Building Critical Digital Literacies for Social Media through Educational Development

Erika E. Smith
University of Calgary
erikasmith@ucalgary.ca

ABSTRACT

Conceptions of critical digital pedagogy extend the tenets of critical pedagogy for the study and use of digital technologies. Engaging with foundations of critical pedagogy as they apply to digital spaces, including social media, the purpose of this article is to explore how critical digital literacies can inform and be enacted in educators' learning and development, with a focus on post-secondary contexts. Through an analysis of GIFs and memes that are frequently shared on social media, the author considers potential entryways for building critical digital literacies in teaching and learning. Using a critically reflective approach, the author makes connections between recent scholarship in these areas, as well as her own research of digital literacies, and examples from educational development practice that aim to promote criticality in action.

Introduction

The use of digital technologies in higher education is all around us. Being online is now a regular part of the post-secondary experience, even more so following the need for remote emergency teaching due to the COVID19 pandemic. Social media (SM) technologies in particular have come to permeate daily life, with the majority of SM users in Canada reporting daily use (Statista, 2024), habits that can form

early on. Pew Research Center data continues to show that young people have high social media usage: "teens continue to use these platforms at high rates – with some describing their social media use as 'almost constant'" (Anderson et al., 2023, para. 1) during the years leading up to when many students start their post-secondary studies. Part of the challenge of social media is the rapid pace at which content sharing and digital interactions occur, which makes having a strong, well-established foundation of critical digital literacies to draw upon when interacting in digital social spaces all the more important.

This special issue provides a collection of critical conversations that examine how educators can use social media to connect with professional, intellectual, and public spheres, and asks us to explore the ways in which social media acts as an avenue for professional and civic engagement. Using the lens of educational foundations, this special issue prompts us to consider the interplay between social media and the wider social, economic, cultural, and political contexts that educators and students encounter in the learning environment and in their everyday lives. Within this context, I argue that bolstering the digital literacies that educators and students need for civically and critically discerning content shared on social media is an imperative part of the post-secondary experience, one that should leverage and be integrated with continuous professional learning opportunities for teaching and learning that can be provided under the umbrella of educational development.

Given the complexities of social media, how can post-secondary educators undertake their own professional development in order to imbue, apply, and extend critical foundations in their work with students today? To address this question, I take up how such critical conversations can be advanced through faculty engagement in continuous learning and professional development by discussing examples of a critical approach to promoting digital literacies for GIFs and memes that are shared through social media. As Stommel et al. (2020) remind us, critical digital pedagogy is "practice as much as it is theory, derived from experience and then reflection upon that experience" (p. 1). In my role within the field of educational development, I have worked with faculty from different disciplines to help build and apply critical digital literacies that are relevant for students. In this
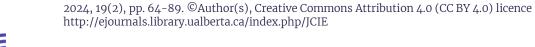
paper, I engage with key concepts and framings as well as my own recent research of social media and digital literacies, and use critical reflection to connect these with illustrative examples of educational development approaches (e.g., providing workshops, consultations, and other resources for faculty educators) aimed at fostering critical digital practices with social media in post-secondary settings.

Literature Review and Key Concepts

Social media is a common part of everyday life for many post-secondary students. The "overwhelming majority of online Canadian adults (94%) have an account on at least one social media platform" (Mai & Gruzd, 2022, p. 4), with young people (aged 18–24) continuing to be the largest users of social media, findings echoed in Pew Research Center reports of social media use in the United States (Auxier & Anderson, 2021; Gottfried, 2024). Based on research conducted over the past decade, it is clear that post-secondary students frequently use social media in their lives and in their learning. My own research of social media in a Canadian undergraduate context (Smith, 2017) found that a majority of students (71.5%) reported using social media in their university learning, and a subsequent survey in another Canadian undergraduate setting illustrated that this usage has continued to grow, with most students indicating they use social media in their university learning (75.2%) and in their everyday lives (92.9%) (Smith & Storrs, 2023). However, students also view social media as "a double-edge sword that both informs and distracts, having the potential to both help and hinder learning" (Smith, 2016, p. 44). Extending this metaphor of a double-edged sword more broadly, the affordances of social media magnify aspects of identity and culture, having the power to amplify certain voices while minimizing others (Dooly & Darvin, 2022, p. 357).

As Talib (2018) notes, social media has a growing civic and political power, and "students are constantly engaged in sensemaking that draws on a diversity of media forms" (p. 56) on social platforms. Since two key benefits that higher education aims to contribute to society include addressing societal challenges and improving lives by promoting civic participation (Addie, 2017), thinking about these aims in tandem with the role and affordances of social media becomes essential in today's teaching and learning environment. Pangrazio and Sefton-
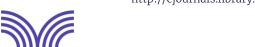
Green (2021) describe how social media provides a vehicle for civic participation in online communities and assert that "skills like those promoted through digital literacy can lead to a collective, participatory action that is important for digital citizenship and the promotion of pluralism and democracy" (p. 25). As such, facilitating the digital literacies required to participate in civic life becomes inherently tied to the purpose of a higher education.

At the same time, social media is often used to propagate misinformation and disinformation through content that is false, with the latter being shared and/or created intentionally to cause harm (Dan et al., 2021; Wardle, 2020). Contemporary discussions of social media typically centre on how these tools act more "as incubators of 'fake news' and online propaganda than tools for empowerment and social change" (Guess and Lyons, 2020, p. 10). Drawing on posthumanism, Leander and Burriss (2020) underscore the importance of critical literacy when considering manipulation of users' behaviour and data by corporations and political actors, and highlight the impact of bots used to spread mis– and disinformation via social media that targets elections: "These automated, often-AI-driven agents—along with feed algorithms—can have a dramatic effect on the spread of online content" (p. 1264). As Dan et al. (2021) describe, visual and multimodal forms of mis– and disinformation (such as memes and GIFs) are shared quickly and pervasively on social media, and can have impacts on democratic aims and processes that are considerably negative – yet, the authors also point out that these forms have received little attention in the research and require further understanding in the scholarly community. To this end, in addition to supporting future research needed to address these gaps in understanding, post-secondary intuitions can support teaching and learning initiatives, including educational development, that provide educators and students with the key skills and literacies they need to navigate the complexities of social media.

Critical Digital Pedagogy

Critical pedagogy and its use in a variety of educational settings is well established in the literature. Giroux (2020) describes critical pedagogy as a moral and political practice emphasizing more than critical analysis and judgment by also providing

"tools to unsettle common-sense assumptions, theorize matters of self and social agency, and engage the ever-changing demands and promises of a democratic polity" (p. 1). Talib (2018) asserts these liberatory commitments of critical pedagogy are inherently aligned with digital literacy "because students can be encouraged to develop critical consciousness, an integral outcome, by analyzing popular media texts" (p. 57), and by developing critical assessment of the context and sociocultural possibilities of digital communications.

Following from the work of foundational critical pedagogues Freire (2018), hooks (1994), and Giroux (2020), Stommel's (2014) oft-used definition of *critical digital pedagogy* (CDP) emphasizes extending the liberatory foci of critical pedagogies to foster greater agency, empowerment, and social justice through educational praxis in digital spaces. In this way, CDP is concerned with the affordances and limitations we encounter while deconstructing issues of equity, identity, and justice in digital environments, and has the following qualities:

- centers its practice on community and collaboration;
- must remain open to diverse, international voices, and thus requires invention to reimagine the ways that communication and collaboration happen across cultural and political boundaries;
- will not, cannot, be defined by a single voice but must gather together a cacophony of voices;
- must have use and application outside traditional institutions of education. (Stommel, 2014, What is Critical Digital Pedagogy? section, para. 8)

Within this conception of CDP, as a part of inspecting and questioning the technologies that mediate our interactions, methods of resistance and humanization are prioritized. Networked environments can provide opportunities for creation and encourage social dialogue between students, educators, and communities within and beyond traditional boundaries. The process of critically reading, questioning, and reflecting upon the use and influence of digital technologies, such as social media, in teaching and learning is a part of the larger work of people coming together to create hopeful future trajectories that are more just.

Critical Digital and Media Literacies

Within social media environments users can connect with individuals and communities in different locations at any time, and are able to share information and remix content through vast digital networks. These newer technologies require new forms of *critical digital literacy* (CDL) due to the interactive and immersive nature of their engagement (Darvin, 2017). As Bacalja et al. (2021) explain, "[e]ducators and academics have been challenged by CDL research to transform their pedagogical practice," (p. 378) and must contend with making CDL meaningful to learners in knowing and acting upon the world. In the face of this challenge, as discussed further in the next section, educational developers can embed critical aims into their work with digital pedagogy by assisting educators "in critically analyzing the new medium, and how it can be used to either support equity or reproduce the status quo" (Sullivan, 2020, p. 23).

While Pangrazio (2016) aptly notes that there are many conflicting definitions, conceptions of CDL usually connect the core tenets of critical literacy and critical digital pedagogy in ways that promote empowerment and build social identities in learning capabilities with digital technologies. Sociocultural understandings are at the heart of CDL, and critical digital literacies can be used in social practices to create and interrogate digital media and technologies (Bacalja et al., 2021, p. 374). As Dooly and Darvin (2022) explain, CDL involves literacy at its foundation "because culture and identity are discursively constructed: we read, write and construct ourselves into being online and offline, and we assemble and interpret linguistic and semiotic modes to perform identities and engage with others" (p. 357). Proponents of critical digital literacy often aim to challenge inequities and promote learner participation through the application of knowledge and skills that empower people to critically analyze the digital artifacts, interactions, and platforms they frequently encounter in their learning and in their day-to-day lives. And, as Pangrazio (2016) illustrates, in fostering this agency, it is important for CDL to question the underlying ideology of the digital contexts and to "move beyond the personal to consider issues of a political and ethical nature" (p. 167).

Relevant to discussions of critical literacies and pedagogies, *critical media literacy* (CML) expands "the notion of literacy to include different forms of media culture, information and communication technologies and new media, as well as deepen the potential of literacy education to critically analyze relationships between media and audiences, information and power" (Kellner & Share, 2007, p. 59). Like CDL, CML has evolved from critical pedagogy traditions, and shares emancipatory goals and aims of enhancing civic participation, promoting democratization, and unsettling power differentials. Several CML scholars have taken up increasingly important concerns regarding Big Data and artificial intelligence (AI) that connect to social media platforms and content. They provide valuable critiques of the limits of human agency, representation, and literacy within the constraints of digital systems (Jandric, 2019; Karsgaard, 2024; Nichols & LeBlanc, 2021), pointing to posthumanism and turns to the postdigital as a way to move beyond critical literacy theories that "have not sufficiently accounted for how AI and computational agents [and algorithms] change what it means to be 'critically literate'" (Leander & Burriss, 2020, p. 1263).

While these relevant discussions emphasize the importance of accounting for the limits of human agency bound up in complexly constructed digital ecosystems, in my own practice, I have nonetheless found that grappling with ideas of the *literacies* required for a digital environment has common resonance among educators across disciplines, likely due to the long and familiar lineage of literacy traditions, even if agreement on what exactly these literacies are (or should become) can be contested. As I have described elsewhere (see Smith & Storrs, 2023), determining how to define *digital literacies* is an evolving, ongoing process often related to – or, seen to be encompassed within – a wide array of other terms, including *digital competence*, *digital citizenship*, *information literacies*, *new literacies*, *multiliteracies*, *media literacies*, and *transliteracies*. In this paper, I use *critical digital literacies* (CDL) in a plural form to acknowledge the multifaceted, evolving, imperfect, and intersecting aspects of these concepts (Spante et al., 2018). For clarity, I use CDL as a shorthand for these pluralities while recognizing connections with CML and other related literacies that draw upon or reflect the aims of critical pedagogy.

Criticality in Adult Education and Educational Development

As a form of adult education in post-secondary contexts, *educational development* (ED; also known as *faculty development*) describes the intentional actions of educators and post-secondary organizations (e.g., via instructional programs, voluntary professional development initiatives, or other educational activities) which are planned and undertaken with the goal of enhancing learning and teaching (Amundsen & Wilson, 2012). In their review of faculty development in higher education, Amundsen et al. (2005) note that ED initiatives often focus on the skills, methods, processes, or disciplinary contexts related to improving teaching and learning, and that ED activities occur in a variety of formats, including topical workshops, seminars, individual consultations, learning communities, classroom observations, and more.

For several decades, transformative learning theories related to critical traditions and paradigms of social change have been a focal point of the field of adult education (Hoggan, 2016, p. 58). Likewise, educational development programs that facilitate faculty professional growth have expanded over recent decades, with critical theory and the aims of transformative learning having continued to influence higher education and adult learning in the field of ED. Brookfield (2007) provides insights into his experience with critical approaches to educational development, seeing "a critical adult as one who takes action to create more democratic, collectivist economic and social forms," (p. 56) and aiming to create a society (through a series of learning tasks) that includes practices of democracy. While noting both the possibilities and challenges of realizing critical transformation within faculty educational development, he concludes the following:

> It seems to me, however, that faculty development—like teaching itself—tries to start where people are, and then to nudge them toward a different, and more critical, understanding of everyday reality....[where a focus] on the sociological imagination is entirely appropriate. (2007, pp. 67–68).

Here, Brookfield invokes ideas of transformative changes that can occur through a faculty member's educational development, ultimately underscoring the importance of critical consciousness. He also connects the tenets of critical theory with reflection and transformation: "I believe that the ideas of critical theory – particularly that of ideology critique – must be central to critical reflection and, by implication, to transformation" (Brookfield, 2009, p. 293). In this light, we can view critical approaches to educational development as providing avenues that may encourage critical reflection on, and changes to, our worldviews and sense of self, epistemological and ontological conceptions, and professional practices through transformed behaviour (Hoggan, 2016). Educational development approaches, then, can intentionally work to meet faculty where they are, while making room to imagine the hopeful and transformative future trajectories that critical (digital) pedagogues espouse.

A Critically Reflective Approach

To explore the possibilities for building critical digital literacies in social media contexts through educational development practices, my approach relies upon critical reflection. Critical reflection processes can be defined as involving an examination of the "assumptions about one's values, power relations, and how these assumptions and values affect professional practice....critical reflection questions not only one's own assumptions but also the material manifestations of societal assumptions, especially attending to power relations and structural hierarchies" (Collaborative Advocacy and Partnered Education, n.d., para. 1). The goals of critically reflective and reflexive activities are to foster praxis (i.e., theory–informed practice) and agency, respectively, for social improvement (Ng et al., 2019, p. 1123).

To understand the mechanics of critical reflection in practice, particularly as it relates to adult learning that is informed by critical theory, Brookfield (2009) provides helpful guidance by articulating four interrelated learning processes that underpin critical reflection: identifying assumptions, assessing and challenging their accuracy, making sense of them by seeing situations through other viewpoints and different perspectives, and then taking informed actions (pp. 295–296). In the case of memes and GIFs as forms of visual or multimodal

72

Journal of Contemporary Issues in Education
2024, 19(2), pp. 64–89. ©Author(s), Creative Commons Attribution 4.0 (CC BY 4.0) licence
http://ejournals.library.ualberta.ca/index.php/JCIE

communication that many people have experienced in their daily lives, I posit that the mechanics of this critical reflection process can start with identifying assumptions by asking whether GIFs and memes can provide only surface or potentially deeper insights into "our experiences and how we ascribe meaning to these" (Brookfield, 2009, p. 294). Next, one can move into assessing and challenging the accuracy of these assumptions through an analysis of GIF and meme-based media that unpacks and challenges assumptions through different critical lenses; for example, by analyzing how surface or deeper insights into different human experiences may be understood through GIFs and memes. Finally, the person reflecting can take informed actions; for instance, actions that support the use of GIFs and memes in their teaching or learning in ways that critically attend to sociocultural dynamics and meanings that can be embedded and represented in such visual or multimodal media.

While the short-form and ephemeral nature of media like GIFs and memes might initially lead to assumptions that these are simply superficial rather than potentially meaningful forms of communication, Brookfield (2009) reminds us that critical reflection "assumes that the minutiae of practice have embedded within them the struggles between unequal interests and groups that exist in the wider world" (p. 293). Connecting with examples from scholarship and practice-based communities, in the following section I reflect on areas of my own educational development practice where I have integrated critical approaches to understanding and using GIFs and memes through digital pedagogies within an undergraduate teaching and learning setting.

Examples in Research and Practice

Despite digital ubiquity in daily life and in post-secondary settings, when it comes to digital literacies, Cohen and Hewitt (2019) explain that many students are not as comfortable using technologies for learning as is commonly believed, pointing to "a false assumption that students who grew up with technology are successful using it across contexts and in multiple areas—including in their college classes" (para. 4). These points echo a wide body of research providing evidence that contradicts views of students as being *digital natives*, ideas that characterize younger generations as inherently competent users of digital technologies because

they have grown up immersed in them (Smith et al., 2020). Bennett (2022) identifies digital native assumptions as a trap to be avoided when researching digital literacies. Since identifying and addressing faulty assumptions is a part of critically reflective practice, I believe that digital native assumptions should also be problematized and addressed in teaching and learning interactions. We need to move from uncritical stereotypes of students as being tech-savvy digital natives and toward teaching them essential digital literacies (Smith et al., 2018b), including those skills and abilities they need to use social media effectively and critically.

In order to teach students the digital literacies they require in their learning and their lives, institutions and educators need to build their own capacity to foster and promote these abilities and competencies. Unfortunately, in my research of these issues, I have seen that although most students agree or strongly agree that they need digital literacies to use social media effectively, they also report not learning much (and in some cases, not learning anything at all) about digital literacies during their undergraduate experience (Smith & Storrs, 2023). Educational development with faculty members and groups can help to address this curricular need for increased learning of digital literacies with social media that undergraduate students have identified. Such learning and development of digital literacies for undergraduate educators – and, by extension, their students – can (and arguably should) align with and embed critical digital pedagogy aims in different disciplinary contexts.

Examples of Critical Engagement Practices: GIFs and Memes

Recent research has found several benefits for using memes and GIFs in post-secondary teaching and learning. Meme is a term which was first coined by Dawkins (1976) and has come to represent cultural elements that are remixed, "repeated and transmitted [online] through a process of imitation" (Martínez-Cardama & Caridad-Sebastián, 2019, p. 341), often involving humour (Wells, 2018). GIF stands for Graphics Interchange Format and is a short image-based digital animation. In their analysis of 10-second instructional demos via animated GIFs, Aleman and Porter (2016) illustrated the value such GIFs have in the context of asynchronous instructional practices for information literacy instruction, and

provided several practice-based recommendations, including strategies for making GIFs accessible via alt-text, descriptive captions, and other web accessibility practices. Other research has also found that memes can help promote students' critical thinking (Wells, 2018), and that creating memes in project-based learning brought benefits for students' creativity and motivation in learning (Elkhamisy & Sharif, 2022). In a remote learning context, Tu et al. (2022) found that sharing original memes related to course content was effective in promoting a sense of community and student engagement, and at relieving stress.

Martínez-Cardama and Caridad-Sebastián (2019) examined social media and new visual literacies by having students create and share GIFs and memes on a social network, finding this to be a valid teaching approach that promoted collaborative reading and the development of critical thinking and reflection among students. Echoing the literature on digital literacies, they underscore how teaching strategies for constructing and using GIFs and memes can "reinforce key competences of the new digital citizen" (Martínez-Cardama & Caridad-Sebastián, 2019, p. 351). However, along similar lines but from a different standpoint, in their research on memes in the EFL university classroom, Romero and Bobkina (2021) cautioned that students' critical thinking and visual literacy skills need to be further developed in intentional ways that help them move beyond processing at a superficial level. As another caution, Alvarez et al.'s (2021) recent study of hundreds of popular GIFs found that "this new visual lexicon entails gender stereotyping through gender, age, ethnicity bias, and sexualized depictions of women" (p. 486). Using a critical lens can help educators and their students to move the needle on critical thinking and address such negative stereotyping when using GIFs and memes for teaching and learning.

In addition to consulting the research literature, for my work as an undergraduate educator and educational developer, I was looking for practice-based resources and examples that connected with the scholarship and reflected the tenets of CDP and CDL in action within social media and other digital spaces. In my search, I found that ideas (re)presented, remixed, and shared through short-form combinations of text and images via GIFs and memes can provide vivid, tangible, and relatable opportunities for critical engagement. Several openly available digital resources on

the topic of GIFs and memes in teaching and learning, including open knowledge practices shared Belshaw (2014), Clarke Gray (n.d.), and Caulfield (2018) on social media (via X (formerly Twitter), YouTube, or blogs), provided a helpful foundation to bring critical digital literacies into my practice.

For over a decade, Belshaw's work has focused on digital literacies, and his TEDx talk (TEDx Talks, 2012) relates his research on the essential elements of DL to critical understandings of meme culture. Belshaw models alternative forms of knowledge dissemination through open online practices, including use of social platforms to mobilize and translate critical issues. Sharing his analysis of digital literacies on YouTube (with over 173,000 views to date), he critically deconstructs memes from well-known social and political movements, including the Occupy movement and the Arab Spring, where he makes issues of power that are central to CDP transparent. Although social media interactions and the content shared within them through GIFs and memes are ephemeral, rapidly changing over time, the principles illustrated in Belshaw's analysis and his application of essential DL to meme culture clearly modelled critical engagement strategies that can be easily translated to new digital contexts today because he connects his analysis to a broader, research-informed framework. Called the *Eight Essential Elements of Digital Literacies*, Belshaw's framework stemmed from his doctoral research (see Belshaw, 2014), and as he further explains in his TEDx talk, these eight essential elements become evident via his contextual analysis of memes, through which he shows clear examples of the critical as well as the cognitive, constructive, communicative, civic, creative, confident, and cultural elements of developing and applying digital literacies that remain to be highly relevant. In my educational development work, particularly when designing my workshop on these topics for faculty members, I shared this framework with participants to discuss the ways in which newly popularized GIFs and/or memes could be more deeply and critically analyzed.

In addition to Belshaw's work, I consulted Clarke Gray's (n.d.) openly available online toolbox for her *Memes and GIFs Workshop* for faculty and student audiences. In her online resources for meme culture, she provides illustrative resources and articulates several important social and culture issues that must be considered, including concerns for accessibility (e.g., using descriptive alt-text for

compatibility with screen readers; see also Aleman & Porter, 2016), propaganda (e.g., recognizing how mis– and disinformation is proliferated using highly shareable media), and digital blackface (e.g., being mindful of underlying assumptions and the potential for cultural (mis)appropriation of identities in digital contexts; the toolbox links to Erinn's (2019) work on digital blackface in Internet culture). In going beyond simply the technical how–tos for GIFs and memes, Clarke Gray's application of critical approaches to cultural and social issues speaks to a range of equity, diversity, and inclusion factors in ways that can concretely inform digital practices.

In terms of practice–based recommendations, one of the most helpful resources I found directly addresses issues of misinformation and disinformation online. Caulfield has a variety of online resources that are shared actively on his blog (Hapgood.us), X (formerly Twitter) account, and YouTube. Taken within the context of his wider suite of resources providing strategies for combating misinformation and disinformation in digital contexts, his blog post on *GIFs as Disinformation Remedy (aka The GIF Curriculum)* provides instructional GIFs and considers how media and web literacy could be implemented at scale through simplified entry points, stating that "the shortness of the GIFs show that online media literacy need not (in many cases, at least) be complex" (Caulfield, 2018, para. 5). In particular, he provides a short–form example in a GIF showing how to search for information about a source in a matter of seconds, modelling strategies for *lateral reading*, which "requires users to leave the information (website) to find out whether someone has already fact–checked the claim, identify the original source, or learn more about the individuals or organizations making the claim." (Brodsky et al., 2021, p. 1). In showing how to search for and share information about a source quickly and effortlessly (in his GIF example, finding information that reveals a source in question to be a monthly white supremacist online publication), Caulfield works to mobilize strategies that confront racism and other social divides that are propagated by misinformation and disinformation online.

Together, this complement of practice–based digital resources, scholarly work on CDP and CDL, and research (including my own scholarship) on literacies that intersect with digital twenty–first century contexts inspired me to engage with

GIFs and memes as useful educational activities, ones that ideally can promote critical consciousness and change. As Knobel & Lankshear (2011) describe, "[a]pproaching digital remix as the art and craft of endless hybridization provides an educationally useful lens on culture and cultural production generally and on literacy and literacy education more specifically" (p. 32). What resonates with me in this idea of the digital remix is its hopeful potential to be used in building critical literacies through representation and connections in communities that relate to and can be extended through social media. In conjunction with popular web resources that help to trace the contextual nature surrounding the evolution of memes and GIFs, such as the Know Your Meme website (https://knowyourmeme.com/), scholarly frameworks like Belshaw's (2014) *Eight Essential Elements of Digital Literacies* and others like it can help to bring deeper, more rigorous engagement to remixing activities with memes and GIFs for teaching and learning. With this lens on what is educationally useful in mind, in my educational development work I sought to bring critical aspirations into action by further engaging with GIFs and memes as culturally and socially relevant digital practices.

Critical Reflection on GIFs and Memes in Teaching and Learning

In reflecting upon my own work with faculty from different disciplines on the topic *GIFs and Memes in Teaching and Learning*, I needed to take stock of the design and development processes that I had undertaken when creating this ED opportunity. Having offered this workshop for undergraduate educators several times over the past few years in both a face-to-face setting and with a focus on remote emergency teaching during the move to online learning due to the pandemic, I was able to see the iterative nature of my efforts in these areas.

Since many of the online practice-based examples that I found to be of most value came from settings outside of Canada (while Clarke Gray is located in British Columbia, Caulfield is in the United States, Belshaw in the United Kingdom), I wanted to make the social and cultural relevance of memes in a Canadian context clear to participants upfront. In addition to inviting workshop participants to discuss and share examples from their own encounters with meme culture, I

endeavoured to make the political and democratic implications of GIFs and memes relevant to the audience through contemporary Canadian news stories on "Why political memes — which are virtually unregulated — matter to this federal election" (Green, 2019) and, through the example of Canadian musicians Nickelback, why "As meme culture spreads to politics, stakes increase for celebrities and copyright owners" (Friend, 2019). Of course, news cycles by nature are rapidly changing, and GIFs and memes are also created and shared within ephemeral digital contexts, so it of little surprise (but still worth reflecting upon) that I found the topics of meme culture explored in each iteration of my workshop offering to require continuous updating for relevancy. Just as I found that the practice-based examples mentioned above incorporated key principles that remained relevant over time and could often be translated in analyzing new aspects of meme culture, so too did I find it imperative to use my own grounding principles of digital literacies and critical pedagogies as a compass when facing new aspects of meme culture.

In iteratively refining *GIFs and Memes in Teaching and Learning* as an educational development workshop, in my own (re)design and planning, I found it valuable to articulate and apply a framework that explicates three interconnected domains of digital literacies in research and practice involving procedural and technical, cognitive, and sociocultural knowledge, skills, and attributes (Smith et al., 2018b; 2020). In addition to providing hands-on support and resources for faculty members experimenting with the steps for technically and cognitively working with GIFs and memes, I paid specific attention to sociocultural knowledge, skills, and attributes – which in my experience can be glossed over or absent in digital literacy education – that could be fostered in the workshops: identifying cultural contexts and meaning systems (e.g., signs, symbols, or semiotics), the social construction of artifacts and practices, and ways to bolster critical selection and engagement (Smith et al., 2018a). This framework, which can be applied in different disciplines, has also been useful for facilitating other faculty educational development initiatives concerned with helping educators enable their students to critically discern fake news and online disinformation (Sharun & Smith, 2020) that is often shared via social media. I have also found that applying and making transparent aspects of the sociocultural within this framework to be essential to my

work in creating and delivering a recent workshop for faculty on *Misinformation and Fact-Checking Content from AI.*

Discussion: Looking to Future Trajectories

The examples provided above aim to show how our actions, which are an important part of critical digital pedagogy and of reflexive practice, can advance criticality in teaching and learning interactions, including those within social media spaces. In their comprehensive review of digital literacy in higher education, Spante et al. (2018) concluded that there is a need for further research incorporating critical perspectives, and along these same lines I also see a need for more knowledge sharing about critical digital practices in action, not only in research but also in teaching practice. Coming back to the idea of social media as a double-edged sword, it is clear to me that there are both opportunities for and challenges to building CDL for educators and, by extension, students through educational development.

One question I am left reflecting upon is whether a workshop on GIFs and memes, despite the positive feedback it has received, can have a truly transformative impact with faculty participants. Though some faculty members have shared stories and examples with me about how these kinds of workshops have impacted their thinking or actions, given the nature of faculty development work itself, it's not often that I get to directly see the changes that may have happened in their teaching practice first-hand. At the same time, from a pragmatic perspective, I see this one-and-a-half-hour workshop as providing busy faculty with an opportunity to critically explore ideas of meme culture that can spark conversations between colleagues with a minimal time commitment, ideally offering an accessible entry point to experiment with new possibilities in their teaching. It is within this context that I am aiming to provide a feasible entryway for experimentation with and exploration of critical topics that may otherwise feel daunting.

Thinking about Brookfield's assertion that it is important for faculty development to meet educators where they are at, one of my main workshop goals is to create a space for low-stakes professional learning opportunities that can act as a potential gateway to deeper transformations through one-on-one follow-up consultations

with faculty that are directly connected to their own teaching contexts. Within the field of educational development, one-on-one consultations can take different forms depending on the nature of the teaching topic or problem at hand (Amundsen et al., 2005). DiPietro and Norman's (2014) work further reinforces how individual instructional consultations where "faculty are in the role of learners with consultants as the teachers" (p. 282) are a core ED practice. In the case of fostering critical approaches to GIFs and memes in teaching and learning, my individual consultation work usually starts in a faculty request from an individual looking to transform their pedagogical practices; for instance, by designing new learning activities that leverage these technologies in their own teaching. Like other educational developers, in my practice I design ED initiatives, including workshops and one-on-one consultations with faculty members, to achieve a particular learning goal and by drawing on relevant learning theories (DiPietro & Norman, 2014). When exploring a particular teaching topic (in this case, critical approaches to creating and analyzing memes and GIFs in undergraduate learning), I aim to work in partnership with these educators to contextualize and apply evidence-based approaches and sound pedagogical strategies within the specific context of their teaching.

Of course, given the importance and complexity of the topics at hand, I certainly recognize that there is immense value in longer, more comprehensive professional development initiatives on topics of social media, CDL, and CDP. Like many other educational developers, in addition to workshops, my work involves large-scale curriculum projects and broader educational and professional development for individual faculty and across the organization; for example, in multi-session series (e.g., bi-weekly or monthly sessions over a semester), non-credit courses, learning communities, or curriculum redesign projects, and so on. Building from the entry point of workshop and consultation opportunities, as a next step, a more formalized needs assessment process could be conducted to determine curricular opportunities to embed CDL, to assess whether post-secondary educators would have the interest and time to dedicate to longer ED formats on these topics, and what areas in particular such wider initiatives might focus on for the greatest benefit.

Thankfully, there are several recent examples and recommendations in the literature from which to draw when considering such wider educational development initiatives. Articulating why critical digital literacies are important for democracy, Polizzi's (2020) well articulates these wider needs, pointing out that CDL should go beyond capabilities in evaluating information in terms of bias, trustworthiness, and representation:

> In order to contribute to the active participation of well-informed and critically autonomous citizens in democracy in the digital age, critical digital literacy needs to include knowledge about the digital environment where information circulates. It needs to incorporate an understanding of how the internet operates socio-economically along with its potentials and constraints for democracy, politics and civic and political participation. (pp. 1–2)

Addressing many of these broader themes, Hobbs and Coiro (2018) describe in detail the design features of their successful 42-hour professional development program on digital literacies that incorporates reflection, collaborative inquiry, and personalized learning, and which has had hundreds of adult learners participate since launching in 2013. Their program audience includes teachers, librarians, and post-secondary faculty, and extends throughout the year via a digital learning community for sharing ideas through social media. Considering ways to foster change within post-secondary institutions, Sharpe (2022) details an institution-wide approach to embedding digital literacies across all programs. Additionally, Satar et al. (2023) describe a six-week virtual exchange on CDL between institutions that promoted "transformative processes observed in multicultural, multilingual, and multimodal interactions" (p. 72). For those who are inspired to move beyond discrete workshops to wider ED initiatives and organizational changes with respect to CDP and CDL, these examples and others like them offer useful insights for designing and delivering educational development on a larger scale.

For CDL to continue its evolution and accurately reflect the contemporary dynamics of how technological systems operate today, there also needs to be new and

expanded professional development opportunities that tackle complex issues that increasingly intersect with social media, including Big Data, AI, and algorithmic bias. As Karsgaard (2024) describes, "social media affordances and algorithms are subtly and powerfully co-acting with humans…[users] are collaborating with AI in both obvious and opaque ways" (p. 5). In this environment, humans are not necessarily creating and sharing multimodal elements like memes and GIFs alone as machine-based elements continue to become integrated in digital spaces. Leander and Burriss (2020) prompt educators consider the influence of such machine-based image and text generation and ask: "what are the implications for critical literacy education when it takes seriously the computational agents that interact, produce, and process texts?" (p. 1262). Given the current flood of information about AI and related topics in higher education, however, many find these issues to be overwhelming. Scaffolded entryways for professional and educational development that provides support for educators who are at different stages of grappling with these issues, and manifests in transformations to practice, has never been more relevant.

Conclusion

Extending and engaging with the foundations of critical pedagogy in today's digital spaces continues to be relevant for educators and post-secondary institutions that are concerned with transformative change. Sharing how critical approaches to digital literacies can inform and be enacted in educators' learning and development concerning social media, especially the key concepts and frameworks that can facilitate these endeavours and support them in finding feasible entry points to complicated digital dynamics in their own teaching, is an important step toward advancing the aims of critical digital pedagogy for a vision of the future that can be created in hopeful and imaginative ways.

References

Addie, J-P. (2017, August 11). Seven ways universities benefit society. *The Conversation.* https://theconversation.com/seven-ways-universities-benefit-society-81072

Aleman, K. J., & Porter, T. D. (2016). 10-second demos: Boiling asynchronous online instruction down to the essentials with GIF graphics. *Journal of Library & Information Services in Distance Learning, 10*(3–4), 64–78. https://doi.org/10.1080/1533290X.2016.1193414

Álvarez, D., González, A., & Ubani, C. (2021). The portrayal of men and women in digital communication: content analysis of gender roles and gender display in reaction GIFs. *International Journal of Communication*, 15, 262–292. https://ijoc.org/index.php/ijoc

Amundsen, C., & Wilson, M. (2012). Are we asking the right questions? A conceptual review of the educational development literature in higher education. *Review of Educational Research, 82*(1), 90–126. https://doi.org/10.3102/0034654312438409

Amundsen, C., Abrami, P., McAlpine, L., Weston, C., Krbavac, M., Mundy, A., & Wilson, M. (2005). *The what and why of faculty development in higher education: An in-depth review of the literature* [Conference paper]. American Educational Research Association Annual Meeting, Montreal, Canada. https://www.sfu.ca/rethinkingteaching/publications/CAmundsen.etal.pdf

Anderson, M., Faverio, M., & Gottfried, J. (2023, December 11). *Teens, social media and technology 2023*. Pew Research Center. https://www.pewresearch.org/internet/2023/12/11/teens-social-media-and-technology-2023/

Auxier, B., & Anderson, M. (2021, April 7). *Social Media Use in 2021*. Pew Research Center. https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/

Bacalja, A., Aguilera, E., & Castrillón-Ángel, E. F. (2021). Critical digital literacy. In J. Z Pandya, R. Mora, J. Alford, N. Golden, & R. De Roock (Eds.), *The Handbook of Critical Literacies* (pp.373-380). Routledge. https://doi.org/10.4324/9781003023425-43

Belshaw, D. (2014). *The essential elements of digital literacies*. https://dougbelshaw.com/essential-elements-book.pdf

Bennett, L. (2022). How knowledge claims relating to academics' digital literacies can be developed. In R. Sharpe, S. Bennett, & T. Varga-Atkins (Eds.), *Handbook of Digital Higher Education* (pp. 224–234). Edward Elgar Publishing.

Brodsky, J. E., Brooks, P. J., Scimeca, D., Todorova, R., Galati, P., Batson, M., Grosso, R., Matthews, M., Miller, V., & Caulfield, M. (2021). Improving college students' fact-checking strategies through lateral reading instruction in a general education civics course. *Cognitive Research: Principles and Implications*, *6*(23), 1–18. https://doi.org/10.1186/s41235-021-00291-4

Brookfield, S. D. (2007). A critical theory perspective on faculty development. *To Improve the Academy, 25*(1), 55–69. https://doi.org/10.1002/j.2334-4822.2007.tb00474.x

Brookfield, S. D. (2009). The concept of critical reflection: promises and contradictions, *European Journal of Social Work, 12*(3), 293–304. https://doi.org/10.1080/13691450902945215

Caulfield, M. (2018, September 15). GIFs as Disinformation Remedy (aka The GIF Curriculum). Hapgood. https://hapgood.us/2018/09/15/how-gifs-will-save-democracy-aka-the-gif-curriculum/

Clarke Gray, B. (n.d.). *Memes and GIFs Workshop.* TRU box. https://memesandgifs.trubox.ca/

Collaborative Advocacy and Partnered Education. (n.d.). Critical reflection: A definition. https://www.capelearning.ca/critical-reflection/

Cohen, J., & Hewitt, R. (2019, April 23). When bringing your own device isn't enough: Identifying what digital literacy initiatives really need. *EDUCAUSE Review.* https://er.educause.edu/blogs/2019/4/when-bringing-your-own-device-isnt-enough-identifying-what-digital-literacy-initiatives-really-need

Dan, V., Paris, B., Donovan, J., Hameleers, M., Roozenbeek, J., van der Linden, S., & von Sikorski, C. (2021). Visual mis- and disinformation, social media, and democracy. *Journalism & Mass Communication Quarterly, 98*(3), 641-664. https://doi.org/10.1177/10776990211035395

Darvin, R. (2017). Language, ideology, and critical digital literacy. In Thorne, S., May, S. (Eds.) *Language, Education and Technology* (3rd ed., pp. 17-30). Encyclopedia of Language and Education. Springer. https://doi.org/10.1007/978-3-319-02237-6_35

Dawkins, R. (1976). *The selfish gene.* Oxford University Press.

DiPietro, M., & Norman, M. (2014). Using learning principles as a theoretical framework for instructional consultations. *International Journal for Academic Development, 19*(4), 281–292. https://doi.org/10.1080/1360144X.2013.837826

Dooly, M., & Darvin, R. (2022) Intercultural communicative competence in the digital age: Critical digital literacy and inquiry-based pedagogy. *Language and Intercultural Communication, 22*(3), 354–366. https://doi.org/10.1080/14708477.2022.2063304

Elkhamisy, F. A. A., & Sharif, A. F. (2022). Project-based learning with memes as an innovative competency-boosting tool: A phenomenological interpretive study. *Interactive Learning Environments*, 1–18. https://doi.org/10.1080/10494820.2022.2133147

Erinn, W. (2019). *Digital blackface: How 21st Century Internet language reinforces racism.* UC Berkeley: Library. https://escholarship.org/uc/item/91d9k96z

Freire, P. (2014). *Pedagogy of the oppressed* (30th anniversary ed.). Bloomsbury.

Friend, D. (2019, October 5). As meme culture spreads to politics, stakes increase for celebrities and copyright owners. *Global News.* https://globalnews.ca/news/5995562/memes-copyright-politics-celebrities/

Giroux, H. (2020). *On critical pedagogy* (2nd ed.). Bloomsbury.

Gottfried, J. (2024, January 31). *Americans' social media use.* Pew Research Center. https://www.pewresearch.org/internet/2024/01/31/americans-social-media-use/

Green, M. (2019, October 5). Why political memes — which are virtually unregulated — matter to this federal election. *Toronto Star.* https://www.thestar.com/vancouver/2019/10/05/why-political-memes-which-are-virtually-unregulated-matter-to-this-federal-election.html

Guess, A., & Lyons, B. (2020). Misinformation, disinformation, and online propaganda. In N. Persily & J. Tucker (Eds.), *Social media and democracy: The state of the field, prospects for reform* (pp. 10–33). Cambridge University Press. https://doi.org/10.1017/9781108890960

Hobbs, R., & Coiro, J. (2019). Design features of a professional development program in digital literacy. *Journal of Adolescent & Adult Literacy, 62*(4), 401–409. https://www.jstor.org/stable/10.2307/48554419

Hoggan, C. D. (2016). Transformative learning as a metatheory: Definition, criteria, and typology. *Adult Education Quarterly, 66*(1), 57–75. https://doi.org/10.1177/0741713615611216

hooks, b. (1994). *Teaching to transgress: Education as the practice of freedom.* Routledge.

Jandrić, P. (2019). The postdigital challenge of critical media literacy. *The International Journal of Critical Media Literacy*, *1*(1), 26-37. https://doi.org/10.1163/25900110-00101002

Karsgaard, C. (2024). Democracy and planetary politics: Achille Mbembe and futures of digital citizenship education for life. *Critical Studies in Education*, *65*(4), 460-475. https://doi.org/10.1080/17508487.2024.2307573

Kellner, D., & Share, J. (2007). Critical media literacy is not an option. *Learning Inquiry, 1*(1), 59–69. https://doi.org/10.1007/s11519-007-0004-2

Knobel, M., & Lankshear, C. (2011). Remix: The art and craft of endless hybridization. *Journal of Adolescent & Adult Literacy, 52*(1), 22–33. https://doi.org/10.1598/JAAL.52.1.3

Leander, K. M., & Burriss, S. K. (2020). Critical literacy for a posthuman world: When people read, and become, with machines. *British Journal of Educational Technology, 51*(4), 1262–1276. https://doi.org/10.1111/bjet.12924

Mai, P., & Gruzd, A. (2022). The State of Social Media in Canada 2022. *Social Media Lab Toronto Metropolitan University.* https://doi.org/10.6084/m9.figshare.21002848.v4

Martínez-Cardama, S., & Caridad-Sebastián, M. (2019). Social media and new visual literacies: Proposal based on an innovative teaching project. *Education for Information, 35*(3), 337–352. https://doi.org/10.3233/EFI-180214

Nichols, T. P., & LeBlanc, R. J. (2021). Media education and the limits of "literacy": Ecological orientations to performative platforms. *Curriculum Inquiry, 51*(4), 389–412. https://doi.org/10.1080/03626784.2020.1865104

Ng, S. L, Wrigth, S. R., & Kuper, A. (2019). The divergence and convergence of critical reflection and critical reflexivity: Implications for health professions education. *Academic Medicine, 94*(8), 1122–1128. https://doi.org/10.1097/ACM.0000000000002724

Pangrazio, L. (2016). Reconceptualising critical digital literacy. *Discourse: Studies in the cultural politics of education*, *37*(2), 163-174. https://doi.org/10.1080/01596306.2014.942836

Pangrazio, L., & Sefton-Green, J. (2021). Digital rights, digital citizenship and digital literacy: What's the difference? *Journal of New Approaches in Educational Research, 10*(1), 15–27. https://doi.org/10.7821/naer.2021.1.616

Polizzi, G. (2020). Information literacy in the digital age: Why critical digital literacy matters for democracy. In F. Goldstein (Ed.), *Informed Societies: Why information literacy matters for citizenship, participation and democracy* (pp. 1–23). Cambridge University Press.

Romero, E. D., & Bobkina, J. (2021). Exploring critical and visual literacy needs in digital learning environments: The use of memes in the EFL/ESL university classroom. *Thinking Skills and Creativity, 40*, 1–16. https://doi.org/10.1016/j.tsc.2020.100783

Satar, M., Hauck, M., & Bilki, Z. (2023). Multimodal representation in virtual exchange: A social semiotic approach to critical digital literacy. *Language Learning & Technology, 27*(2), 72–96. https://www.lltjournal.org/item/1061/

Sharpe, R. (2022). An institutional approach to embedding digital and information literacy into taught programmes. In R. Sharpe, S. Bennett, & T. Varga-Atkins (Eds.), *Handbook of Digital Higher Education* (pp. 236–247). Edward Elgar Publishing.

Sharun, S., & Smith, E. E. (2020, October). Educational development partnerships and practices: Helping librarians move beyond the one-shot. *College & Research Libraries News, 81*(9), 445-449. https://doi.org/10.5860/crln.81.9.445

Smith, E. E. (2016). "A real double-edged sword:" Undergraduate perceptions of social media in their learning. *Computers & Education, 103*, 44-58. https://doi.org/10.1016/j.compedu.2016.09.009

Smith, E. E. (2017). Social media in undergraduate learning: Categories and characteristics. *International Journal of Educational Technology in Higher Education*, *14*(12), 1-24. https://doi.org/10.1186/s41239-017-0049-y

Smith, E. E., Kahlke, R. & Judd, T. (2018a). Domains of digital literacy. [Diagram]. https://doi.org/10.6084/m9.figshare.11908425

Smith, E. E., Kahlke, R., & Judd, T. (2018b). From digital natives to digital literacy: Anchoring digital practices through learning design. *Proceedings of Australasian Society for Computers in Tertiary Education* (pp. 510-515). http://2018conference.ascilite.org/

Smith, E. E., Kahlke, R., & Judd, T. (2020). Not just digital natives: Integrating technologies in professional education contexts. *Australasian Journal of Educational Technology, 36*(3), 1-14. https://doi.org/10.14742/ajet.5689

Smith, E. E., & Storrs, H. (2023). Digital literacies, social media, and undergraduate learning: what do students think they need to know? *International Journal of Educational Technology in Higher Education, 20*(29), 1-19. https://doi.org/10.1186/s41239-023-00398-2

Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept

use. *Cogent Education, 5*(1), 1519143.
https://doi.org/10.1080/2331186X.2018.1519143

Statista. (February 13, 2024). Social network usage by frequency in Canada as of
December 2023 [Graph]. In *Statista*. Retrieved November 25, 2024, from
https://www.statista.com/forecasts/998502/social-network-usage-by-
frequency-in-canada

Stommel, J. (2014). Critical digital pedagogy: A definition.
https://hybridpedagogy.org/critical-digital-pedagogy-definition/

Stommel, J., Friend, C., Morris, S. M. (2020). Introduction: The urgency of critical
digital pedagogy. In J. Stommel, C. Friend, & S. M. Morris (Eds.), *Critical digital
pedagogy: A collection* (pp. 1–8). Hybrid Pedagogy.

Sullivan, F. R. (2021). Critical pedagogy and teacher professional development for
online and blended learning: The equity imperative in the shift to
digital. *Educational Technology Research and Development*, *69*(1), 21–24.
https://doi.org/10.1007/s11423-020-09864-4

Talib, S. (2018). Social media pedagogy: Applying an interdisciplinary approach to
teach multimodal critical digital literacy. *E-learning and digital media, 15*(2),
55–66. https://doi.org/10.1177%2F2042753018756904

TEDx Talks. (2012, March 22). *The essential elements of digital literacies: Doug
Belshaw at TEDxWarwick* [Video]. YouTube. https://youtu.be/A8yQP0TcZ78

Tu, K., Sun, A., & Levin, D. M. (2023). Using memes to promote student engagement
and classroom community during remote learning. *Biochemistry and Molecular
Biology Education, 51*(2), 202–205. https://doi.org/10.1002/bmb.21700

Wardle, C. (2020, September 22). *Understanding information disorder.* First Draft.
https://firstdraftnews.org/long-form-article/understanding-information-
disorder/

Wells, D. D. (2018). You all made dank memes: using internet memes to promote
critical thinking, *Journal of Political Science Education, 14*(2), 240–248.
https://doi.org/10.1080/15512169.2017.1406363