

Instructional Designers' Use of Informal Learning: How Can We All Support Each Other in Times of Crisis?

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Community of Practice

Instructional Designers

COVID-19



The purpose of this study was to investigate instructional designers' needs during a rapid transition to remote learning due to COVID-related shutdowns of campuses, schools, and organizations. For the purpose of this study, we chose a large Facebook group for instructional designers as a medium of informal learning. Following a mixed-method study design, we answered the following research questions: (RQ1) What needs did instructional designers express and report in an informal learning environment during the COVID-19 crisis? (RQ2) In what way did an informal learning environment facilitate peer-to-peer support for instructional designers? The findings of this study highlighted diverse expressed needs, ranging from educational technology needs to COVID-19 specific and general pedagogical needs. We found that peer-to-peer support between instructional designers was facilitated in an informal learning environment through an exchange of ideas and advice that were prompted by questions/requests for support. The study begins to document the needs of instructional designers during the COVID-19 crisis in instructional design technology (IDT) literature. The online environment we studied seems to provide numerous options for informal learning activities for instructional design professionals.

Introduction

The COVID-19 pandemic has brought unprecedented hardships and challenges across different professional fields around the world. Due to the threat of the fast spread of COVID-19 (World Health Organization, 2020), businesses and organizations had to shut down their physical facilities. Such quick and drastic changes to everyone's daily professional and personal lives did not go unnoticed in the field of education, including K-12, higher education, and corporate training. In fact, schools, institutions of higher education, and business organizations had to quickly pivot to Emergency

Remote Instruction (ERT) (Hodges et al., 2020) in order to continue offering learning and training experiences, to their students and employees.

Transitioning from face-to-face learning to ERT while leveraging multiple instructional technologies appeared to be a daunting task (Bonk, 2020). The main challenge boiled down to how to ensure quality learning without lowering teaching standards in an online environment in such a short period of time (Abramenka-Lachheb et al., 2021a). In addition, due to the lack of real-live synchronous interactions, ensuring interactivity using a variety of tools in an online environment was not an easy task (Bonk, 2020).

While instructional designers (IDers)—who are professionally, rigorously, and ethically trained to become designers for learning (Kim, 2018)—are equipped with knowledge and skills to facilitate meaningful and engaging learning experiences in a variety of settings and contexts, this emergency pivot to ERT was uncharted territory. In such emergent situations, the need for support and guidance was more crucial than ever before. During these uncertain times when IDers in a variety of settings needed to act fast and provide effective design and instructional decisions, IDers were likely needing professional support.

The needs of IDers during the COVID-19 crisis are largely unknown in Instructional Design Technology (IDT) literature. Some needs are best known through anecdotes, such as personal stories that IDers shared with each other, either at their workplace or professional social media groups. Thus, such needs have not yet been documented and investigated through rigorous research—the focus of this study. Therefore, such an unprecedented situation resulted in ample opportunities for learning, including workplace learning in online environments. Online environments provide numerous options for informal learning activities. Social media, such as Facebook, provides a suitable platform for informal learning in which IDers coming from a variety of professional contexts and settings can exchange their knowledge with each other. In this context, it is crucial to know what kind of expressed needs the COVID-19 crisis revealed for IDers. In other words, what type of knowledge and guidance did IDers need during these unsettling times to facilitate quality and meaningful learning and training experiences? Therefore, the purpose of this study is to investigate IDers' expressed needs with the rapid transition to online learning and ERT during the COVID-19 crisis in an informal learning environment—a large Facebook group for IDers. In addition, this study investigates how online environments facilitate peer-to-peer support among IDers.

Literature Review

Several major constructs are important to consider in the context of this study. These constructs are: community of practice and how it supports skill development for IDers, and informal learning for IDers. Additionally, we focus in this literature review on IDers' work with Emergency Remote Instruction (ERT). With this literature review, our goal is to connect these constructs, present the ERT argument, and consider prior work that presents an opportunity for this study.

Community of Practice

In their foundational work, Lave and Wenger (1991) coined the term *Communities of Practice* while researching situated learning through apprenticeships as a learning model (Aljuwaiber, 2016; Wenger, 2011). They argue that, in a situated context, group participation and activities help facilitate the learning process among the group members (Aljuwaiber, 2016). Wenger (2011) defines communities of practice as the “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (p. 1). This definition has three main elements: (1) The domain - which refers to the group's shared area of interest; (2) the community - which refers to the place where group members engage in joint activities and discussions; and (3) the practice - the shared repertoire of resources, such as answering questions, helping each other by sharing knowledge, sharing tools, stories, experiences, and so on (Wenger, 2011).

In order to successfully navigate the complexities of each professional context, IDers working in diverse settings need to stay abreast of the recent trends in their professions as well as advance their knowledge and skills (Ertmer & Newby,

1993; Ritzhaupt & Kumar, 2015). This provides an opportunity for IDers to become part of a community of practice where there are shared interests, practices, and resources for help (Schwier et al., 2004). Further, such opportunity becomes crucial when considering the diversity of instructional design settings and the variety of IDers' roles (Schwier & Wilson, 2010; Sugar & Luterbach, 2016).

The discipline of instructional design technology (IDT) provides a variety of career paths that IDers can follow. That is, IDers work in a variety of professional contexts, including corporate, higher education institutions, and non-profit organizations (Stefaniak et al., 2020). At their specific professional setting, IDers are involved in a variety of activities, including design (e.g., online learning design, webinar design), media production (e.g., audio, video, and image production), and support (e.g., just-in-time support, consultations) (Sugar & Moore, 2015). Further, Sugar and Moore (2015) reported that IDers assume different roles, such as the role of an architect, engineer, craftsperson, artist, counselor, manufacturer, and trainer. It is possible to conclude that each professional setting presents a plethora of contextual peculiarities that IDers should factor in during their design process.

Community of Practice to Support Skill Development for Instructional Designers

While formal education and training in the IDT discipline equip IDers with necessary theoretical knowledge and skills, work situations post-graduation are more complex and nuanced (Tracey & Boling, 2014). Professional reality is more complex in its variety of design problems and situations (Nelson & Stolterman, 2014). This partially explains why it is reasonably expected that employers of IDers expand the training for the designers in one way or another (Tracey & Boling, 2014). Similarly, solutions to such problems require an extensive skill set, including tacit knowledge, the ability to communicate and collaborate effectively, and the ability to make good design judgments (Lachheb & Boing, 2018; Lachheb & Boling, 2021). Research has shown that, in preparing of future IDers, formal education and training should place a greater emphasis on realities that IDers tackle *in situ* (Abramenka-Lachheb et al., 2021b; Lachheb & Boling, 2018; Stefaniak et al., 2020; Tracey & Boling, 2014; Yanchar et al., 2010). Foundational research on the topic, such as Rowland (1992) and Rowland et al. (1992), suggested that adequate formal education should help future IDers gain skills that are aligned with what IDers do in real-life professional settings. Particularly, Rowland et al. (1992) recommended an apprentice model that includes three components: learning in context, access to expert knowledge, and modeling and reflection.

The Community of Practice (Lave & Wenger, 1991) is largely based on the idea of apprenticeship and situated cognition (Brown et al., 1989). That is, people learn in context and through interactions with experts in a specific professional domain and culture of practice. A community of practice encompasses interactions among persons over time and presents a mutual exchange of knowledge related to a specific domain of knowledge and culture of practice (Lave & Wenger, 1991). Being part of the community of practice does not imply mere replication of work approaches and practices of other skilled practitioners but rather enriches each other's own practices. That is, mutual exchange of professional knowledge allows practitioners to think creatively about their solutions in their respective professional contexts.

In recent years, Virtual or Online Communities of Practice (VCoP) have become increasingly prevalent in the workplace and educational settings, especially in light of the COVID-19 pandemic. Members of VCoP develop, learn, create, and share knowledge through online social mediums, such as Facebook, and build trusted communities (Ardichvili, 2008; Chiu et al., 2006). Chiu et al. (2006) defined virtual communities as "online social networks in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interactions" (p. 1880).

Informal Learning for Instructional Designers

In response to emerging and complex instructional problems, IDers are engaged in workplace learning (Yanchar & Hawkey, 2015). Workplace learning is driven by various factors, including the demands of new skills, the impact of emerging technologies, and the roles within various organizations and communities (Manuti et al., 2015). Workplace

learning includes both formal and informal learning (Berg & Chyung, 2008; Choi & Jacobs, 2011; Marsick & Watkins, 2015; Yanchar & Hawkey, 2015). Informal learning is defined as unplanned, incidental learning that takes place beyond institutionally supported classroom activities and is not confined to a specific place and period of time (Choi & Jacobs, 2011; Marsick & Watkins, 2015). That is, informal learning happens on demand and is largely driven by learners' professional needs and interests.

While employees learn through formal means by training to improve job performance, most of the workplace learning occurs informally (Cerasoli et al., 2017; Choi & Jacobs, 2011). Participating in informal learning communities, such as Facebook groups, offers a variety of ways to engage in professional discussions with other IDers without time constraints imposed by traditional forms of formal learning (Bull et al., 2008).

Yanchar and Hawkey (2015) investigated how practicing IDers learn informally. The authors reported the significance of informal learning and IDers' willingness to engage in informal learning in an effective manner. The authors also stated that many of the reported informal learning activities were tacit. Further attention to informal learning would lead to other forms of informal learning among IDers, such as self-reflections regarding their work. The study mentioned that participants used Google to look for examples and gain initial ideas or clarification. It did not specify whether social media communities, such as professional Facebook groups, were used as a platform for informal learning.

Facebook offers an informal learning environment for sharing contemporary knowledge (Cain & Policastri, 2011) on relevant instructional design issues experienced by practicing IDers. Researchers have argued that informal learning is an important aspect of instructional design practice and instructional design itself might be considered as an informal learning process (Yanchar & Hawkey, 2014). Moore and Klein (2015) noted that practitioners and graduate students often engaged in informal learning activities, such as consulting online resources, talking with others, sharing materials with colleagues, reflecting on the design process, scanning professional magazines and journals, and observing others (Moore & Klein, 2015). Even though most workplace learning happens informally, there has been limited empirical research on informal learning in the workplace due to its tacit nature (Berg & Chyung, 2008; Cross, 2007; Noe et al., 2013).

Instructional Designers' Work for Emergency Remote Instruction (ERT)

Hodges et al. (2020) coined the term Emergency Remote Instruction (ERT) to denote the difference between "well-planned online learning experiences" (p. 1) (i.e., online courses that are designed and delivered intentionally to be online) and the variety of instructional forms that educators adopt in response to a crisis or disaster, such as the COVID-19 pandemic. This term was coined in a highly cited EDUCAUSE online publication, published on March 27, 2020, right after colleges and universities in the U.S. and around the world closed their campuses to face-to-face forms of learning and pivoted to ERT. Such a distinction is important to keep in mind when educators and IDers are working to maintain instruction during the COVID-19 pandemic and plan to evaluate their work later. Additionally, this distinction serves us—design scholars and practitioners—better when we aim to understand how IDers' work was different during the ERT compared to 'normal times.'

Abramenka-Lachheb et al. (2021a) compared IDers to *first responders* during the COVID-19 pandemic in describing their work of supporting faculty in pivoting to ERT at a large research university/school in the U.S. The authors highlighted how their work process was not what they usually followed when designing online courses. They aptly remarked that "rapid response to instructional design needs during a crisis event required an operational framework to inform the support response" (p. 304). The operational framework they described entailed a six-step process and a support toolkit outlined by Abramenka-Lachheb et al. (2021a), which helped them effectively support faculty to transition from face-to-face to ERT. Such process and support toolkits were invented on the spot and were not described in instructional technology and instructional design textbooks, which speaks to the ability of the authors to make solid design judgments and create internal design tools when needed to support their professional practice (Lachheb & Boling, 2018). In a recently published textbook chapter, Hodges et al. (2021) stated that the rapid pivot to ERT due to the COVID-19 pandemic is "likely to diminish faculty satisfaction with online teaching" (p. 48). This calls for

IDers to adopt different mindsets and work processes during ERT, focusing on how to leverage institutionally supported instructional technologies that allow them to meet emergency needs and faculty support.

Problem Statement

The needs of IDers during the COVID-19 crisis are largely unknown in IDT literature. Some needs are best known through anecdotes and are yet to be documented and investigated through rigorous research—the focus of this study. As known, the COVID-19 crisis brought unprecedented challenges to many professions, and the instructional design profession was not an exception. During this crisis, as universities, schools, and other organizations had to rapidly transition to an online and/or an ERT mode of delivery (Hodges et al., 2020), IDers were most likely faced with unprecedented challenges. These unprecedented circumstances opened an avenue for learning opportunities. It is well documented in the literature that most workplace learning happens informally (Berg & Chyung, 2008; Cross, 2007; Noe et al., 2013). Online environments provide numerous options for informal learning activities. Facebook, as one of the most popular online social networks, offers an informal learning environment for sharing contemporary knowledge (Cain & Policastri, 2011) on relevant ID issues experienced by IDers.

Purpose & Significance of the Study

The purpose of this study is to investigate IDers' expressed needs with the rapid transition to ERT during the COVID-19 crisis in an informal learning environment—a large Facebook group for IDers. Understanding the needs of IDers for effectively and efficiently pivoting to ERT using an informal learning environment presents an opportunity to learn important lessons. These lessons shed a light on how an informal learning environment was used to facilitate peer-to-peer professional support among IDers. In addition, IDers' needs during the COVID-19 crisis provide insights for IDT education, research, and practice.

The below research questions guided our study:

- RQ1: What needs did instructional designers express and report in an informal learning environment during the COVID-19 crisis?
- RQ2: In what way did an informal learning environment facilitate peer-to-peer support for instructional designers?

Methods

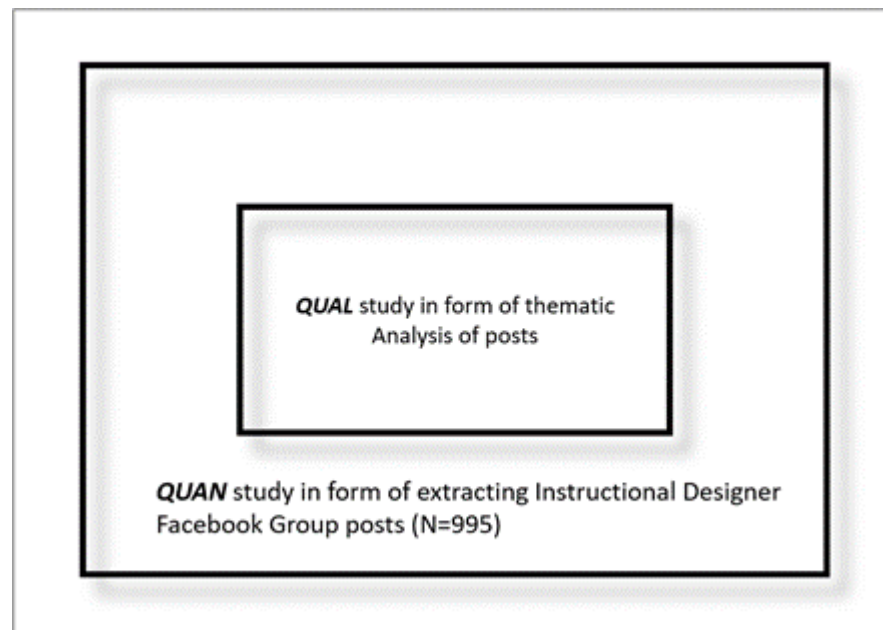
Study Design

We followed a mixed method design to conduct this study. The purpose of using a mixed methods study is to seek a broader and deeper understanding of the complex study phenomenon. That is, it allows the use of an arsenal of methods that enable researchers to take advantage of either approach and compensate for their limitations. In other words, leveraging advantages of both methods allows researchers to seek *complementarity* (Greene, 2007). As Greene (2007) mentions, "In a complementarity mixed-methods study, the results from the different methods serve to elaborate, enhance, deepen, and broaden the overall interpretations and inferences from the study" (p. 101).

To answer the research questions, we specifically followed a nested mixed-method design (Eickhoff & Wieneke, 2018; Hesse-Biber, 2010). The key characteristic of this type of mixed-method research is to employ at least one additional method within another primary method (Eickhoff & Wieneke, 2018). That is, first, we used a quantitative approach to collect a large textual data set—995 posts published in the Instructional Designer Facebook group. We used the topic model quantitative approach to analyze the retrieved posts to identify the dominant topics or categories from the posts. Second, we used a qualitative approach to analyze the posts and assign them to categories we identified. We discarded the posts that were irrelevant to the categories. That is, subsequent qualitative analysis of posts allowed us to make our analysis more granular and detailed to draw more meaningful conclusions. The study design is shown in Figure 1.

Figure 1

Nested Mixed Methods Design



Picture depicting the nested methods design for study

Data Source

We chose posts published in the Instructional Designer Facebook group as a data source for this study. We chose this specific group because it is a public group founded in 2011 by the E-learning Industry website (Instructional Designer, n.d.). Any Facebook user can request access to this group by answering one question related to the reason for joining the group. According to CrowdTangle Intelligence, a public insights tool from Facebook, the Instructional Designer group is the largest public group on Facebook with 15,870 members as of May 29th, 2021 (About Us CrowdTangle, n.d.).

Data Collection

We retrieved data from the Instructional Designer Facebook Group users' posts using an open-source Python code and web scraping extension available in the Google Chrome browser to parse the HTML code. To ensure that all users' posts were scraped completely, we relied on the mobile version of the Facebook group to display all users' posts from July 8th, 2019 to January 12th, 2021—a feature not available in the desktop version of the website. In light of the COVID-19 pandemic, we focused our analysis—and purpose of this study—on de-anonymizing users' posts from March 10th, 2020 to June 10th, 2020. We extracted a total of 1,074 posts that we further reduced to 995 posts by eliminating posts that had no context (e.g., "hi, hi there"; "hello all"; "good morning professionals"). These posts were tabulated in an Excel spreadsheet for data analysis work. The spreadsheet contained two columns: (1) date posted and (2) the actual post.

Data Analysis & Trustworthiness

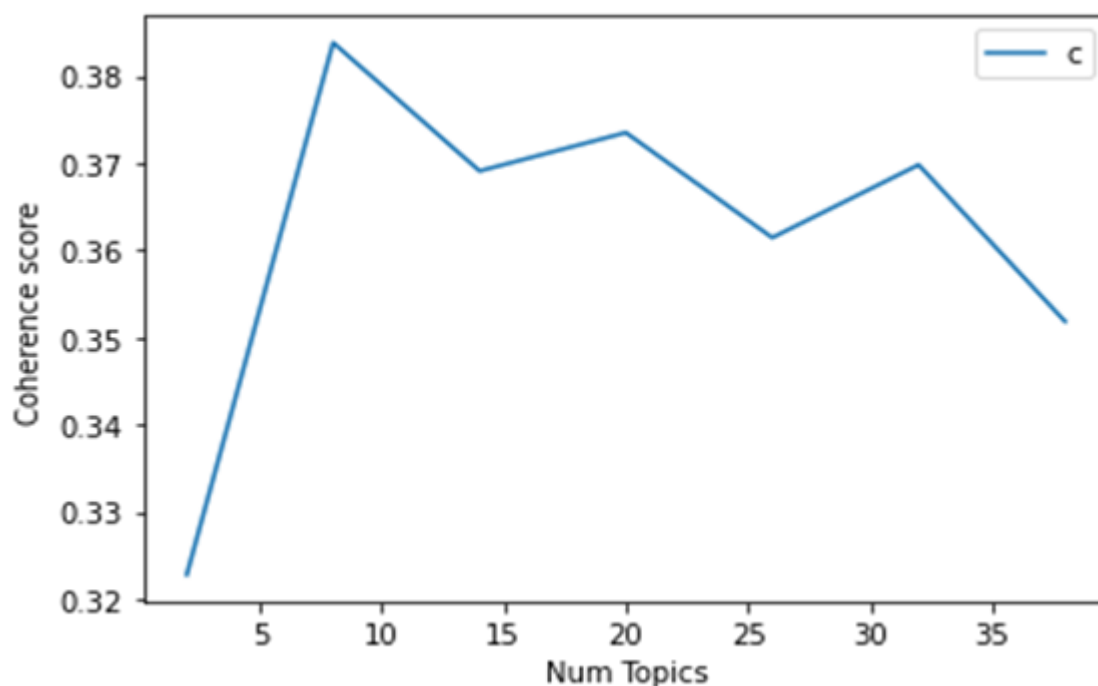
To aid with the content analysis and qualitative analysis approach, we relied on the Term Frequency Inverse Document Frequency (TfidfVectorizer) algorithm in scikit-learn (*Sklearn.Feature_extraction.Text.TfidfVectorizer*, n.d.) to understand the frequency weights of words against a single user's post and all users' posts. Once we calculated the numerical representation of the posts using the bag of words model, we ran the Latent Dirichlet Allocation (LDA) algorithm to discover emerging topics using the default 'batch' setting, which processed the entire text of posts all at once for training and testing. The LDA algorithm required a specific parameter for determining the exact number of topics that

the algorithm would use to achieve distinct and coherent topics. This is crucial because topic coherence measures the degree of semantic similarity between scoring words in the topic.

For this particular corpus of data that contained 995 posts, we achieved the ideal number of topic parameters by running the LDA several times with multiple numbers of topic parameters from two (2) to 11 until we achieved the highest coherence or C_v value. As shown in Figure 2, the number of topic parameters of six topics achieved the highest coherence value of 0.46. Any number of topic parameters above six would have resulted in lower C_v values with less semantically distinct topics. While C_v is the most common coherence measure in topic modeling, LDA also required parameters for the Dirichlet hyperparameter α for document-topic density and Dirichlet hyperparameter β for word-topic density. We set the α and β parameters to 'auto' in which the LDA algorithm estimated the document-topic and word-topic densities, respectively.

Figure 2

Coherence Score of Six Topics



Graph showing the coherence scores of six topics

After inspecting the word probability distribution of the six topics in the data, we identified the first five emerging topics: (1) general pedagogical advice; (2) pedagogical advice in light of COVID-19; (3) effective use of educational technology; (4) announcement of e-learning events and webinars; and (5) job transition to the instructional designer role. In the first five categories, community members were seeking advice from others. However, we identified a sixth topic related to sharing resources: (6) links in which posts did not solicit any input from other members of the Facebook group.

Based on the six emerging topics, we generated a list of codes that aligned with each topic. We viewed these six (6) topics as general categories that needed to be distilled into specific codes. We conducted multiple cycles of coding in which we met regularly to discuss our interpretation of the posts and to what extent the LDA algorithm was accurate in proposing six emerging topics. We used these codes to code posts and ensure consistent coding practice among us (see Table 1). Each code was accompanied by another sub-code to capture whether the post was related to COVID-19 or not: "covid? (yes/no/maybe)."

In the first cycle, each one of us took a part of the data and applied codes to each post they were assigned to. In the second cycle, we reviewed each other's coding work, asked questions, and refined our coding work further by

consensus. We ensured that we all had a collective understanding of the posts, the codes, and the six emerging topics that served as categories/themes. Through multiple meetings, discussing our coding work, and refining our coding in the second cycle, we ensured intercoder reliability, improved our trustworthiness, and reduced our bias/subjectivity.

Table 1

Emerging Topics from the Topic Modeling and Assigned Qualitative Codes

Emerging Topic	Qualitative Codes
1 Seeking general pedagogical advice (e.g., techniques on-boarding new employees online)	Pedagogical Advice - General
2 Seeking COVID-related pedagogical advice (e.g., asking for help related to remote work and COVID-19)	Pedagogical Advice - COVID
3 Seeking educational technology advice (e.g., asking for recommendations for a learning management systems)	EdTech Advice
4 Announcing e-learning events and webinars	Announcement
5 Seeking input related to Instructional Designer role (e.g., transition from K-12 teaching to corporate ID)	Job-Related
6 Not applicable (e.g., links to resources and articles)	N/A

Findings

Below we share the findings of the study with respect to the two research questions:

(1) What needs did instructional designers express and report in an informal learning environment during the COVID-19 crisis? and (2) In what ways did an informal learning environment facilitate peer-to-peer support for instructional designers?

Expressed Needs of Instructional Designers During the COVID-19 Crisis

We identified multiple expressed needs of IDers during COVID-19 based on their posts. As shown in Figure 3 and Table 2, the most expressed needs, revealed from 272 out of 995 posts (27.3%), had to do with educational technology advice. Through expressing this need, IDers were asking for recommendations for learning management systems, authoring tools, and other educational technologies that support media production and instructional delivery.

The second most expressed need of IDers, revealed from 246 out of 995 posts (24.7%), had to do with their jobs and roles. Through expressing this need, IDers were asking/seeking advice about transitioning from one educational setting to another (e.g., K-12 to higher education, and/or higher education to corporate, and vice versa), job responsibilities, relationships with subject matter experts, how to freelance design work, etc. (See Figure 3 and Table 2 for numbers and quotes). We speculate that multiple posts that belong to this category were from different educators/corporate trainers who did not necessarily hold an IDer job title, yet their posts were about seeking advice on how to switch to an IDer role—the reason behind joining and posting in this group.

The third most expressed need of IDers, revealed from 174 out of 995 posts (17.5%), had to do with announcing e-learning events and webinars. Through expressing this need, IDers were promoting professional online events, such as webinars, job posts, and the release of new books/resources and reports (See Figure 3 and Table 2 for numbers and quotes). While posts of this category do not communicate ‘needs’ like the first two most expressed needs, announcements of webinars and professional events speak to the need for staying connected with other professionals.

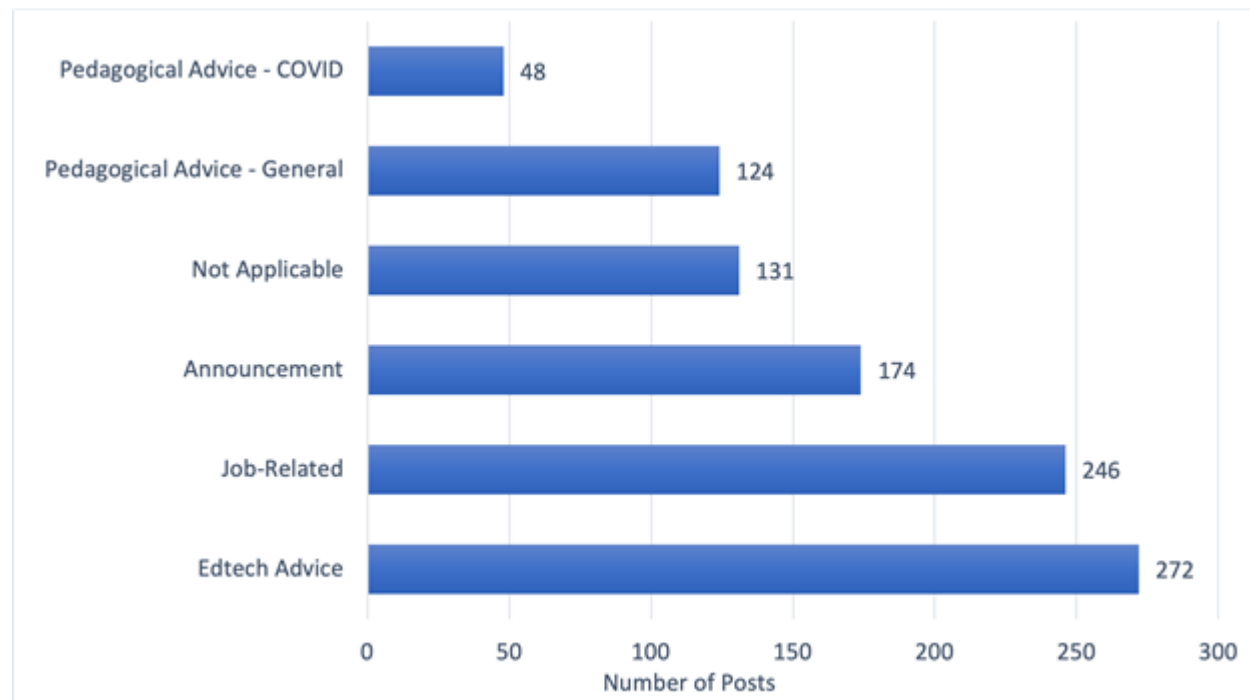
The fourth most expressed need of IDers, revealed from 124 out of 995 posts (12.5%), had to do with general pedagogical advice. Through expressing this need, IDers were asking about/seeking help with general instructional design strategies and tactics, accessibility standards/questions, assessment design, etc. (See Figure 3 and Table 2 for numbers and quotes). We interpreted posts in this category as general pedagogical advice because we considered these posts to be equally relevant for COVID-19 and ‘normal’ times. Yet, the fact that these posts appeared during our study time frame allowed us to speculate that COVID-19 made this expressed need obvious. Additionally, although the ‘not applicable’ category holds the fourth highest frequency (131 out of 995 posts—13.2%), it cannot be considered as

the fourth most expressed need by IDers. As we explained earlier, posts for this category were random links and texts, without a clear context and meaning for us to interpret.

The fifth most expressed need of IDers, revealed from 48 out of 995 posts (4.8%), had to do with COVID-related pedagogical advice. Through expressing this need, IDers were asking about/seeking help with designing online and/or transitioning from face-to-face to ERT learning/training experience, planning learning/training experiences in the near future, discussing paradigm shifts of learning/training delivery, etc. (See Figure 3 and Table 2 for numbers and quotes). We interpreted posts in this category as COVID-specific pedagogical advice because the posts specifically mentioned (or implicitly reference) COVID-19. Thus, these posts are applicable to COVID-19 only.

Figure 3

Facebook Posts Frequency Distribution

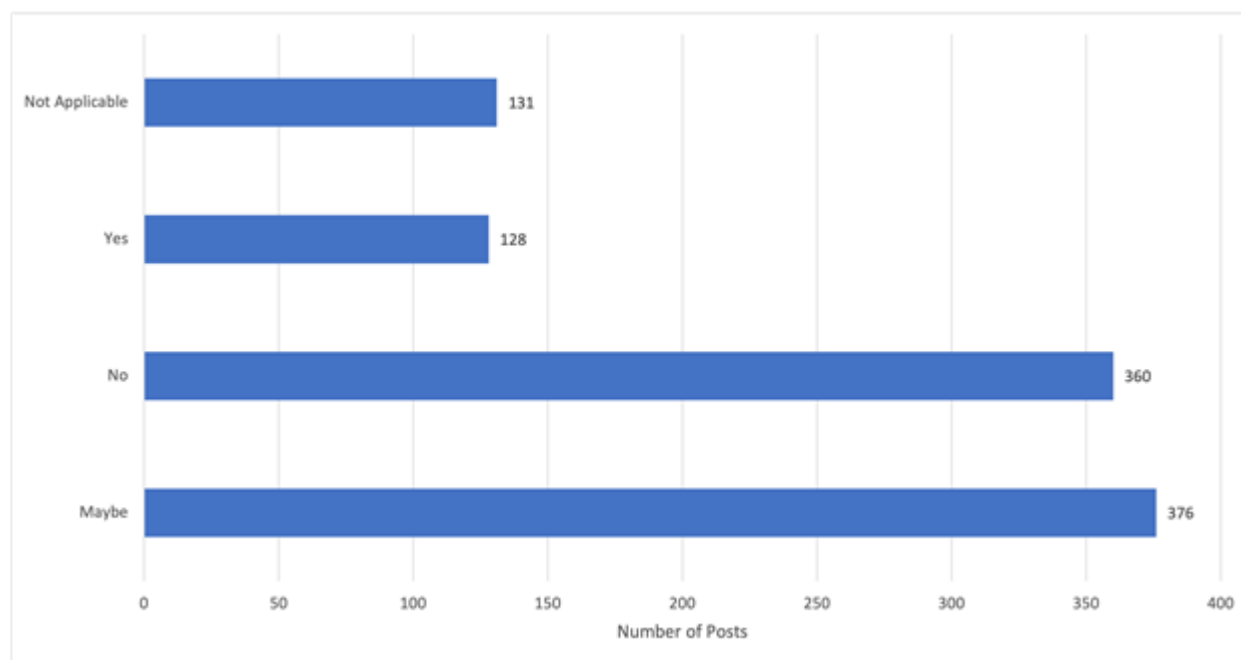


Bar graph showing Facebook post frequency

Out of total 995 posts, we identified 128 posts (12.9%) as COVID-19-related based on key terms used in the posts, such as “COVID-19 crisis,” “COVID-19,” “COVID,” and “remote learning.” Additionally, we identified 376 posts (37.8%) as maybe COVID-19 related, based on the remote learning context of the posts and our interpretative act of such posts. We also identified 131 posts out of 995 posts (13.2%) as not applicable— which matches the above category of not applicable— and 360 posts (36.2%) as not COVID-related (See Figure 4).

Figure 4

Facebook COVID-related Posts



Bar graph showing Facebook posts related to COVID-19

Table 2

Expressed Needs of IDers During the COVID-19 Crisis

	Emerging Topics	Codes	Freq.	%	Example of Posts
1	Seeking educational technology advice (e.g., asking for recommendations for a learning management systems)	EdTech Advice	272	27.3%	"A question for those who are uploading SCORM files to your LMS. When you upload your courses, do you choose to embed your course or show as pop-up? When you embed, learners don't see the course in full screen but when you show as pop-up, the course opens another window. Also not ideal user experience. Wanted to hear how everyone handles this and your reasons. Thanks!" "Captive 2019 users, I recorded a video demo with webcam and I want to remove the webcam from the demo. Can I do that without re-recording? If so, how? Thank you!"
2	Seeking input related to Instructional Designer role (e.g., transition from K-12 teaching to corporate ID)	Job-Related	246	24.7%	"After working as instructional designer in a corporate setting, I am starting my own ID business with women solopreneurs. Having never worked in the private sector, I have no idea how contractors price themselves for solopreneurs. Any suggestions or points in the right direction would be greatly appreciated. Thanks!" "Today, I'm reviewing a technical PowerPoint put together by a SME, which contains pronouns like "it" used in multiple instances. Since I'm not as familiar with the subject matter, I'm seeing multiple interpretations for the pronouns in some cases. Usually I can re-word and figure put from context clues, but this adds extra time and frustration. Has anyone else experienced this? How have you helped your SMEs break this habit?"
3	Announcing e-learning events and webinars	Announcement	174	17.5%	"Check out the email notice from TechSmith (Camtasia and SnagIt). They are offering their products for educators and businesses impacted by closures and working remotely. I received this notice earlier today and thought it might be helpful." Hello everyone! Check out this opportunity to attend a FREE webinar about creating, producing, and promoting a podcast. We are LDT Grad Students at CU Denver."
4	Seeking general pedagogical advice (e.g., techniques on-boarding new employees online)	Pedagogical Advice - General	124	12.5%	"Accessibility question: Working on elearning for a client in Storyline and they typically reference laws and court cases a fair amount. In the past, they've been understanding about accessibility concerns. The current lesson has a lot of symbols (section symbols, parenthesis, etc), which have meaning for them, but which will trip up a screen reader. Any advice?" "Without a doubt, micro-learning is no longer a buzz in eLearning. It's becoming more and more in use as it's one of the most effective learning strategies to develop training with high profits. So have you used . . . More micro-learning videos on your eLearning to drive employee engagement?"

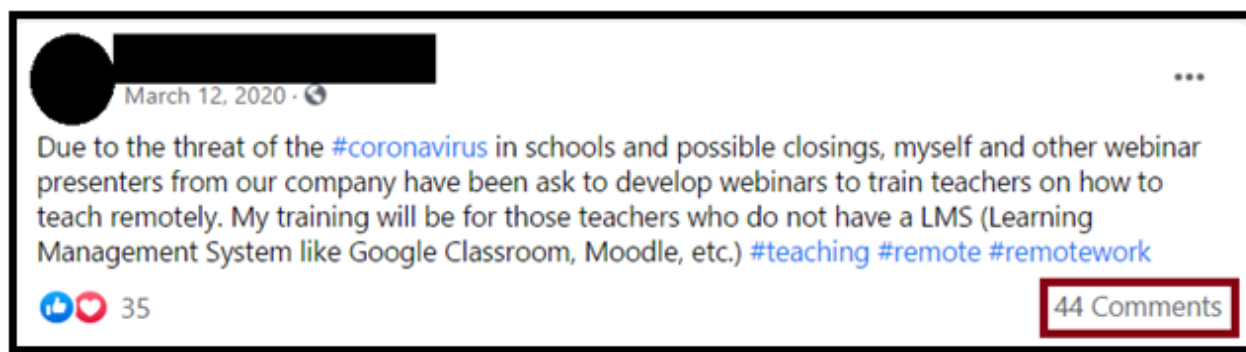
	Emerging Topics	Codes	Freq.	%	Example of Posts
5	Seeking COVID-related pedagogical advice (e.g., asking for help related to remote work and COVID-19)	Pedagogical Advice - COVID	48	4.8%	"Greetings! We've set up a space for colleagues who may need some help with instructional design tips moving their face to face courses to online mode, to discuss challenges related to the COVID-19 virus, and we . . . More'd like to invite IDs to join in the conversation. We are just getting things ramped up. We also have some upcoming presentations being scheduled on the outbreak and all topics related to distance ed and online learning, so please sign up on our mailing list and visit our site. Thank you." "In your opinion, what are the 3 most important themes in conducting training and development for faculty – both in person and online?"
-	Not applicable (e.g., links to resources and articles)	N/A	131	13.2%	"https://aimsdigital.com/storyline-training/"

Ways an Informal Learning Environment Facilitated Peer-to-Peer Support

The Facebook group we investigated in this study functions as an informal learning environment for IDers. When closely examining the categories of expressed needs (i.e., educational technology, job-related, announcement, general, and COVID-19-related pedagogy), we found that this informal learning environment facilitated peer-to-peer support through asking questions, seeking advice and help, and sharing other resources with each other. Additionally, IDers in this group responded to posts/each other when their peers sought support/advice/help. As an illustrative example, the following request for advice was posted on March 12th, 2020 by an IDer of this group (Figure 5).

Figure 5

Example of a Post Where an Instructional Designer is Requesting Advice on a Specific Design Situation



Picture of a sample post

This request for advice— on how to develop webinars to train teachers how to teach remotely— is specific and includes specific hashtags to ensure visibility and attraction. It reflects a sense of “*I need advice/inspiration on a specific design situation that I’m grappling with.*” The request for help received 44 comments. Such comments ranged from offering specific tips, strategies, and techniques/tools (e.g., Powtoon and Videoscribe, Zoom, use of school LMS), to requests for further details about the context of the training before one can offer help/advice. This last comment resulted in a broader exchange of ideas, information, and advice among IDers — one comment resulted in an additional seven nested comments that almost deviated from the original post. Each IDer was speaking from their own experience, sharing their precedent design knowledge, and offering advice through speculation and different degrees of confidence. Peer-to-peer support between IDers was facilitated by this informal learning through such an exchange of ideas and advice that were prompted by questions/requests for support.

Discussion

The COVID-19 crisis brought about unprecedented changes to professional and personal lives within a matter of several weeks. Particularly, social distancing and attendance restrictions due to COVID-19 made an online format the only

viable option to continue pursuing one's educational and professional development goals. In such situations, it was important to act fast and leverage the existing resources. One such resource was an informal type of learning in online environments, such as the Instructional Designer Facebook group, where it was possible to seek professional advice and share resources.

Expressed Needs Related to Educational Technology

Findings of the study revealed that the most frequently expressed need related to educational technologies (27.3% of 995 posts). We found it surprising that expressed needs regarding educational technology prevailed over expressed needs related to pedagogy (general and COVID-19 related, 17.3 % of 995 posts). It is a surprising finding for us, as we expected that more inquiries would be related to how to wisely integrate a tool and instructional strategies suitable for online learning environments (Baldwin, 2019). We expected more of such inquiries because successful technology integration goes beyond technical skills and acquisition of the newest technologies (Blackburn, 2017). We speculate that posts related to educational technologies were the highest considering the urgent nature of the situation when a quick solution needed to be offered and put in place. We believe, in such an urgent situation, there was no time to think through all pedagogical implications (e.g., alignment with learning outcomes, accessibility, and evaluating technology resources). Thus, it seemed that the key goal was to put learning materials online so that learners could access them. Therefore, IDers chose and relied on those tools that other IDers recommended, such as Articulate Storyline for building online modules. Therefore, the urgent nature of the COVID-19 crisis primarily caused technological challenges for IDers. It is one more reason why it was called ERT, not online learning, because online learning implies thorough planning based on pedagogically sound decisions regarding the use of education technologies for a given learning context. Additionally, research has shown (Lachheb & Boling, 2018; Nelson & Stolterman, 2014) that tools themselves do not guarantee good design, thus, merely using them is not conducive to meaningful learning experiences. Rather, it is how designers use their tools while considering their target audience and context.

Job Related Expressed Needs

The second most frequently expressed need was related to IDers' role, functions, and job postings (24.7 % of 995 posts). This could demonstrate the increased interest in the discipline of instructional design due to the changes caused by COVID-19, such as an ERT and a subsequent increase in online courses and professional development programs. It could also signify the shift in one's perception about the IDers' role in maintaining learning experiences due to COVID-19. That is, the COVID-19 crisis stressed the importance of IDers' jobs in providing and supporting learning experiences.

Informal Learning for Professional Development

Further, it is worth noting that IDers seemed to be comfortable sharing their concerns, seeking advice, and discussing their job in this informal learning setting. This is specifically evident based on the number of posts related to their jobs (e.g., seeking advice, job postings, professional development announcements, such as webinars, and resources they shared with each other). The variety of topics that IDers shared in these informal settings speaks to their willingness to learn from other professionals and trust in other professionals' expertise. This is how IDers build and learn in their Community of Practice. This specifically resonates with Yanchar and Hawkley's (2015) study, findings of which emphasized IDers' willingness to effectively engage in informal learning. This finding also echoes the literature regarding Virtual or Online Communities of Practice (VCoP). That is, such communities are becoming more prevalent and serve as mediums to develop, create, and share knowledge (Ardichvili, 2008; Chiu et al., 2006). The Facebook group chosen for this study is one of such mediums in which IDers can post their inquiries related to their practice, such as challenges and seeking advice from other professionals. This emphasizes the crucial role of informal learning for IDers and the need for such environments in which practitioners can enrich their knowledge through sharing expertise and experience with each other.

Implications

The findings of this study foreground implications for instructional design practice, education, and research. Findings of this study highlight the need for instructional design practice to constantly offer opportunities for informal learning, professional development, and networking among IDers. Like any other design profession, the instructional design profession will continue to flourish with solid professional networks and communities in which designers continue to learn and improve. In IDers' preparation, two major ideas could be brought to instructional design students' attention early on: Learning about instructional design never stops, and knowledge from peers/other professionals is as valuable as other sources of knowledge. The answers to the most pressing issues/questions and challenges could be found outside of ID textbooks and within other professional designers' judgments and repertoire of experiences. Future research on instructional design could further explore emerging needs, challenges, and opportunities for IDers and emphasize the importance of tacit knowledge that IDers have in order to solve unique problems at their diverse workplaces.

Conclusion

In this study, we sought to understand what needs IDers expressed and reported in an informal learning environment during the COVID-19 crisis and in what way an informal learning environment facilitated peer-to-peer support for IDers. The findings of this study highlighted diverse expressed needs, ranging from educational technology needs to COVID-19 specific and general pedagogical needs. Peer-to-peer support between instructional designers was facilitated in an informal learning environment— a large Facebook group for instructional designers—through an exchange of ideas and advice that were prompted by questions/requests for support. The study begins to document the needs of instructional designers during the COVID-19 crisis in IDT literature. The online environment we studied seems to provide numerous options for informal learning activities for instructional designers.

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