e.g., to help accomplish a current task). They follow up on their short-term goal(s) through strategic planning by participating in virtual professional development events that offer flexibility and by learning from colleagues' strategies – all are mostly feasible through social media.

During the performance phase, the instructional designers try and apply the tips suggested by colleagues and modify the current practice. They seem willing to adapt their current strategies for a smoother design process. Such a strategy-adaptation process may begin with help-seeking, involving awareness of their knowledge and how colleagues' knowledge serves as a learning source (Milligan & Littlejohn, 2016). This is coherent with prior literature, suggesting that self-regulatory learners tend to engage in just-in-time help-seeking activities such as searching previous conversations or posting a question to crowdsource ideas from peers. After learning from colleagues, our participants adjust the design methodology and adopt a more efficient use of authoring software. These experiences suggest that self-regulatory instructional designers take charge of the strategies to try, apply, monitor, and adjust, resonating with Siadaty et al. (2016a) and Zimmerman (2002).

The self-reflection phase occurs when learners evaluate their performance, reflect upon their learning experiences, and plan to adopt or adapt a better strategy for improvement (Siadaty et al., 2016a; Zimmerman, 2000). This phase involves causal attribution – learners' beliefs regarding the cause of a failure or success (Zimmerman, 2002). Learners with SRL skills tend to attribute failure to an unsuitable strategy instead of a fixed ability and are likely to adjust the strategy (Zimmerman, 2002). Instructional designers under study believe that being open-minded enhances their self-awareness about their performance. Without exercising open-mindedness, there may be barriers to the self-reflection phase, potentially leading to inappropriate causal attributions.

Instructional designers face challenges such as being overloaded with abundant information and resources. Because they are goal driven and motivated, they focus their activities on learning goals and are likely to select relevant information and resources. Also, self-efficacy plays an important role, especially for those afraid to ask. Self-efficacy, a judgment of one's abilities to perform a task, is associated with prior experience and task familiarity (Zimmerman, 2000). New instructional designers can

reflect on their prior knowledge, skills, and abilities and focus on amplifying these transferable strengths and increasing self-efficacy. Also, they may use social-media mediated communities (e.g., Reddit and Facebook groups) that offer anonymity to ask questions without identifying themselves.

Exercising critical thinking is an example of fostering SRL leading to positive outcomes in online learning (Broadbent & Poon, 2015) and helpful for considering multiple perspectives in collaborative learning (Cascolan, 2019). The characteristics of social media environments resonate with online and collaborative learning. When instructional designers encounter an influx of information on social media, including mis- and dis-information, they can exercise critical thinking to check the accuracy and credibility of the source and select relevant information. They may assess whether the information aligns with their goals, contexts, and design philosophy.

Knowledge of productivity software, soft skills (e.g., time management, persistence, collaboration, communication), and ability to work independently and collaboratively frequently appear in instructional-design related job announcements (North et al., 2021; Wang et al., 2021). Conducting lifelong learning, taking ownership of professional development, having self-motivation and self-directive learning initiative, and performing self-reflection are aligned with qualifications stated by professional organizations' standards (ATD, 2020; Piña, 2017). These qualifications highlight essential keywords related to SRL. Educators guiding future instructional designers may want to foster such qualifications and infuse SRL guidance into learning activities. Learners can be encouraged to stay focused on the project goal, determine the strategic steps to accomplish the goal, increase team productivity, and explore productivity management techniques. It is worth adding individual reflective assignments, allowing them to self-evaluate their performance and contribution to the team project.

Future research and conclusion

Future researchers may consider involving multiple data sources beyond self-report instrumentations, such as digital traces (e.g., posts, comments, and reactions). Employing digital traces allows researchers to explore behaviors on social media in a natural manner (Lee et al., 2017). The digital traces can be analyzed to uncover how SRL application occurs in social-media supported professional learning, current learning needs, and trending topics. The topic of open-mindedness appears in the results related to the self-reflection phase. Future research may explore where and how open-mindedness may occur in an SRL cycle and how it influences the self-reflection phase.

Social media potentially enables flexible professional learning, which can further enhance learning when SRL strategies are applied. Instructional designers share their experiences applying SRL strategies and being motivated to stay abreast. They adapt and tweak current design practices, highlighting their open mindedness. Although the challenges exist, they may overcome them through SRL strategies.

Competing interests

The authors declare that they have no conflict of interests.

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Ethical considerations

The Old Dominion University Education Human Subjects Review Committee reviewed and approved this study according to federal regulations.

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