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Multi-Level Transformations Induced by GenAI in Instructional Design: A Thematic Analysis of a Reddit Forum

Kadir Kozan ^{1,*} , Subhasree Sengupta ^{2,3} , Sewon Joo ¹  and Lutfi Ozturk ⁴

¹ Department of Educational Psychology and Learning Systems, Florida State University, 222 S. Copeland St., Tallahassee, FL 32306, USA; sj25e@fsu.edu

² School of Information, Florida State University, 222 S. Copeland St., Tallahassee, FL 32306, USA; ss24da@fsu.edu

³ Learning Systems Institute, Florida State University, 222 S. Copeland St., Tallahassee, FL 32306, USA

⁴ Florida Department of Education, Bureau of Exceptional Education and Student Support Services, 325 West Gaines Street, Tallahassee, FL 32399, USA; lutozturk@gmail.com

* Correspondence: kkozan@fsu.edu

Abstract

Research on generative artificial intelligence (GenAI) integration into instructional design practice has been expanding rapidly; however, its effects on the instructional design profession remain underexplored. To this end, this study examines instructional designers' perceptions about how GenAI is reshaping the instructional design professional landscape and how online communities engage them in sharing those perceptions. Using a mixed-methods data analysis method including automatic text mining and human verification, a large data set obtained from an online community of instructional designers on Reddit was analyzed thematically. Results revealed three key changes at professional, organizational, and individual levels, and the mechanisms shaping instructional designers' engagement in their online community. Namely, GenAI has already started to reshape the instructional design landscape through a mixed set of changes including transformations, adaptations and reconfigurations, and an online community can function as an informal community of practice for instructional designers to collectively share experiential wisdom and necessary competencies to successfully navigate the emergent transitions. This study contributes by uncovering the changes happening in instructional design due to GenAI and how informal online channels can work as communities of practice that are distributed, asynchronous, on-demand knowledge exchange avenues, thus increasing instructional designers' awareness and collective preparedness.

Keywords: informal communities of practice; generative AI; GenAI; instructional design; online communities; Reddit; social media



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1. Introduction

GenAI is increasingly affecting the instructional design (ID) profession. Accordingly, recent ID research has focused on how instructional designers (IDers) have been integrating GenAI into professional tasks [1–3]. Earlier findings include IDers' using GenAI to eliminate writer's block during brainstorming [1,2] and to achieve mundane tasks including content development to focus more on complex and creative tasks [4–6]. These ways of integrating GenAI into ID relate to increasing both efficiency and effectiveness, and the quality of products. However, the process of integration is neither straightforward nor fixed and is often marked by uncertainty and transformation as IDers configure appropriation norms.

These emergent states of perturbation often catalyze future ways of existence. Yet, these moments of transition can be challenging to navigate due to a lack of standards, policies and established protocols. Thus, having an additional forum to connect and seek support can aid IDers in grappling with the emergent changes during this phase of transition and disruption.

Despite the rapid integration of GenAI into ID and the research on how this integration works, little is known about how IDers create an expanded community to further evolve their skills and experiential wisdom. Such expanded formats of community can provide implicit on-demand knowledge and insight which can help IDers enhance their understanding of how to apply GenAI more holistically. However, building, curating and maintaining such communal spaces can be a challenge. Thus, motivated by prior research, this paper explores how IDers build and sustain community and online forums of information exchange through online communities. Based on this premise, the present study aims to investigate IDers' perceptions about GenAI through an informal online community as well as online community dynamics and routines.

We position online communities as informal communities of practice [7,8] where IDers share their professional knowledge. A community of practice (CoP) can be informal and it is a group of people with common interests and a profession, and they share knowledge and look for solutions for common issues [8]. IDers can also share their thoughts, perceptions, attitudes, and ideas about how new practices, including tools, would change their profession, thereby creating an extended digital archive of context-dependent practical and applied skills that are not always found in textbooks. Accordingly, this mixed methods study examines IDers' perceptions about GenAI's effects on their profession, an area that has been relatively underexplored in the scholarly community. Having access to experiential wisdom and situational understanding of how and where to effectively harness GenAI can be crucial for IDers to successfully navigate the adaptation phase as GenAI increasingly becomes a catalyst for change and progress. Community conversations and sharing of experience can be fundamental for navigating emergent changes in practice, not all of which may be captured in standardized protocols, guidelines and policies [9].

Understanding IDers' online discussions about GenAI integration into the ID profession can also provide rich insights into evolving pathways for curriculum development and competency articulation for future IDers. Likewise, insights into how online forums are maintained and curated can inform the development of IDers' training and professional development from a collaborative learning standpoint. In parallel, insights into community building and sustenance mechanisms can also inform the types of support that can help IDers with varying expertise find tailored learning resources and knowledge-expansion opportunities. Lastly and importantly, learning through online CoPs can also provide rich insights into how GenAI is reshaping the ID profession by affecting IDers' thought processes, approaches and attitudes.

1.1. Literature Review

1.1.1. GenAI in Instructional Design

GenAI has been increasingly adopted in ID as it streamlines the ID process [1,2]. ID involves systematically building learning experiences through the five phases of analysis, design, development, implementation, and evaluation (i.e., ADDIE) stages, and the role of IDers is to coordinate the whole process to ensure that learning objectives are met, meaning that learners acquire the intended knowledge, skills, or attitudes [10]. GenAI offers affordances that align with each ID stage. For instance, GenAI can conduct needs, task and learner analysis [11], increase the efficiency of data collection and analysis [4], and enhance big data analysis [5].

Moreover, GenAI can also be used for design, development, implementation and evaluation purposes: GenAI can generate learning objectives and suggest tailored activities [12]. Likewise, GenAI can design and develop multimodal learning materials [4] and help with media selection [13]. As for instructional delivery, GenAI can assist learners in real-time by providing timely instruction [14] or tailored content and instruction [15]. Lastly, GenAI can create assessment items including multiple-choice and short-answer questions or detailed rubrics for evaluation [12,16,17]. Overall, GenAI can handle some repetitive and time-consuming tasks, which can let IDers perform more complex and creative tasks [5,6] and focus on quality [18].

Building on these affordances, a growing body of research has reported how IDers have been using GenAI. For instance, IDers leveraged GenAI to automate time-consuming tasks such as drafting content and preparing instructional materials [19]. According to [3], most IDers use GenAI daily and highly value it for modifying instructional content and creating design documents. Also, IDers input course contexts, lecture slides, and transcripts into GenAI to generate rubrics, create branching scenarios, and produce reading summaries [2]. Accordingly, GenAI has been mainly shaping the design and development phases, and evaluation through assessment development [1].

Some earlier work also referred to the collaboration between IDers and GenAI, which may entail IDers' validating GenAI-created work [20]. For instance, ref. [21] asserted that GenAI can help build better resources under human supervision. Ref. [22] also added educators to IDers' collaboration with GenAI to better align personalized learning with curriculum and learning theories. IDers' collaboration with GenAI also includes complex tasks such as brainstorming [3,6,20]. Given that GenAI can be a "creative instigator" [23] (p. 12) or can interrupt inactivity or exhaustion [6], its help with brainstorming is not surprising. All these collaborations can significantly decrease the amount of time and cost [24] so that more time and effort can be spent on other and new tasks including front-end analysis and prompt engineering [25]. GenAI can also facilitate the collaboration between IDers and subject matters experts [26]. All these insights point to the co-design of instruction by IDers and GenAI [27].

Some also voiced potential concerns and limitations. For instance, ref. [28] claimed that GenAI can try to please users and tailor its products unnecessarily. GenAI-created information would also include erroneous insights mixed with correct stuff, which entails IDers' deliberative reflection [29]. Similarly, ref. [20] stated that content quality is a challenge added to the ChatGPT's limitations and IDers' readiness. Thus, quality control becomes vital for ChatGPT-created content [12]. Ref. [11] pointed out that GenAI may not be able to provide specific details regarding learning context and learner profile, and IDers can also have ethical concerns about GenAI [2]. These and similar concerns, including the prompt and output quality, and academic integrity also hold true for others involved in ID as part of their profession including teachers [30,31] and faculty [32].

The studies above show that the collaboration between IDers and GenAI is complex, consisting of advantages, challenges, concerns and ambivalent attitudes, and the GenAI integration remains vague, contextual and situational. Hence, having open and accessible archives and knowledge-exchange forums can help connect and share specific insights and heuristics for adoption, thereby further streamlining the GenAI integration and making it more generalizable and uniformly adopted. However, little is known about how IDers navigate such a complex AI-related ID landscape through informal channels, such as online social media communities.

1.1.2. Informal Online Communities of Instructional Designers

IDers participate in various communities to collectively share knowledge and stay informed about emerging tools, trends, and practices through face-to-face or online channels including online CoPs that act as social learning spaces where people exchange resources, discuss, build, and co-produce new ideas in virtual space [8,33]. Online communities are not bound by physical or geographic boundaries, and members with varying levels of experience and expertise coexist [8]. With the proliferation of social media platforms, online communities are distributed across diverse digital spaces such as Reddit, X, LinkedIn, and Facebook. Engaging in informal exchanges in such communities is crucial for IDers' professional development, as they often rely on peer conversations, usability feedback, and trial-and-error in practice, which is beyond what formal education can offer [34]. In other words, those informal online communities function as augmented knowledge networks enhancing IDers' professional competencies by disseminating and curating essential anecdotal information pertaining to the changing landscape of their profession [35].

Research shows that IDers seek, provide, and manage pedagogical and technical knowledge in online communities. Ref. [36] found that IDers exchange technology-related knowledge, such as troubleshooting strategies for specific tools, or seek advice on professional development or job opportunities through Facebook posts. Similarly, ref. [37] applied topic modeling and thematic analysis to Facebook posts and found that IDers engage in peer support and informal learning grounded in collective expertise across a broad range of topics. The topics included recommendations for LMS and authoring tools, relationships with subject matter experts (SMEs), networking with other professionals, and general pedagogical and instructional advice. Reddit is another social media tool where professionals including IDers share their professional insights with each other actively, and it houses popular online communities created and run by IDers, although the type of emergent information dynamics manifesting in these spaces remains less explored from a knowledge curation and application intelligence perspective.

IDers' engagement in online communities also includes help-seeking strategies to generate new design ideas, apply them in practice, and refine and improve their practice [38]. These studies suggest that online communities can be meaningful learning and information utilization spaces where IDers exchange resources, ask questions, and develop new ideas thus serving IDers' professional development. Online communities can also serve as spaces for just-in-time learning, which is particularly relevant as GenAI evolves so rapidly that an individual cannot keep up with it through formal channels alone. Thus, online communities can be informal information curation and management spaces boosting collaborative sensemaking as GenAI increasingly becomes ingrained into the ID profession. Yet, little research has examined what discourses are forming around GenAI within IDers' online communities and how GenAI integration is reshaping the ID profession as discerned from the information shared through such venues.

Most of the previous work above shows that informal online communities can provide a useful context for IDers to learn about how GenAI is reshaping the ID professional landscape, and how online community dynamics contribute to it, which is an underexplored topic compared to GenAI effects on how IDers do their jobs or on their professional practices. Namely, there is still a need to know how GenAI is impacting the ID profession as a whole going beyond the job-related ID processes or practices. Gaining insights into these unknowns can help us understand how IDers can better navigate through rapid emerging technology changes. To this end, this study addressed the following research questions:

1. What are the emergent perceptions of IDers about how GenAI is reshaping the ID profession?

2. What discursive engagement drivers are critical for sustaining online communities of IDers, especially for sharing perceptions about GenAI?

1.1.3. Theoretical Framework

This study employed a Community of Practice (CoP) lens. A CoP is recognized as an effective concept to understand professional learning [39]. Learners in the same community with shared interests and concerns improve their skills and expertise by sharing challenges, capabilities, solving problems cooperatively and refining their professional practice. Studies showed that online communities are also effective for learners to develop knowledge [40]. CoPs have three main pillars: domain (the topical focus, such as GenAI integration into ID); community (the collective d group of people sharing and interacting, such as IDers discussing GenAI integration into ID through online channels), and practice (the shared routines and principles such as procedures and resources in relation to GenAI integration into ID). Aligned with these perspectives, online communities create a platform for community-based practices and information sharing, connecting people with shared interests and information needs [9].

When IDers in Reddit describe their successful GenAI implementations, share detailed processes, document challenges, or explain their decision-making, other community members can learn from them. This collective learning is particularly powerful in asynchronous forums where experiences remain documented and accessible for extended periods, allowing continuous learning from accumulated community knowledge. Such collective learning depends on collective efficacy or agency referring to the actions that are not easily achievable with independent efforts but through a group of people sharing interests and practices, and working and accomplishing together [41]. Thus, CoP is a theoretical envelope that integrates different dimensions of our exploration, and aligns with information utilization, and knowledge building and management necessary for IDers' professional learning. Specifically, in our study, a CoP was established based on: (a) a domain that focused on ID profession and GenAI integration into it and that brought IDers together on Reddit (research question 1); (b) an online community consisting of professional IDers who interacted with each other and shared insights in relation to the domain (research question 2); and (c) practice that included how to integrate GenAI into ID professional practice (research question 1).

2. Materials and Methods

2.1. Data Sources and Tools

We selected r/instructionaldesign on Reddit as our data collection source because it is among the most widely used ones. Furthermore, this forum caters to a wide range of IDers including experts and novices, and offers a diverse spread of ID topics. This public forum was created in 2012 and receives an average of 19,000 weekly visitors and approximately 721 weekly contributions.

All data collection and analysis procedures followed the standard guidelines and best practices for conducting Reddit research following [42]. The collected posts were collected using the publicly available python (version 3.11.5) API (PRAW, version 7.8.1) (<https://praw.readthedocs.io/en/stable/>, accessed on 15 October 2026) and saved in a CSV for processing and data analysis purposes.

2.2. Data Collection and Preprocessing

First, the data were de-identified by removing the user info attached to each post. To capture the conversations focused on GenAI and associated implications, we first employed a keyword sampling approach following [43]. Six keywords (AI/Artificial Intelligence,

GenAI, ChatGPT, Copilot, Gemini, o1) were initially selected, using existing studies and through quick manual inspection of the forum by all authors. To reduce sampling bias, the keywords were selected to balance topical alignment with generalizability of topical scope, ensuring that the collected data captured a focused yet broad cross-section of topics [44]. For example, instead of using specific tool names, a more generic keyword, such as *GenAI*, was selected as informed by observed information-sharing trends in the forum. Subsequently, multiple keyword combinations were iteratively tested, and the combination yielding the most posts was selected as the data sample. The final keyword sequence used to extract the data sample was (AI' OR 'GPT' OR 'GenAI' OR 'Generative AI' OR 'artificial intelligence') resulting in 4578 conversations.

A standard data sanitization process compliant with existing guidelines was conducted to remove any deleted conversations or those from authors who are no longer active on the site [42], resulting in a final set of 4234 conversational traces. The data set is publicly available (10.17605/OSF.IO/WYHJD). Some key statistics are shown in Table 1. Although the surge in GenAI use occurred around November 2022, the keywords included AI, since we do see some posts from 2018–2022 revolving around the broader application of AI within ID. The posts from before November 2022 constituted only 2% of the whole data thus possibly referring to some early adopters.

Table 1. Key Characteristics of r/instructionaldesign.

Data Statistic	Actual Value
number of unique authors	1463
Earliest creation date	09/20/2018
Latest creation date	09/22/2025
Average score across all conversations	4.51 *

Note. * Community value metric computed as the net difference between upvotes and downvotes for a conversation.

2.3. Data Analysis

Inspired by the three-phase human-in-the-loop approach to thematic analysis, we employed a mixed-methods analytical framework to construct the resultant themes [45]. Expanding the application context of computational grounded theory, these emergent viewpoints aim to further novel methodological innovations that combine computational and qualitative approaches to analyze large-scale text data, overcoming the limitations of the laborious manual content analysis [45]. There were two distinct analytical phases: (1) text mining to computationally deduce initial insights towards topical clusters; and (2) several rounds of human verification and establishing thematic congruence to rigorously confirm the thematic labels and ensure contextual validity of the inferences in a subjective but reflexive way [46] through discussions until full consensus.

Specifically, Bertopic modeling was first used to identify thematic clusters based on the data semantic structure and underlying properties. Bertopic modeling is a state-of-the-art unsupervised learning approach that has several key advantages: (1) leveraging BERT-based embedding, thus capturing contextual understanding and interdependencies embedded within text; (2) employing UMAP dimensionality reduction technique and HDBSCAN clustering framework, and thus is more scalable, robust and able to filter out outliers, leading to more accurate and semantically grounded thematic categorization; and (3) using a class-based vectorization process using TF-IDF instead of the whole document, increasing the specificity and topical coherence of each identified thematic group [47].

Overall, Bertopic modeling operates as a constellation of models rather than a single monolithic framework, typically involving a sentence transformer to vectorize text data, algorithms for dimensionality reduction to enhance the parsimony of the embeddings,

and representation models to increase coherence and semantic convergence within topical clusters (Figures 1 and 2) [48]. Multiple steps of fine-tuning were performed to optimize parameters, particularly for dimensionality reduction, and to refine the model based on parameters including the number of topics. More specifically, in accordance with the standard model architectures developed for BERTOPIC [47], we had the following model specifications. For the sentence transformers to embed the model, we selected the all-MiniLM-L6-v2 framework. For dimensionality reduction, we used the UMAP approach using the cosine similarity metric and minimum distance of 0.01. All stochastic elements of the model were set to a global seed of 123. For the density-based clustering layer, we used the HBDSCAN model with a minimum cluster size of 15. For the representation model, we used the keyBERTInspired approach to optimize the cluster-based c-TF-IDF workflow [48]. We arrived at a final set of 14 topics after removing any noise and outliers which are automatically filtered out by the BERTOPIC model [48]. Figure 2 shows the significant words that identify the topical clusters.

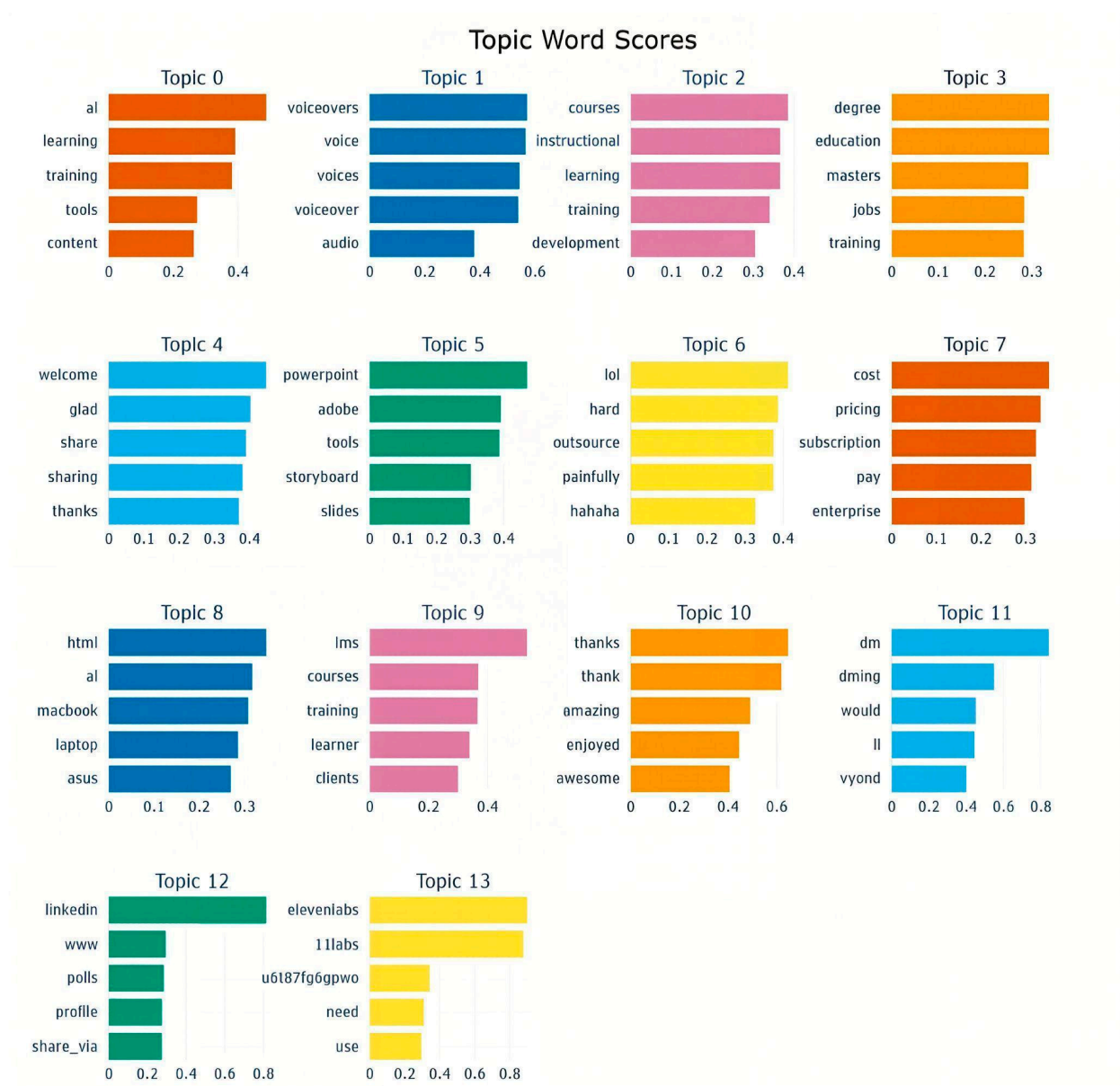


Figure 1. Top words for each of the topics from BERTOPIC.

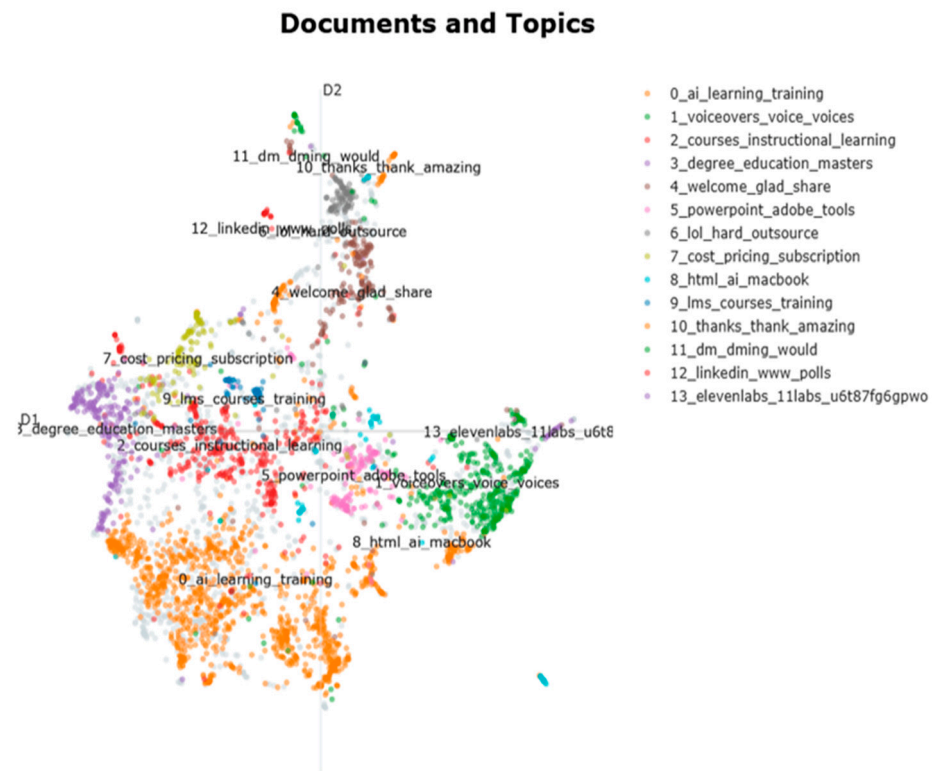


Figure 2. A two-dimensional capture of the emergent topical clusters from BERTOPIC.

While the computational models above offer an efficient approximation for understanding thematic groups, they remain disconnected from the actual contextual meanings. Thus, we next performed a manual verification of these thematic groups to systematically validate and ascribe contextual significance: we randomly sampled a set of data points from each thematic cluster. Given that the cluster sizes are not uniform and depend on the semantic properties of the topical boundary captured from BERTOPIC, we randomly sample 10% of the conversations from each cluster. However, to ensure that each cluster had a sufficient number of comments represented in the verification dataset, we set a minimum threshold of 15 data points. For example, if the most prominent cluster had 1000 datapoints, in the verification sample, we randomly selected 100 data points. However, if the cluster had only 30 data points, 10% of that would be less than the threshold, hence 15 points were randomly sampled in such cases. The random sampling ensures that we debiased the data selection approach and holistically looked at the data. In aggregate, we analyzed 376 data points across all clusters, with more prominent clusters contributing more data points to the verification dataset, which also preserves the natural order captured from the BERTOPIC results. Four annotators rigorously coded the data through multiple rounds of discussion, deliberation, schema consolidation, and refinement in a subjective but reflexive style [46] until achieving full consensus, yielding a final set of four main themes. This approach to deriving consensus follows emerging discussions around addressing the limitations of standard inter-rater reliability statistics. Such statistical signals can limit contextual understanding and coherence; hence, alternate discussion-based approaches to achieve convergence of thematic scopes have become equally applicable and accepted practices [49]. Table 2 provides a summary of the topic consolidation and reduction results. Please note that the total number of conversations is 3000 (less than the initial starting point, as a portion is filtered out as noise).

Table 2. Summary of topical clusters and theoretical foundations (from BERTopic to final schema).

Final Topic Cluster	CoP Theme and Contextual Insights	BERTopic Clusters Included	Total number of Conversations
Shifting practice (T1)	Domain (GenAI + ID adaptations: Practice level)	1,4	1437
Organizational effects (T2)	Domain (GenAI + ID adaptations: Organizational effects)	2,6,9,10,14	690
Individual shifts and adaptations (T3)	Domain (GenAI + ID adaptations: Individual adaptations)	3,8	491
Community building and bonding (Online) (T4)	Community + practices (mediated by platform attributes)	5,7,11,12,13	382

3. Results

The final four themes capture various transformations, adaptations and recalibrations as ID embraces and attunes to the shifting forms of work and practice [50].

3.1. *Shifting Values and Norms of Practice*

The most prominent manifesting theme captured the epistemic adaptations (e.g., “I think the biggest point for AI training is to help people use it wisely and not waste their time with it”). Essentially, this theme covered the viewpoints related to what IDers will professionally do with and after GenAI. With any innovation, the scope, norms and values of a field can be perturbed, creating space for expansion and reformulation. Likewise, this theme covered various types of sociotechnical restructuring events (e.g., “So far AI has been sending more work my way (I work freelance, mostly c++ development)- because clients use AI to generate code they don’t understand, get super excited because it looks like it kinda works. ... Then they need to call me in because they are unable to fix the random crashes, abysmal performance and disastrous memory usage”) taking place or expected to take place, impacting roles, tasks and organizational structure. These discussions were centered on social risks such as economic disparities and labor considerations associated with GenAI.

They also touched on policy-level asymmetries (e.g., “You must have missed this last week when it turned out that Microsoft had to block off access to using ChatGPT because they found a security leak that prompted alarm bells that it’s own enterprise data was being assumed in OpenAI. Samsung also had that issue earlier this year”) arising from different GenAI deployment rules and regulations across organizations and associated security measures that need to be considered, which, in turn, may create variations in how GenAI tools are appropriated within organizations at the global scale, further amplifying perceived social and economic risks. As exemplified in the highlighted quote, the contributors extensively discussed the displacements in agency and associated cybersecurity concerns such as data and intelligence breaches, calling for a need to rethink professional literacy for IDers to be able to more judiciously incorporate GenAI. Such discussions highlight how the ID field considers pathways for evaluating safety, security and privacy risks that emerge due to GenAI. The discussions on agency and added tasks/competencies (e.g., “using genAI wisely”) depict the need to rethink the ID process, task interdependence and associated reparameterization of coordination and cooperation among human and non-human actors.

3.2. Organizational Practice and ID Infrastructure

This theme focused on organizations and the modifications needed to become GenAI ready. Most discussions centered on deployment and logistical aspects (e.g., “Expect questions around needs assessment learning objectives and how you evaluate success. Also tools you’ve worked with might come up”) of using GenAI as well as the associated organizational structures. As the comment elaborates, the added considerations for evaluation practices that retain previous insights and expertise but also progressively recalibrate the norms around assessment factoring GenAI effects. Additionally, some discussions also raised concerns about accessibility and how GenAI tools can miss nuances of human experience, underscoring the need for organizations to develop protocols and evaluation rationales to validate and test GenAI effectiveness. An instance of such discussions was “Agree that human SMEs will likely complete edits and provide needed oversight. Hopefully also for providing ethical review, raw empathy, and human centered social-emotional critical thinking”. Overall, this theme complements the previous one by providing insights into GenAI integration by organizations, possible variances in the available libraries and infrastructural needs.

3.3. Individual-Level Shifts and Adaptations

This theme covered the individual-level differences and adaptations that emerge with multiple types of GenAI augmentation (including direct use or indirect use as genAI is increasingly incorporated into digital platforms that the ID community uses). Specifically, this theme included the evolving mindsets and competencies to effectively discern and harness GenAI capabilities to amplify collaboration, ideation, reflection and mindful execution when interfacing with various types of GenAI infused digital products. Discussions specifically used cases and application standpoints including audio and video enhancements:

“It really depends on the audience and goal I’m serving. I don’t think there’s a perfect tool for every situation. My preferred option for my field (software training) would essentially be a digital adoption platform that allowed graded quizzes, so that we could present content in-app and also use it as a way to evaluate”

These discussions highlight knowledge sharing, the growth of experiential wisdom, and the sharing of tacit skills. Such insights are invaluable, given that GenAI integration can involve individual differences; thus, standardized modules and organizational guidelines alone may not direct the GenAI integration into ID. Furthermore, these can provide necessary conditions for developed practitioner aligned agents based on their specific contextual needs and experiences. As the comment indicates, the discussion revolves around how GenAI-based customizations can be deployed, for example, the auto-grading mechanisms indicated in this comment.

These conversations also indicated possible reskilling and learning GenAI tools aligned with fundamental ID principles. For example, as the provided example comment highlights, an extensive line of discussion focused on evaluating GenAI-assisted ID work, rethinking the metrics for evaluating it, and establishing frameworks for core ID competencies, along with extensions for incorporating GenAI. As an example, the comment indicated: “There’s so much documentation out there and avenues to learn I don’t see the need for a certificate. As an ID, I’ve been using AI/LLM/Automations in a number of ways throughout my ID and freelance work. Learning to write, format and be patient with LLMs is where it starts.”

Concerns about losing core human essence and creativity were also expressed, further emphasizing the need to develop integration and evaluation guidelines and norms. Some discussions also indicated that not all ID roles will be equally affected by GenAI; thus,

training visions need to better tailor materials for each ID role. As a comment indicated: “It’s tiring and a little worrisome for the field in general. I have used chatGPT to help me out quite a bit but it shouldn’t be a replacement for creative thought. I believe in order to use it correctly at all, you need good prompts and that requires a bit of thinking. Text heavy courses generated by CGPT is a big no-no for me, but I’ve seen other ID’s use it like this. If this continues I can see mass layoffs because there is not much value in a course at that point if it’s a copy paste job.” Overall, these discussions highlighted the essential steps for boosting *human capital* to develop the necessary skills, insights and experience to responsibly augment GenAI in ID.

3.4. Foruming (Online Community Maintenance and Management)

While the other three categories capture insights into the ID domain, the underlying relational processes that catapult discussion and information sharing are vital for sustaining such insights through online communities, which is called foruming here. The following comment exemplifies this theme: “Love your response. I think it’s a great strategy. Thanks for sharing that”. Thus, this theme portrays how community members bond, validate and support one another and share, and broadcast information and resources. Discussions helped strengthen affinity, topical interest and interest in the online community for collective ideation and thus are pivotal to sustaining and growing such forums. Additionally, many of the conversations provided key insights into emerging trends in ID that are fundamental for expanding the range of information shared and curated in this forum. This is demonstrated in an example comment that stated, “I’ve done it pretty crudely so far, but sure, DM me, happy to share what I have. This is one example <LINK>”. Overall, the online community of IDers functioned like an informal CoP enriching GenAI integration into ID and enhancing IDers’ professional development by expanding information access, variety and sharing modalities [35].

4. Discussion

Extending previous work focusing on the what and how of GenAI and its integration into ID job processes or practices, this study investigated an informal online community of IDers on Reddit, and found a GenAI-created reconfiguration of ID profession as a whole at multiple levels including individual IDers, organizations, and the professional practice. In other words, this study provided insights into GenAI effects on ID beyond professional or on-the-job practices and processes. Online community dynamics also emerged as an additional finding showing that IDers’ informal online communities can function like a CoP that houses GenAI-created shifts in the ID profession. Such information sharing and exchange practices serve as expanded professional development opportunities for IDers, by providing informal mentoring and networking support beyond institutional boundaries [9].

Specifically, a key finding indicated that IDers have been going through a shift in mindset that questions what it means to use GenAI based on collaboration with the technology. Namely, IDers have started to go beyond a pragmatic approach to GenAI integration that includes increasing efficiency regarding design and development where GenAI can produce results faster [1,2]. Such a pragmatic approach seems to accompany concerns or challenges including output quality and accuracy that entails double-checking [6,13,21] and adds to ethical concerns [2,12]. Such concerns also exist in the larger education field where ID is a part of the design and development process (e.g., [51–54]. Thus, current findings related to ID job or work processes can be partly related to theoretical points including the technology acceptance model [55,56] through perceived usefulness and ease of use of GenAI since these factors seem to increase efficiency. However, our findings also

highlighted how GenAI is shaping ID goes beyond job or work processes and affects the ID profession as a whole.

Aligning with recent work including similar CoPs through online channels [57,58] and informal learning [34], current findings add that IDers can also use online communities on social media as informal PD opportunities that are based on social networking, information curation and knowledge management activities [35]. Namely, IDers' online communities can function as informal CoPs without external design and development and can still enhance IDers' professional growth. Likewise, IDers' exchanging technology-related insights and help seeking through such venues aligns with previous findings [36,38], and this study points out that IDers have already started to focus on more latent points including changing tacit skills and adapting to such changes.

The shifts mentioned above further suggest that as GenAI gains more affordances, IDers may also go through some existential dilemmas where concerns about quality, ethics and double-checking may also function as part of defense mechanisms against GenAI's generative capacity. This way, IDers may tend to save their professional identity and agency, which would even lead to assuming new roles for themselves in the future. This can also explain the IDers' questioning of new roles such as an *editor* of GenAI outputs and the concerns about the loss of human essence and/or their jobs in the long term [1]. Interestingly, an editor would assume to have a stronger agency than an author or designer thus preserving superiority. It is also reasonable that these new role assumptions may turn into a stronger role reconfiguration for IDers in the future. Such shifts found here align with the effect of informal learning on IDers' perspective shifts highlighted by [34]. IDers' both positive and negative approaches to GenAI also relate to IDers' mixed or ambivalent attitudes towards GenAI [1,20].

The individual-level shifts in perceptions and understanding mentioned above are closely related to and trigger changes at the organizational level ranging from relevant guidelines to accessibility. This finding is consistent with previous work on organizations' integration of new technologies highlighting the role of organizational elements including infrastructure [59,60]. Namely, technologies that are compatible with organizational factors including infrastructure can be integrated more easily, and within the context of ID, organizations need to provide enough access to GenAI and provide quality guidelines. All these mean changes at the organizational level thus entailing new technologies and support as well as regulations that aim at making the most of GenAI-enhanced ID, and suggest that change management can become important at the organization level to manage GenAI integration especially in relation to possible resistance [61].

As documented in the emergent discussions, the greatest effect of GenAI can be felt in the shifting professional identities that are manifesting. Who is an ID expert is no longer the same as it was before GenAI. Thus, the needed skills and competencies are vastly evolving, calling for a re-evaluation of ID training and curriculum planning. Now, in addition to the core skillsets and principles behind ID practice, professionals also need to be aware of the various capacities of GenAI tools and possess the insight and vision to harness them accurately. Additionally, validating GenAI-infused products needs additional dimensions of critical thinking and domain expertise. IDers now need to know how to effectively write prompts across various GenAI tools, validate the outputs and seamlessly integrate or expand GenAI outputs into their design pipeline, increasing the complexity of their role and occupational performance. To this end, IDers need to assess various technical risks (e.g., data breach, privacy and protection of intellectual property) as well as ethical/societal risks such as missing essential nuance related to user groups (e.g., missing accessibility considerations) and learning/pedagogical objectives. These insights indicate that the very premise and persona of the ID profession is evolving and as the profession becomes more

attuned to the infusion of GenAI, online communities will continue to play a pivotal role in managing, sharing and expanding crucial knowledge to help IDers thrive and successfully adapt.

The three dimensions above exemplify how online communities provide critical and unique information exchange opportunities. These information pieces can be vital for the survival of the ID community through extended connectivity and resource sharing and curation. For example, through these online forums, we see how IDers informally seek advice about evaluation and design considerations to judiciously use GenAI while retaining the core elements of ID practice (i.e., adjudicating quality and effectiveness requiring human expertise and experience). A deeper question that arises is about the sustenance and maintenance of the online community, without which none of these knowledge sharing mechanisms will exist: the critical question about information curation and management within online communities. In sharp contrast to a traditional CoP (within specific institutional bounds), an online CoP is spatiotemporally distributed and informally maintained, which on one side increases the flexibility of information sharing and participation but also has the latent threat of stagnation and potential discontinuation (due to lack of participation and engagement). Thus, online community members have the implicit onus of engaging in conversational actions to motivate, acknowledge and also make decisions on sharing norms and policies. This depicts a type of internalized wisdom on evaluating the value of content and appreciating it (through votes and other available metrics).

Lastly, etiquettes of thanking and encouragement show an underlying feeling of solidarity and togetherness. Beyond these prosocial tendencies, sharing information (in the form of links and webinars) shows an understanding of community needs and a value judgement of the type of content that will enrich and extend the knowledge capital curated within the community. These insights can have several implications related to moderation and content management, as well as long-term design implications for infusing tools (such as automated agents) that may impact the interactional dynamics within these spaces.

4.1. Implications

This study contributes insights into how GenAI is reshaping the ID profession and the key role that online discussion forums play as crucial information-sharing scaffolds for navigating the changing ID professional landscape consisting of recurring perturbations and recalibrations. This way, IDers have not only been integrating GenAI into ID but also constructing new understandings of their professional identity, agency, ID profession, and organizational elements through the extended support sought from digital information networks (Reddit). In this sense, the current findings align with existing theoretical insights ranging from the technology acceptance model to the technology–organization–environment framework [62] regarding technology, and organization-related factors such as infrastructure, usefulness and regulations partially. The current findings extend these theoretical points by suggesting that rapid technological shifts can go beyond typical usefulness and organizational or technological factors, including infrastructure, and can reshape employees' understandings of their profession. Likewise, online communities can function like an informal CoP where IDers share and grow knowledge, thus learning from each other to improve their practices [40], and exchange their insights with each other thus co-constructing what their profession means thereby providing the primary context where IDers discussed GenAI integration into ID. Another added advantage of such informal knowledge collectives is to provide on-demand learning and specific recommendations that IDers may need to grow their GenAI literacy, thereby promoting more informed, vigilant and aligned GenAI use. This seems to be possible with online communities democratizing the learning process by allowing all learners to reach information anytime and provide

a more equitable environment [63]. All these insights indicate enhanced capacities for such informal digital avenues to provide professional development through sustainable information curation infrastructures and social networking for IDers.

Practically, Reddit and similar social media can be considered effective communication environments where many IDers communicate to develop their collective knowledge and navigate the innovations and relevant decision processes together, thus forming collective efficacy [41]. Thus, organizations can encourage their IDers to engage in such online communities for professional development purposes and share all their gained insights within their organizations. Similarly, organizations can form similar closed or open online communities of IDers. This way, both IDers and their organizations can keep themselves abreast regarding the evolution of GenAI integration and its effects on individual and organizational success.

4.2. Limitations and Suggestions for Further Research

The results above should be approached carefully due to some limitations. First, we used one online community that was selected purposefully for reasons including a high number of participants and online contributions. Still, we need further research that would investigate more online communities of IDers, possibly in a comparative manner, to know whether all online communities can function as successful CoPs like the one used in this study. Such research can also provide insights into the characteristics of relatively less successful online communities and help us build and enhance better ones for professional development purposes. Second, the online forum used in this study was an old one, thus not informing us about the community dynamics going on during the initial stages of such communities. Therefore, future research can also examine what initially happens in such online communities. Third, even though the research data consisted of Reddit posts made between 2018 and 2025 as a whole, a significantly higher percentage of the posts were made on and after November 2022 (i.e., 98%), thus covering the post-ChatGPT era largely. Given that GenAI models starting with and after the emergence of ChatGPT may have advanced ID practice in qualitatively different ways compared to the models that existed before November 2022, future research can purposefully collect and divide large social media data into pre- and post-ChatGPT periods to detect possible qualitatively different effects of GenAI tools as long as their data allows such a division. Fourth, even though the data collection was unobtrusive, thereby making it more likely to analyze people's real insights, such contexts can also include participants' biases and subjective insights that necessitate future research. Likewise, future research can employ other data collection methods including interviews to dig into the multiple shifts happening in ID due to GenAI. Lastly, even though the diverse professional profile of the online community members provided more expansive and inclusive insights, further research focusing on online communities including those involved in ID as part of their profession can provide more comprehensive insights into GenAI and ID relationship. Lastly, IDers that use Reddit and other online platforms through online communities can be more technology-oriented or more technology savvy, which could have affected the content of their online posts. Namely, more technology-oriented IDers could have provided more technology-related changes in ID compared to those IDers who are not that technology-oriented and/or use social media actively. As such, we need future research focusing on the opinions of IDers, who are not technology-oriented and/or do not use social media actively, regarding how GenAI is reshaping the ID profession.

5. Conclusions

This study examined IDers' perceptions about how GenAI is reshaping the larger ID profession beyond professional ID processes and practices through an online community and IDers' engagement drivers for participating in such online communities. Our results indicate that GenAI is not only a tool for efficiency purposes used during professional practice but can be a change agent for reshaping the ID profession at multiple levels: individual IDer, organizational, and professional practice. Accordingly, this study contributes to emerging understandings of human–GenAI interaction or collaboration within the scope of ID from multiple perspectives not limited to professional practice. Empirically, it contributes evidence of multi-level change covering ID process, organizational practices, professional norms and values. All these insights highlight that organizations need to repurpose their practices in ways that align with the changing norms, values, and practices so that GenAI integration can be successful. As GenAI technologies become more advanced, understanding how they reshape the ID ecosystem will continue to be crucial for creating and running successful GenAI-integrated ID work contexts. After all, GenAI positions ID as an evolving profession shaped by changing norms, values, practices, processes, and understandings that can be effectively discussed and managed by IDers through informal online communities that encourage dynamic information sharing, curation and maintenance practices. Accordingly, all these insights can also be integrated into ID training programs so that IDers can be prepared to integrate GenAI integration into their professional practice effectively due to a high-level awareness of impactful factors at professional, organizational and individual levels. For instance, more effective prompt engineering at the professional practice level should be accompanied by effective evaluation and validation procedures and regulations including ethical risk mitigation at the organizational level. IDers who are equipped with such multiple-level knowledge performance competencies can serve their organizations better under similar sudden emerging technology shifts by leading to relevant organizational changes that can help organizations become informed about current innovations and survive on the market.

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Abbreviations

The following abbreviations are used in this manuscript:

GenAI	Generative artificial intelligence
ID	Instructional design
IDer	Instructional designer
MS	Microsoft

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