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Instructional Designers' Perceptions of the Practice of Instructional Design in a Post-Pandemic Workplace

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This article explores instructional designers' perceptions of changes to instructional design practice in a post-pandemic workplace. A thematic analysis of interviews conducted with 33 instructional designers revealed that instructional designers believe that the profession is profoundly altered post-pandemic. Findings around post-pandemic instructional design practice include adopting agile instructional design practices, increasing collaborations with others within a context of empathy, recognizing the importance of accessibility, and increasing reliance on technology to deliver both instruction and training within the context of an expanded portfolio of how instruction will be delivered in the future.

This article considers the implications for the future practice of instructional design (ID) based on practitioner reflections of the experiences of pivoting face-to-face instructional experiences to online environments during the COVID-19 pandemic while under tremendous strain due to an increased volume of work without additional resources, as well as the general stress experienced by individuals during the pandemic. The authors further propose implications for both post-pandemic practice and future research so that instructional designers (IDs) can adjust their practice to reflect lessons learned during the pandemic and additional questions that arise related to post-pandemic practice can be explored.

Problem/Purpose

The pandemic significantly impacted the role and practice of instructional design, which led to the question of future impacts; that is, do practitioners believe the practice of ID will evolve because of lessons learned during the pandemic? This article explores instructional designers' perceptions of future impacts on the practice of instructional design and the role of the instructional designer in a post-pandemic workplace.

Guiding Research Question

Via interviews, practicing instructional designers were asked to reflect on the following question, considering how their experiences during the COVID-19 pandemic would impact the profession:
1. How do instructional designers perceive the COVID-19 pandemic will alter instructional design work post-pandemic?

LITERATURE REVIEW

Instructional design is the practice of relying on learning theory and research from fields including education, psychology and communication to design purposeful instructional experiences that help learners acquire the knowledge and skills needed to close identified performance gaps (Ardent Learning, 2020; Chapman & Cantrell, 2021; Morrison, et al., 2013; Purdue Online, 2021; Instructional Design Central, LLC, 2022; ATD, 2021). As a field, the practice of ID can be traced to World War II, when "a large number of psychologists and educators who had training and experience in con-

ducting experimental research were called on to conduct research and develop training materials for the military services" (Reiser, 2001, p. 2).

Practitioners of ID are known as instructional designers, with some variation in title (e.g. learning experience designers, learning technologists) (Malamed, 2021; Tucker, 2019). Instructional designers work across multiple job sectors (education, healthcare, the military, both public and private industry) and have a broad knowledge of learning theory and ID models (Purdue Online, 2021). Practitioners use well-developed ID models [e.g. ADDIE, Backwards Design, Rapid Prototyping, SAM, etc. (Jordan; 2021; Kearsley & Culatta, 2021)] to ensure that instruction is targeted to address a specific performance gap using proven learning methods (ATD, 2021; Reiser, 2001; Purdue Online, 2021). In addition to understanding ID models, instructional designers cultivate a variety of soft skills (diplomacy, persuasion, emotional intelligence) in order to work with other subject matter experts (SMEs) when designing instruction (Ritzhaupt & Kumar, 2015).

COVID-19 and the Impact to the Profession

The COVID-19 pandemic was a tectonic plate shift in the way individuals interacted, worked and learned, and required minimizing physical contact with others to the extent possible to stop the spread of the virus. The practice of social distancing dramatically affected work, travel, education, the economy, how people spent their time, and both physical and mental health (de Palma, 2022; Kessel et al., 2021, Maragakis, 2020). In both training and educational environments, physically distancing individuals meant rapidly moving both instruction and training from largely face-to-face endeavors to online environments. In the shift to emergency remote teaching and/or training (ERT) within both the public and private sectors, instructional designers, already situated at the intersection of teaching and learning online (Bessette, 2020), found themselves in very visible roles working quickly to figure out how to support their stakeholders in a rapidly changing learning environment (Jingrong et al., 2021; Pilbeam, 2020; Prusko & Kilgore, 2020; Whittle et al., 2020). IDs, "acknowledged as a necessity" (Maloney & Kim, 2020) during the pandemic, worked hard to follow best practices under serious time constraints, providing support and advocating for their profession, and architecting design processes to minimize some of the negative impact of the hurriedly designed experiences that represented ERT (Bessette, 2020; Hodges et al., 2020; Jingrong et al., 2021).

Practitioners are starting to reflect on the impact of the COVID-19 crisis on both higher education and business environments, noting that online

teaching, hybrid and hyflex environments are going to become part of the new normal for expanded portfolios of instructional delivery (García-Morales et al., 2021; Rider & Moore, 2021). With human-centered learning design, remote worker training, and more online courses expected as part of the way institutions and workplaces move forward in delivering instruction (García-Morales et al., 2021;Kumar, 2021), the demand for IDs is expected to increase (Decherney & Levander, 2020).

METHODOLOGY

Participants

Graduate Students at a large Research I University taking an *Introduction to Instructional Systems Design* course interviewed practicing instructional designers (vetted by the instructor) as part of their final course project. Students selected participants for the interview, based on their contacts and networks, with some students given ID contacts by the instructor if they were unable to secure an interviewee on their own. Interviewees worked in multiple job sectors, including higher education, K-12, private industry, military, healthcare, etc. (see Figure 1). Interviewees consented to the interview with the understanding that a meta-analysis of themes from interviews may be used for research purposes, and signed an interview consent form acknowledging this fact.

Figure1

The Work Contexts of the Practicing Instructional Designers Interviewed
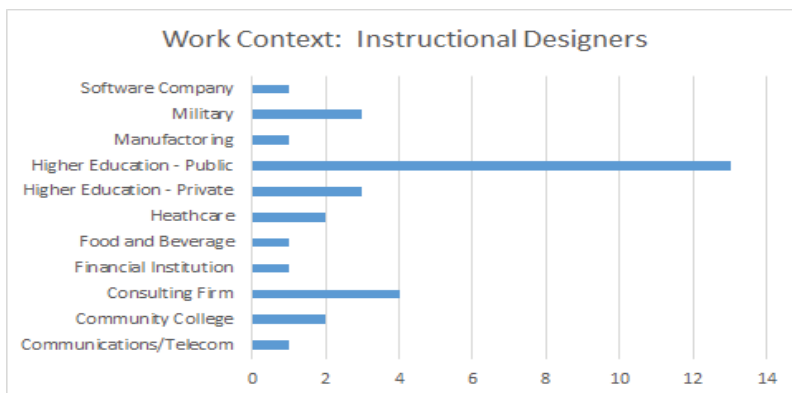
ID Model Followed

Most of the instructional designers interviewed relied upon ADDIE (Analyze, Design, Develop, Implement, Evaluate) as their instructional design model (see Table 1). In the interviews, thirteen of the instructional designers indicated they used the ADDIE model as their primary guiding framework, while describing their use of the ADDIE model as iterative, emphasizing or discarding a part of the model if needed; one of these interviewees also concurrently used SAM. Ten described typically using ADDIE in a more prescriptive way, paying close attention to each step of the model while working on a project and being careful about not skipping a component; thus 23 out of the 33, around 70% of the ID practitioners, leveraged ADDIE in practice. Five of the instructional designers noted that they used a Backward Course Design process, and two described their process as Rapid Prototyping. One had no particular model they named or referred to, one uses Fink's Taxonomy of Significant Learning as their guide, and one primarily relies on SAM.

Table 1

Instructional Design Model Used

ADDIE framework (iterative)	13
ADDIE prescriptive	10
Backward Course Design	5
Rapid Prototyping	2
Fink's Taxonomy of Significant Learning	1
No defined model	1
SAM	1

Data Collection Procedures

Students are given a standard set of questions to ask during the interview, and students submit both a final paper and presentation comparing ID theories to the practice of instructional design. Students submit their interview notes as an additional resource to supplement the interview. Several of the questions during the interviews conducted between March and June 2021 were directly related to the experience of instructional designers' per-

ceptions of how COVID-19 might alter the practice of instructional design post-pandemic. After vetting the interviews to ensure that all interviewees were unique, and that the instructional designer addressed questions about how ID might evolve post-pandemic, 33 interviews were deemed usable for the analysis.

Data Analysis

Qualitative analysis does not necessarily have one method or approach, and often there is not one particular way to approach and analyze qualitative data (Creswell & Creswell, 2018). As this research is grounded in interview data, a phenomenological research approach was applied to describe the interviewees' experiences as instructional designers practicing in a pandemic, and inductive reasoning was used to generalize observations from the interview components. The authors specifically examined the interviewees' responses to the post-pandemic related questions. Dividing into two teams, the authors examined the interview components relevant to pandemic related questions to ensure a shared understanding of the themes and observations emerging from the interview data, developing codes collectively. An analysis template was created in Google Sheets, with participant types and data coded during a first pass of analyzing the data with each author primarily responsible for part of one semester's dataset, and all authors responsible for double checking themes and codes that emerged from each semester's data. While interviews varied in how they unfolded, interviewers asked very specific questions to gather data in a purposeful manner, with themes emerging under the umbrella of specific questions related to instructional designers' perceptions of changes in practice in a post-pandemic workplace.

RESULTS

Instructional Design Work, Post-Pandemic

The research question addressed was: "*How do instructional designers perceive the COVID-19 pandemic will alter instructional design work post-pandemic?*" In analyzing the data regarding instructional designer perception regarding the impact of COVID-19 on their post-pandemic work, lasting impacts on the profession are expected, and future challenges and opportunities for the profession are noted.

Major Category 1: Post-Pandemic Impacts

Post-pandemic, IDs envision that their work will continue to be impacted in a number of ways, including in the ID models and technology that they use, the way they interact with others at work, and in the demand for their services.

Adopting Flexible Instructional Design (ID) Models with Empathy. Throughout the initial months of the pandemic, instructional designers realized the importance of both instructional design models typically taught in most ISD courses or programs (i.e., ADDIE - analysis, design, development, implementation, and evaluation) and project management methodologies (i.e., Agile). For IDs already using these models, referring to a model remained "second nature;" however, with the pressures of time, ID model application was sometimes streamlined. For instructors and other individuals assisted during the quick pivot, the models became essential to success. Because of the quick pivot to online instruction required, faculty and other colleagues with whom IDs worked became more familiar with ID terminology and processes once seen as "elusive," "confusing," and "unnecessary" to non-practitioners. Moving forward, practicing instructional designers believe there is much more awareness of the ID process by those individuals that they work with, and this understanding will assist IDs in practice post-pandemic.

Using ID models and terminology with others under duress required IDs to adopt a more flexible, agile, and evolving approach to instructional design while working with individuals unfamiliar with online learning and instructional design, all within a context of patience and empathy. The most common theme noted in the interviews was that IDs worked to provide instructors with more agile approaches to not only assist instructors in learning how to better design course content for student success, but also to help instructors with their own professional development. Providing a more iterative and transparent approach allowed IDs, in the words of one interview participant, to "reduce the amount of time needed to develop a learning product" while "simultaneously designing and developing content and evaluating effectiveness throughout the process."

Throughout the industry, ADDIE is the most frequently used and well-known ID model (and this was true for the instructional designers interviewed in this study). During the pandemic, it remained such for interviewees, sometimes with time-pressure modifications. Using the ADDIE model, even when modified, allowed IDs and the instructors they work with to create bite-sized pieces of learning content rapidly, and the leveraging of

ID models as frameworks, though potentially with some agile adaptations made, is still expected by the majority of those interviewed in post-pandemic design.

With the quickly evolving landscape during 2020 for learners, the most critical personal characteristic for IDs to possess, according to our interviewees, was empathy, regardless of the ID model followed. Being flexible, obtaining buy-in from instructors to assist them in the quick pivot to online instruction, and remaining empathetic while applying an ID process enabled the difficult pivot online. Post-pandemic, interviewees expect that any application of an ID model will remain grounded in an empathetic and humanistic framework as opposed to only being viewed as a technical process.

Technology. Due to the increased remote, online work completed throughout the COVID-19 pandemic, interviewees noted an increased dependence on technology. Instructors and instructional designers were already using technology; however, the quick pivot to remote learning created an increased dependency on technology-mediated instruction with instructors and training specialists needing to know about best practices for using the plethora of technologies available to them.

While some institutions already offered online (both asynchronous and synchronous) training and educational options, the pandemic created a need to increase these offerings so individuals could access material at their own pace and at any needed time. Individuals working in training, instructional design, human resources, and other professional sectors had to pivot quickly and change training provided in face-to-face formats to virtual to keep training convenient, comfortable, and just-in-time.

Practicing instructional designers recognized the importance of technology in a post-pandemic world. One interviewee advised ID students to "learn technology on the job as it changes rapidly," and expects that IDs will need to remain engaged with emerging technologies. Technology will be embedded in various trainings, and will continue to evolve as applications become more robust and directed towards specific educational applications. Most individuals in ID will leverage it and approach their technology use differently; the pandemic has allowed early technology adopters to share the benefits of said technology with supervisors and colleagues to get individuals onboard regarding technology use in various arenas.

In the educational sector, post-pandemic, more faculty members will continue to recognize the benefits of using technology in the classroom and desire to use it to ensure they are engaging their students both in and out of the classroom. Participating in online faculty technology-training sessions during the pandemic allowed faculty to practice specific technical

skills in the training before they had to use the technology to teach online in asynchronous and synchronous formats. These online technology-training sessions have "allowed for greater flexibility, agility, and technology proficiency and improved faculty technology skills," one interviewee indicated. The main deterrent to even more technology use is the fact that even though technology is prevalent in society, not every learner has equal access to technologies used in the classroom or workplace. One interviewee noted "students living in rural areas don't have sufficient internet speed to participate in online instruction," which can leave some populations behind. Some individuals also do not have access to receive technology training so they can use it effectively and informatively. Thus, while technology dependence will increase, so will the awareness of challenges of access.

Using technology to design and deliver instruction will continue to remain an important part of ID work for instructional designers. For current practitioners and those looking to join the ID sector, being technically proficient in multiple technologies, being able to adapt quickly to changing technology, and being able to provide training to end-users in technology will remain a critical part of the field.

How IDs Work in Teams. Throughout the pandemic, universities with instructional design teams experienced an increased need for faculty support, and the need for ID support was experienced by the corporate workplace as well. In some cases, instructional designers helped instructors quickly place their course content online or answered questions on best practices for delivering online training and courses. Others coached early adopters on how to help others to extend the reach of their work.

Some ID departments manage their own projects while others are assigned project managers to support larger course design projects. As IDs work together in teams with other SMEs to assist faculty members or employees in different institutions or companies, using an iterative process and communicating clearly assists in managing distributed work among team members. As an interviewee stated, "communication is critical to the success of a team," and several of the interviewees referred to the important nature of collaborative ID work going forward. Without collaboration and clear communication, processes and design implementations are not clearly streamlined or documented, and in an industry where relationships matter, IDs typically work together to "coach" instructors in best practices instead of "completing work for faculty."

Higher Demand for ID Talent. Another post-pandemic impact expected by those interviewed was an increasing demand for IDs. ID demand grew exponentially overnight, and many organizations, including K-12 and

higher education and private companies with corporate training functions recognize the importance of having IDs on staff. During the pandemic, organizations with instructional designers began to fully recognize their benefit, and what IDs could accomplish in quickly designing flexible learning environments. Organizations and/or institutions without IDs on staff realized that instructional designers are needed for ongoing flexible course design, as ERT without a design framework is not ideal. During the pandemic, some organizations began hiring IDs to assist in the demand for better course content creation, structure, and training, and this trend is expected by the interviewees to continue, as "instructional designers have become the sherpas of online learning teams, experts in how to teach and design a course" (Decherney & Levander, 2020). Online learning requires an intentional approach to course design; having personnel on staff that are trained in learning theory and best practices for instruction makes a difference in the quality of instruction, and interviewees expect an increasing demand for ID skills post-pandemic.

Major Category 2: Post-Pandemic Challenges

The interviews suggested that a number of challenges that were faced by instructional designers during COVID will remain true in the future, and new challenges have emerged that IDs will continue to have to navigate post-pandemic.

Obtaining Ongoing Buy-in from Learners and SMEs on the Value of Continuing Online Learning. Especially early on in the pandemic, distinguishing ERT from well-designed online instruction was a challenge, and interviewees expect this to remain an important ongoing conversation. One interviewee talked at length about the continued need to distinguish between "emergency remote teaching" from "well-designed online learning" because "those who may have survived teaching or learning remotely when the learning environment was not well-designed may believe that their limited experience is all that online learning has to offer." In the same vein, one instructional designer also explained that "students who experienced online courses during the COVID-19 pandemic may broadly attribute negative experiences to all online courses, when they know that just as with face-to-face courses, one course experience does not define all course experiences in that modality." Another interviewee pointed out that some individuals were already hesitant to experiment with online learning, and having to do so in such a rushed manner may have contributed to even deeper negative

feelings about teaching and learning in a remote learning environment. One interviewee specifically talked about the "online fatigue" that learners are feeling, making the comment that "everyone is going to get tired of being online." A challenge moving forward will be to help stakeholders see the value in how well-designed online and hybrid instruction can be a positive experience, and provide the "learn where and when I want" flexibility that both organizations and learners will continue to want (and need) post-pandemic.

Continuing to Design Multiple Types of Learning Opportunities Leveraging Technology. Interviewees spoke about how future learning experiences need to continue to build in flexibility for learners, with designs that recognize that learners have life challenges where course flexibility is paramount. One interviewee who works in higher education spoke at length about how post-pandemic she expected most university courses in the future to have hybrid options, with all courses having more supplemental online resources, and multiple modality courses becoming the norm. Another interviewee, who works in a company designing corporate training, spoke about how in the future, they plan to have instructor-led synchronous learning (instead of face-to-face training) and plan on limiting in-person training as they found it just as effective and yet more efficient for the company. The challenging part for continued flexible learning environments includes a desire by some learners and organizations to return to face-to-face environments. Thus, helping organizations adopt as part of their long-term strategy some of the best practices of online learning leveraged during the pandemic will be a continued part of the change management process that training professionals will need to help organizations work through.

Running a Marathon at a Sprint's Pace with Limited Resources. Two instructional designers mentioned they expect facing continued resource challenges in being able to sustain the pace of designing multiple learning environments; one commented on how instructional designers would still be expected to quickly meet the needs of designing multiple learning environments even with constrained resources. Another interviewee mentioned the challenges of burnout if instructional designers were expected to continue to work at "pandemic pace" in supporting online learning in their organizations. While other IDs mentioned their organizations might add resources, several others did mention the fast pace of the work environment established at the beginning of the pandemic had not slowed down much, and referenced the fatigue IDs were feeling. Prusko and Kilgore (2020) noted that during the pandemic, stories of "compassion fatigue" were common in the workplace. This was no different for instructional designers, who had to help instructors move their courses online while listen-

ing to instructor frustrations, working long hours, and feeling overworked themselves under the tremendous pressure of ensuring both academic and business continuity for their organizations. Moving forward, instructional designers will need to be appropriately resourced to keep up with the demand for their work and to ensure that IDs do not burn out in practice.

Continuing to Get the Project Management Resources Needed. Project management was mentioned by multiple interviewees as an expected ongoing challenge for instructional designers in order to help manage heavy workloads. In the interviews, maintaining scope of projects, being able to be agile in the ID process, and managing timelines were mentioned as both current and expected future challenges. Instructional designers interviewed also noted their increasing work with project management professionals as a welcome partnership because the project management tasks that instructional designers do can take up a large portion of their time.

Major Category 3: Post-Pandemic Opportunities

The interviews revealed a number of opportunities for instructional design practitioners, including an increased appreciation for the ID role, a broader understanding of the importance of accessibility, and the recognition that digital tools can enhance opportunities for communication and collaboration when working with others. Additionally, recognition that the future of training and education is going to rely heavily on the continued use of hybrid and online learning is a post-pandemic opportunity in the workplace.

The Increased Visibility and Importance of the Role of the Instructional Designer. During the pandemic, there was increased visibility for the instructional design process and the spotlight was indeed shining on instructional design practicioners. Multiple interviewees mentioned that the noticeable work that they did during the pandemic meant that IDs would more likely be viewed as trusted partners in designing and delivering instruction and training, and that there is now a greater appreciation for their skill sets and visibility of the importance of their work (SNU Professional and Graduate Studies, 2021). One respondent noted:

> For what often feels like a lot of invisible labor that happens behind closed doors . . . I think our work has become a lot more public, and I think folks who might not have been otherwise inclined to look for our help because they either didn't know it existed, or they didn't have a sense of what the scope of it might be; I think

> we just have a lot more folks that have a much better familiarity
> with what it is that instructional design or faculty development
> might offer them and because either they've had to rely on it dur-
> ing the pandemic, or they've had folks who have relied upon it,
> and had wonderful things to say about, we are now more visible.

Along the same lines, another participant noted:

> The pandemic exposed gaps in the training programs of industries,
> not because they were not producing results but because they were
> not accomplishing defined goals of their programs efficiently,
> which invites us to really evaluate the training we are doing, why
> we are doing it the way we are, and what the results are . . . these
> exposed gaps in the training program that happened during CO-
> VID-19 highlighted the need for instructional design and instruc-
> tional designers.

Another interviewee commented that she and her colleagues hope "their
efforts throughout the pandemic . . . will show that they are a robust, col-
laborative team with value-added services and insights with whom faculty
will wish to work." Yet another instructional designer stated that the "im-
portance of instructional designers is becoming more obvious" because of
the pandemic, with the same respondent predicting that "more people will
transition into instructional design careers in the next five years as the de-
mand for hybrid and online learning will remain strong in the future."

   Increasing Recognition of the Importance of Accessibility. Several
of the interviewees noted that the pandemic emphasized the importance of
creating accessible learning environments for all and touched on the idea
that training and education, when designed in multiple ways, could be more
inclusive by reaching additional audiences by designing materials that are
more accessible. After the disruptions that many experienced due to internet
connectivity challenges, one instructional designer stated that, post-pandem-
ic: "I think we have we have a much-improved position when it comes to
infusing diversity, equity and inclusion work in the stuff that we do; I think
about universal design for learning an awful lot since accessibility is some-
thing that I beat the drum about." Another interviewee had a similar view
about providing multiple ways to design and deliver courses, stating: "New
online training methods, cultivated and expanded during the COVID-19
pandemic could make professional development more accessible to teach-
ers by lowering the cost, time, and travel logistics associated with in-person
trainings." Yet another participant said: "If the visibility and awareness of
ID work continues, there remains more potential to increase accessibility in
both in-person and online instruction as well as more thorough incorpora-

tion of the values of inclusion, diversity, equity, and accessibility." While none of the instructional designers interviewed took a deep dive into accessible content guidelines and standards, it was clear that the universal experience of having challenges accessing content means that accessibility in general has become more of a visible and meaningful issue that more people understand.

More Collaboration and Communication Opportunities. With the wider acceptance of virtual conferencing technologies during the pandemic, several interviewees felt that moving forward, there would be an increased opportunity to work with more people using the technologies that many experienced using during the pandemic. While collaboration was a challenge in the initial pivot, it also presented opportunities to work together in new ways that interviewees expect will remain post-pandemic. One interviewee stated: "Now that faculty have generally become much more adept at scheduling and participating in virtual meetings, this may increase opportunities for faculty who are located remotely to collaborate with us." Another noted, "The pandemic has increased the acceptance of virtual meetings, often held on a video conference platform such as Zoom. Technology like this can make it easier to connect with stakeholders." Generally, in the interviews, IDs expressed that the increased exposure to technology-mediated collaboration would result in individuals being more willing to collaborate and communicate more often during the course of instructional design projects, as the technology, especially video conferencing tools, made it easier to gather individuals in a meeting and work around schedules without the need to travel. Several of the IDs interviewed commented that the way they work with each other as a team, and with their SMEs, will include more collaboration and communication throughout future projects, because virtual conferencing tools mean they do not have to travel to collaborate (Caputo, et al., 2021). More frequent check-ins necessitated by the rapid transition to remote teaching and learning may now be the norm as teams check in more often during the course development process.

Expanded Portfolio of How Instruction and Training are Delivered in the Future. Many of the interviewees expressed that the pandemic has broadened their future ability to deliver courses outside of what has often traditionally been face-to-face training. One participant indicated that "we have gotten a lot more requests for eLearning" and also indicated that the audience that they create training for appreciates the flexibility of having training that fits around their schedules. Another participant, who works in a global software company, explained that moving forward, they plan on "going to instructor-led synchronous AND self-paced remote learning" instead

of their current mix of instructor-led in person training and self-paced on-line training because the synchronous learning experience has saved them money and the training has been as effective as the in-person sessions that they have done in the past. Several participants noted that during the pandemic, they created new types of training and other virtual events that they had not done before that they were going to keep doing. Examples of "new things created" from participants included regular virtual check-ins with large groups of constituents (ranging from small departments to entire divisions) to discuss training and support needs, supporting peer mentors/peer trainers (i.e., providing incentives for subject matter experts to directly support their peers in trying new technologies and instructional methods), building virtual onboarding processes (Prince, 2021), and even creating online conferences that they plan to keep conducting in that manner.

IMPLICATIONS FOR PRACTICE

The findings of this study suggest that COVID-19 created opportunities to continue to evolve future work within the ID field. The pandemic also presented IDs with opportunities that can positively shape the future of this now very visible profession; opportunities to collaborate with stakeholders to design truly engaging instruction in a variety of settings, from higher education to corporate environments.

Implications for Practice 1: The Practice of ID for Future Instructional Designers

Several of the instructional designers interviewed mentioned being more agile and flexible in their applications of ID models during the pandemic. While they expect to follow ID models (such as ADDIE) in the future, interviewees noted the increasing need to be more flexible when applying ID models to practice, a tendency to have even more collaboration with others in the instructional design process, and the necessity of applying any ID model within a framework of empathy.

Instructional design by nature is a social practice when done well, with IDs working with SMEs and getting feedback from various stakeholders. Pre-pandemic, this collaboration was often done in person; during and post-pandemic, practitioners found ways to intentionally collaborate in both hybrid and online environments, which will continue to be the norm - that is,

practicing ID in a flexible and often remote work environment. Future IDs will see the trend in collaboration grow and will find themselves providing frameworks and helping others understand the basics and importance of a good design process in ensuring meaningful instructional outcomes, as opposed to the use of ERT practices that often happened during the pandemic which clearly revealed the downsides of hurriedly designed instruction.

That the visibility of the practice of instructional design has forever changed was a consistent theme from the interviewees. What may have felt, as one of the interviewees describe, as "invisible labor that happens behind closed doors" is now strikingly visible. Perhaps the work of IDs had indeed not been well-understood (Pilbeam, 2020; Prusko & Kilgore, 2020); however, the shift to online instruction during the pandemic, with the often poorly designed remote emergency teaching and training that individuals experienced, clearly raised the visibility of the need for an ID process to design hybrid and online instruction.

Implications for Practice 2: Developing Instructors' Technology and Pedagogy Skills

The role of the instructional designer has changed over the years, and in the past two years, that change has only accelerated. Twenty years ago, most ID practice was focused on face-to-face workshops and even programmed learning through books. With the rapid pace of change in technology and the affordability of technology tools, the skills and knowledge needed to be a successful instructional designer has also evolved. No longer is it acceptable for an instructional designer to only be fluent in static ISD models that slow the design process, and instructional designers can no longer have a skillset that is lightweight on technology skills. In 2018, Inside Higher Education published an article asking experienced instructional designers what skills were needed when looking for jobs where only one of the seven experts commented on technology skills as being essential for practicing IDs (Lieberman, 2018). While an increasing need for technology skills has been a trend, the pandemic surely made that need more apparent to practitioners and the authors posit that post-pandemic, more experts would agree that technology skills are required of IDs. Technology skills will become more essential for the practice of instructional design in the future as both academic environments and industry embrace the value of flexible learning experiences. IDs will also need to keep abreast of changing technologies and keep their skillsets updated on a regular basis as technologies often change quickly.

Implications for Practice 3: The Role of the ID in Instructional Continuity Planning

When comparing interview responses from practitioners in industry and practitioners in higher education, there appeared to be a different set of expectations for preparing learning contingency plans. In the interviews, several IDs who worked in university settings noted that they had experience in designing online learning, and their organization had learning continuity plans. In these situations, while shifting everyone online was difficult, the learning curve was not as substantial. With several interviewees in business and industry settings, comments such as "we didn't have a plan" or "what was the plan?" were noted. There seemed to be different expectations and preparedness in the two. Moving forward, in higher education, academic continuity needs to continue to be discussed, and if plans are in place, stakeholders should ask if plans can feasibly be implemented and with what resources. In non-academic settings, business has to be prepared to pivot to train employees in ways that they have not done before and take the lessons learned from the pandemic with them to ensure training can happen remotely as necessary. In both settings, stakeholders need to discuss the access to technology resources of their learners. During the pandemic, many individuals were challenged with accessing course content due to challenges with connectivity and lack of equipment at home. While institutions and businesses will both move some portion of their learning experiences back in person, practitioners need to make note of the materials, resources and practices they would need in place in order to be completely remote should that need arise again. Organizations must ensure that the skills gained to design and deliver instruction during the pandemic are not lost.

Implications for Practice 4: Educational Programs for Instructional Designers

Ninety-one percent of the instructional designers interviewed for this study had one or more Master's degrees, many in fields specific to learning theory and design, with seven of those interviewed holding PhDs in similar fields. Presumably, with this level of educational attainment, practitioners see the value in educational programs that provide them with a solid foundation for practice. Practice during the pandemic resulted in IDs leveraging agile practices, still leaning on ID models (with the majority of interviewees in this study using ADDIE) while moving through design processes

more rapidly and iteratively. Educational programs for IDs need to review lessons learned during the pandemic and consider how rapid design, additional technology training, and even emergency preparedness training may be of benefit to practitioners; see recommendations for future research on this topic.

RECOMMENDATIONS FOR FUTURE RESEARCH

Predicted changes in instructional design practice and approaches resulting from lessons learned during the pandemic require long-term consideration and are excellent opportunities for areas of future research.

Future Research Recommendation 1: Revisit Instructional Design Models

ADDIE was the model most often relied on by the IDs interviewed, though pandemic practice meant that ID models were not always explicitly followed. With many practitioners mentioning the need to be agile (Czeropski, & Pembrook, 2017) in order to keep up with the increasing demands of work during the pandemic, the actual application of existing ID models in use was likely altered. Interviewees noted that they expected their volume of work to stay at a high level post-pandemic, and thus the need to continue to be flexible in their practices while approaching their work with others within a framework care and empathy. Future research needs to consider what ID models fit the new era of instructional design and ask; is it time to retire, re-embrace or revise ADDIE to fit the changes seen in evolving practice?

Future Research Recommendation 2: Higher Education vs. Industry

It was once thought that there existed a sharp divide between the process and world of instructional design in corporate settings compared to ID in academia. That divide seems to be narrowing. This study saw few differences between business/industry and higher education in terms of ISD models used and the types of clients served, but the pandemic seems to have narrowed differences in the pace and in the focus of the work. The notion of

a focus on skills transfer for corporate training and knowledge transfer for academia (Prakash, 2018) seems to be disappearing. As such, a comparative analysis between ID practices in academia and different industries might yield critical information about the work and the skills required for practitioners in these different contexts.

Future Research Recommendation 3: How has ID Changed over Time?

Rapid change during COVID-19 leads to the need for future research to re-examine the foundational theoretical models and frameworks of instructional design. Much of the future research around instructional design will be built on the frameworks that may no longer serve the field. Understanding the practices, technology, challenges, and roles of instructional designers and how they have changed over the years will benefit the theoretical and practical areas of instructional design practice and research.

Future Research Recommendation 4: Develop an Up-to-Date Competency Listing for IDs

Ritzhaupt & Kumar (2015) suggested that instructional designers need a solid foundation in learning theory, a willingness to learn new skills and technologies on the job, and a wide range of soft skills such as diplomacy, persuasiveness and relationship-building. During the pandemic, successful IDs found themselves becoming expert time and project managers in order to help educational institutions and businesses quickly move from face-to-face to online instruction. Moving forward, instructional designers will likely need some combination of skill in learning theory and design, agile applications of instructional design models, technological savvy, and very human-centric, empathetic and collaborative approaches to not only the learners they are designing for but for the SMEs they are working with to design successful courses. Solomonson (2008) noted that IDs have a dual role - that of driving an ID process while maintaining positive relationships with others involved in the field; in the context of a post-COVID world, more research could be done on both the technical and soft skills needed for the effective instructional designer.

Future Research Recommendation 5: Compare Educational Programs with the On-the-job Skills Needed for IDs.

With the increasing demand for instructional designers, changes to their roles and expectations, and with the current visibility of the importance of the field (SNU Professional and Graduate Studies, 2021), now is the time to research the learning objectives, curriculum, and competencies of current educational programs for IDs. Further comparison of the current curriculum with the evolving on-the-job skills needed for IDs is paramount to the future success of the profession.

CONCLUSION

The COVID-19 crisis pushed educational institutions into new ways of teaching and learning. Instructional design practitioners predict that the profession will change in a number of ways to reflect lessons learned during the pandemic. Practitioners expect ID models will continue to be more flexibly applied, and the ID practice itself will become more agile as designers help their organizations maintain increasingly flexible learning inventories across online, hybrid and hyflex environments. Instructional designers will need to become even more collaborative and team oriented, empathetic and attuned to the needs of others, and technically savvy as well as versed in learning theory to be successful in practice. With the increasing demand for instructional designers in organizations, the future of the profession certainly looks promising.

Challenges, though, do await post-pandemic practitioners. Instructional designers are going to have to work with their organizations to help those negatively affected by emergency remote teaching/training practices to accept that online and hybrid instruction, when designed well, can be just as effective or better for learners. Instructional designers are going to find themselves in the role of constant learners in the area of emerging technologies. The fast pace of practice during COVID-19 may remain a constant for IDs as organizations shift much of their training and development efforts online; thus practitioners are going to have to clearly articulate the additional resources they need to meet demands without exhausting themselves. Considerations for accessible design, an issue amplified during the pandemic, will remain important for organizations as they think about how best to engage both their employees and customers in learning opportunities, and as such, IDs will find themselves at the intersection of accessibility and inclusion conversations in the e-learning space. Opportunities for collaboration

with SMEs and other IDs will increase, as synchronous remote meetings are now standard business practice, eliminating the need for travel and providing opportunities for more checkpoints and collaboration in the ID process. With expanded opportunities for how training and instruction will be delivered in the future, instructional designers will be an important part of a successful organization's resource portfolio to design effective instruction in face-to-face, hyflex and online learning environments.

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