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Using ICT for social good: Cultural identity restoration through emancipatory pedagogy

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Abstract

This research examines how an oppressed group, the Klamath Tribes of Oregon, used an information communication technology (ICT) for the human development objective of cultural identity restoration, one component of emancipation. Within this manuscript is depicted a process model of how ICT tools can be used for human development through emancipatory pedagogy, ie, the communication of knowledge in a way that promotes critical reflection and collective action. Combining interpretive and critical methods, I describe how the Klamath's ICT reflected the emancipatory journey of those creating it and empowered the Klamath to lead ICT users toward emancipation. An interpretive approach revealed that ICT framing tools promoted awareness of the Klamath, awareness of the problem the Klamath sought to address, and awareness of societal systems of power that enforced the Klamath's problem, while ICT tactic tools enabled "the aware" to engage in solutions. Notably, the Klamath shirked prevailing practices in ICT for development. Consistent with my critical approach, I use the Klamath case to suggest normative recommendations for the use of ICT for social good.

KEYWORDS

cultural identity restoration, emancipatory pedagogy, ICT tools, websites

1 | INTRODUCTION

> *"… we need to use every avenue and technology to take our place in society; it is about standing up and taking our place"*—Klamath Chairman Don Gentry

Dating back to Socrates and Plato, theorists have pondered the role of education in addressing societal challenges and emancipating societies (Nouri & Sajjadi, 2014). Critical theorists dedicated to understanding how societies can be freed from injustice have advocated emancipatory pedagogy, ie, the diffusing of information in a way that provokes "acts of cognition" and action (Freire, 2000, p. 79). Emancipatory pedagogy is particularly salient in contexts where oppressive social systems of meaning include notions of cultural identity of conquered groups continuing to live in postcolonial settings (Macedo, 2000).

Communication research reveals that media portrayals of conquered groups, even when demonstrating an ostensibly positive message, often use negative identity stereotypes, eg, noble savage (Baylor, 1996). Such portrayals in media have the power to shape public opinion (Gamson & Modigliani, 1989), although the influence of traditional media is increasingly supplanted by digital media, ie, information communication technologies (ICTs) (Yetgin, Young, & Miranda, 2012). Information communication technologies impact society by altering institutionalised systems of power and enabling participation in public discourse by those lacking the power and resources to be heard under the traditional media system (Castells, 2007; Miranda, Young, & Yetgin, 2016). Ethnic studies scholars now recognise media, "as vehicles of cultural revival, identity formation and political assertion" (Ginsburg, 1994, p. 5). In a world where individuals increasingly learn of their own and others' identities through media, ICTs provide the means for elevating negotiation of meaning around identity beyond local networks into mainstream political discourse and empowering conquered groups to have a voice in the restoration of diminished cultural identity (Castells, 1999; Young & Miranda, 2014).

IS scholars have touted ICT as a catalyst for development and social good (eg, government transparency, voice giving, and increased participation in public discourse), but also recognise the "dark sides" of ICT (eg, increasing economic disparity, causing labor instability, and acting as objects of addiction) (Majchrzak, Markus, & Wareham, 2012; Soror et al., 2015; Tarafdar, Gupta, & Turel, 2013). Given that ICT can be used for both good and bad, it is important to understand how uses of ICT tools facilitate positive and negative outcomes. The ICT for development (ICT4D) literature, which describes uses of ICT for good at the societal level, reveals that using ICT for social good is more challenging than one might expect; well-meaning ICT4D efforts sometimes have negative outcomes such as wasted money (Rothenberg-Aalami & Pal, 2005) or oppression of those the ICT was intended to help (Lin, Kuo, & Myers, 2015). Information communication technology for development typically involves developmental agencies bringing technology to groups in a less powerful position to promote economic or industrial development. This manuscript describes a case where ICT tools were used for a different kind of development, human development through emancipatory pedagogy around cultural identity.

This research examines the question: How can ICT be used for emancipatory pedagogy to address the societal challenge of cultural identity decline? Investigation of a unique ICT4-human-D case revealed how ICT tools were used by a Native American tribe in the emancipatory pedagogical process through which they pursued identity restoration. Notably, the process observed in this case did not align with prevailing ICT4D practices. Drawing on critical postcolonial theories of emancipatory pedagogy, this research presents a model depicting the deployment of ICT tools in the identity restoration process. This research also challenges prevailing ICT4D practices and provides normative recommendations for conquered groups and developmental agencies.

2 | INFORMATION COMMUNICATION TECHNOLOGY FOR SOCIAL GOOD

Early research assumed ICT to be emancipatory (eg, Kanungo, 2004). IS scholars argued "emancipatory knowledge will be acquired by developing countries through an adequate use of the technology" (Davis & Fonseca, 2006, p. 275–276). Such studies provided the foundation for the more nuanced view that is emerging. Research examining the emancipatory functions of media found that, paradoxically, ICTs are in some ways emancipatory, in others, hegemonic (Miranda et al., 2016). Emancipatory functions of ICT include truth exposure, democratisation, community enhancement, inclusion, creative expression, economic facilities, political liberties, and facilitation of social change (Díaz Andrade & Urquhart, 2012; Miranda et al., 2016). Dysfunctions of ICT include perpetuating the interests of power elites through shaping of public consciousness, cultivation of ambivalence in the oppressed, proliferating displays of paternalism toward and devoicing of oppressed groups, and enforcement of oppressive systems (Lin et al., 2015; Miranda et al., 2016).

Emancipatory functions can be harnessed by those with limited power and resources to make their voices heard through ICT tools, ie, frames and tactics (Yetgin et al., 2012). Frames are value-laden, prefabricated schemas of meaning communicated in a way that makes complex issues more understandable and easier to synthesise with one's lived

experiences (Fiss & Hirsch, 2005; Soule, 2009). Tactics are forms of political expression designed to challenge public opinion and put pressure on those in the public sphere (Taylor & Van Dyke, 2004). Frames and tactics used in political negotiations evolve with technological innovations and thus can be embedded in ICT to promote social change (Yetgin et al., 2012).

3 | INFORMATION COMMUNICATION TECHNOLOGY FOR DEVELOPMENT PREVAILING PRACTICES

Developmental agencies and nonprofits spend billions of dollars on ICT4D projects (Heeks, 2010), yet many of these projects fail to achieve objectives (IEG, 2011). Researchers have documented challenges associated with ICT4D value realisation (Tongia & Subrahmanian, 2006; Letch & Carroll, 2008; Masiero, 2016). Failures are believed to be due, largely, to misunderstandings of the local and/or macrocontext (Avgerou, 2008, 2010; Avgerou & McGrath, 2005; Hosman & Fife, 2008; Walsham, 2012).

Review of the ICT4D literature reveals several trends. First, ICT4D research leans towards an interpretive paradigm, featuring few critical or positivist research studies (Lin et al., 2015). Second, the contextual focus tends to be local, although researchers are increasingly taking both local and macrocontextual factors into account (Avgerou, 2008; Lin et al., 2015). Third, ICT4D research frequently examines implementation in postcolonial contexts, yet rarely applies postcolonial theories. A notable exception is the work by Lin, Kuo, and Myers (2015) who, in responding to Avgerou's (2008) challenge for ICT4D researchers to develop IS theories capable of addressing macrosociopolitical contexts, applied postcolonial theory to demonstrate that the "wider postcolonial context is *the key*" to understanding why so many recipients view ICT4D projects as failures (Lin et al., 2015, p. 710). Information communication technology for development projects in a postcolonial context can reinforce existing systems of oppression and make things worse. Thus, understanding of the macrocontext is of particular importance and scholars have called for greater use of postcolonial theories and critical research in understanding ICT4D project failures (Lin et al., 2015).

Scholars have pointed to the clear need for critical research to fill a gap in understanding of politics, intentions, and societal impacts of prevailing practices in ICT4D (Díaz Andrade & Urquhart, 2012; Lin et al., 2015). Review of the ICT4D literature reveals 3 prevailing practices. Díaz Andrade and Urquhart (2012) reveal that ICT4D projects often involve relatively powerful, external actors, in a more developed position, gifting technologies to passive users who have no say in which technologies they should adopt, which problems will be addressed, how the technologies will be used, or which solutions are most desirable. One example of an ICT4D project fitting this description—based on the assumption that ICTs are innately emancipatory—is the One Laptop per Child project, which has spent millions of dollars to put laptops in the hands of Nigerian children. Describing the laptop deployment plan, One Laptop per Child leader Nicholas Negroponte said, "Then we'll take tablets and drop them out of helicopters into villages that have no electricity and school, then go back a year later and see if the kids can read" (Thomson, 2011). Another prevailing practice is that objectives related to human development, eg, enhancement of local communities and cultures, often take a back seat to the pursuit of economic or industrial objectives, eg, economic advancement or process efficiency gains (Kleine, 2013; Thapa & Sæbø, 2014). Although efforts have been made to establish the link between ICT and human development (Castells & Himanen, 2014), these efforts represent "a work in progress" (Heeks, 2016, p. 54). The economic orientation of most development research (notable exceptions include works by Amartya Sen) has left a gap in understanding of the impact of ICT4-human-D objectives such as those common to indigenous cultural initiatives (Lin et al., 2015).

4 | WEBSITES

Of specific interest in this study is an organisational website, one of the most prolific and easy to use ICT. Winter, Saunders, and Hart, 2003 (p. 309) suggest that websites "should be considered 'electronic storefronts' or public work areas providing frames of symbolic representations that create impressions of their sponsoring firms." Websites are

"integral to identity, sensegiving, and sensemaking processes, to interpretation and negotiation, to legitimacy, and to branding" (Rafaeli & Pratt, 2012, p. 2).

IS research has examined websites in several contexts. Benbasat and colleagues considered websites in an e-commerce context, ie, effects of quality perceptions on usage intentions (Xu, Benbasat, & Cenfetelli, 2013), interaction between product price and trust-assuring arguments on users' trust (Kim & Benbasat, 2006), and users' attitudes toward products offered by the website and intention to purchase (Jiang & Benbasat, 2007). Others found that in an e-commerce context, website quality influences perceptions of product quality, purchase intentions, and intent to reuse the website (McCoy, Everard, & Loiacono, 2009). There is also a growing body of research examining e-government and political campaign websites (eg, Carter & Bélanger, 2005; Mosse & Whitley, 2009; Wattal, Schuff, Mandviwalla, & Williams, 2010). In summary, corporate and managerial interests are emphasised in the website literature such that economic and industrial implications of websites are better understood than human development implications.

5 | EMANCIPATORY PEDAGOGY

Information communication technology such as websites provide a platform for emancipatory pedagogy. The "inaugural philosopher" of the field of emancipatory pedagogy is Paulo Freire, a Brazilian educator who advocated for emancipation through pedagogy in postcolonial contexts (Nouri & Sajjadi, 2014, p. 78). In Freire's seminal (2000, p. 53) *Pedagogy of the Oppressed*, he described "pedagogy of people engaged in the fight for their own liberation." Freire described the process through which oppressed groups can achieve emancipation by gaining and promoting awareness of their reality and taking ownership of their struggle. In what follows, I describe the central tenets of Freire's work. See Table 1 for relevant concept definitions.

Freire condemned false charity, wherein oppressors perpetuate injustice to facilitate opportunities to continually demonstrate their generosity in what he depicted as a "permanent fount ... nourished by death, despair, and poverty" (Freire, 2000, p. 44). True generosity, Freire contended, is fighting through praxis to destroy the systems of oppression

TABLE 1 Concepts from postcolonial theory of emancipatory pedagogy

False charity fails to recognise the oppressed as fully human and constrains them to "extend their trembling hands" to those in a more developed position (Freire, 2000, p. 45). When a developmental effort "begins with the egoistic interests of the oppressors (an egoism cloaked in the false generosity of paternalism) and makes of the oppressed the objects of its humanitarianism," that effort "itself maintains and embodies oppression" (Freire, 2000, p. 54).
"True generosity consists precisely of fighting to destroy the causes which nourish false charity" through lessons and apprenticeships "from those who are truly solidary with them" (Freire, 2000, p. 45). "True generosity lies in striving so that these hands—whether of individuals or entire peoples—need be extended less and less in supplication" (Freire, 2000, p. 45). Freire's conceptualisation of true generosity involves reflection and action by those in a more privileged position who stand with the oppressed.
Praxis is "the action and reflection of men and women upon their world in order to transform it" (Freire, 2000, p. 79). Freire asserts that the oppressed will not experience emancipation "but through the praxis of their quest for it, through their recognition of the necessity to fight for it" (Freire, 2000, p. 45). It is through encounters with leaders of the oppressed and observation of their praxis that theories of emancipation can be built (Freire, 2000, p. 183) and tested.
In this research, emancipation is defined as the enactment of new, less oppressive worlds through critical awareness and problem alleviation. Total emancipation is a complex construct. Thus, systematic study of emancipation entails observation of growing emancipation through identification of "component parts" within the context of an investigation (Cerny, 2006, p. 67) as has been done in prior IS research (Miranda et al., 2016).
Knowledge is the product of intentional human activity related to cognitive interests; the 3 types of cognitive interests are technical, practical, and emancipatory. Emancipatory knowledge, knowledge generated for emancipatory cognitive interests, is produced by critical, reflective communities of inquirers (Bernstein, 1976). When embraced by autonomous learners with a sense of conviction and responsibility, emancipatory knowledge unlocks the potential for emancipation (Habermas, 1979, 1984).
The emancipatory pedagogical process entails the oppressed reflecting upon, and ideally sharing, emancipatory knowledge in a way that not only deposits information but provokes "acts of cognition" (ie, awareness of power and politics) and action (Freire, 2000, p. 65).

that cause the oppressed to extend their hands for charity. Freire contended that the struggle for emancipation must be led by the oppressed. The struggle is successful when an oppressed person or group goes through the emancipatory process, and actively leads others—both oppressed and nonoppressed—through the emancipatory pedagogical process towards growing emancipation.

Drawing from Freire's theories, I identified 4 functions of emancipatory knowledge in the emancipatory pedagogical process. First, emancipatory knowledge changes the way learners view themselves and others through the creation of critical consciousness. The creation of critical consciousness serves the function of awareness of the oppressed, which requires recognition of "reality as an oppressive reality" (Freire, 2000, p. 174).

Second, emancipatory knowledge promotes problem awareness. Colonialism often brings about a "colonised mentality" (Memmi, 2013) wherein mixed feelings of contempt and admiration towards the oppressors stifle action, and the oppressed self-deprecate and engage in self-destructive behaviours (Freire, 2000). Such feelings and behaviours are not the overarching problem faced by the oppressed, but symptoms of the overarching problem (Duran & Duran, 1995). The oppressed hold unique insights that can aid distinction between symptoms and problems. Unfortunately, prior to problem awareness, "the oppressed cannot perceive clearly the 'order' which serves the interests of the oppressors" and dominates the oppressed (Freire, 2000, p. 62). Problem awareness allows the oppressed to name and define a problem around which they will converge their praxis.

Third, emancipatory knowledge promotes system awareness wherein the oppressed identify oppressive systems, which through preservation of the status quo are the source of the problem. Freire defines oppressors as "beneficiaries of a situation of oppression" (Freire, 2000, p. 58). Oppressors often do not perceive their privilege or recognise the ways in which it dehumanises them. Whether they recognise their role or not, the interests of the oppressors "lie in 'changing the consciousness of the oppressed, not the situation which oppressed them'; for the more the oppressed can be led to adapt to that situation, the more easily they can be dominated" (Beauvoir, 1963, p. 34 as quoted in Freire, 2000, p. 74). Freire (2000, p. 65) references the critical moment when the "oppressed find the oppressor out" and become aware of the oppressors' enforcement of systems of oppression that maintain the status quo.

Finally, emancipatory knowledge fosters solution enablement, such that the oppressed converge upon a strategy for requisitioning power and addressing the problem. Solution enablement entails politicisation of stakeholders and the bridging of personal and political spheres. Politicisation of stakeholders involves conviction and acceptance of responsibility. Authentic "conviction cannot be packaged and sold," just as "liberation is not a gift bestowed" (Freire, 2000, p. 67). Rather, "it is essential for the oppressed to realize that when they accept the struggle ... they also accept, from that moment, their total responsibility for the struggle" (Freire, 2000, p. 68). "No one liberated himself by his own efforts alone, neither is he liberated by others" (Freire, 2000, p. 66). Thus, multiple actors must engage in praxis together, bridging the personal and political spheres, for emancipation to be achieved. Praxis "demands maximum political wisdom, decision, and courage from the leaders" in the political sphere (Freire, 2000, p. 158). It also requires those in the personal sphere to requisition the power to stand up for their convictions and take their place in society.

The emancipatory pedagogical process involves 2 stages. In the first stage, "the oppressed unveil the world of oppression and through praxis commit themselves to its transformation" (Freire, 2000, p. 54). Stage 1 involves initial awareness and action followed by growing awareness and action. During stage 1, the oppressed experience growing emancipation as solution enablement leads to problem alleviation. In stage 2, total emancipation occurs. Theoretically, once "the reality of oppression has been transformed, this pedagogy ceases to belong to the oppressed and becomes a pedagogy of all people in the process of permanent liberation" (Freire, 2000, p. 54). See Figure 1 for a model of the emancipatory process.

6 | CULTURAL IDENTITY

Freire's work is considered especially pertinent to studies of cultural identity as it allows one to "critically understand the tensions, contradictions, fears, doubts, hopes, and 'deferred' dreams that are part and parcel of living a borrowed
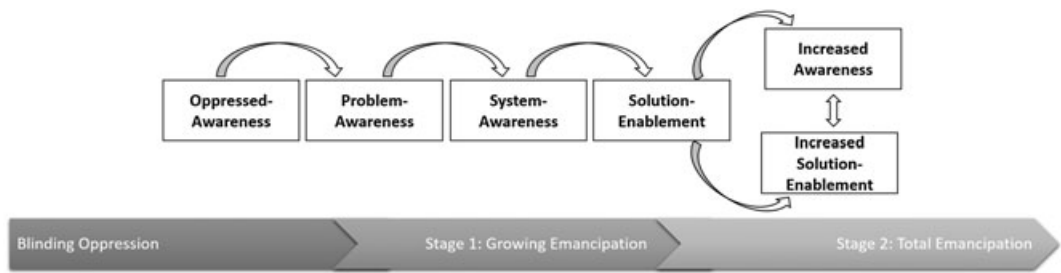
FIGURE 1 Emancipatory process

and colonized cultural existence" (Macedo, 2000, p. 11). Cultural identity refers to a set of qualities attributed to a given population regarding their modern identity, traditional ethnicity, race, and lifestyle (Friedman, 1994). Occurring at the intersection of individual and group identities, cultural identity shapes how individuals view themselves and their society, as well as how others view them and their society. A fluid construction, cultural identity is built on social memory, and constantly evolving in light of present concerns and purposes (Olick & Robbins, 1998). One view is that "cultural identities reflect the common historical experiences and shared cultural codes which provide us, as 'one people', with stable, unchanging and continuous frames of reference and meaning," but in a tribal context, this conceptualisation fails to recognise that "deep and significant" differences shape the identity of these groups (Hall, 1996, p. 706). Cultural identity therefore "is a matter of 'becoming' as well as of 'being'" (Hall, 1996, p. 706), ie, cultural identities are rooted in the past, but are constantly reconstructed in response to present concerns.

Identity construction occurs through claims made by an organisation regarding the "type" of organisation it is (Glynn, 2000, p. 286). When identity claims are challenged such that the legitimacy of the claims is brought into question, organisations can take steps to reconstruct identity by elevating original or modified identity claims into mainstream political discourse and publically negotiating meaning around these claims. The term identity restoration refers to identity reconstruction efforts aimed at returning identity to the likeness of a "type" it once embodied. In the African-American studies literature, identity restoration is conceptualised as an emancipatory experience involving connection with community history, collective memory, and ancestors to overcome the internalisation of negative stereotypes and guard against extremist/violent ideologies (King, 2012). In the literature on identity theft, identity restoration is defined as the re-establishing of a link between a person and an identifier, eg, a social security number (Koops & Leenes, 2006). In medicine, identity restoration after brain injury involves the rediscovery of whom one is after memory loss (Gelech & Desjardins, 2011). Together, these conceptualisations of identity restoration demonstrate that identity can be reenacted toward a former type in the aftermath of an identity challenging event.

The postcolonial phenomenon of dehumanisation presents an identity challenge by stripping the oppressed of their sense of "whom" they are as a people and promoting identity claims that suggest that the oppressed are less than human (Freire, 2000). Dehumanisation through the decimation of cultural identity is one form of oppression (Giroux, 1997; Tappan, 2005). Media are an instrument through which powerholders can reinforce the construction of dehumanising identity narratives. Unlike traditional media, where authorship and influence are limited to those in a developed position, ICT can be used by oppressed groups to teach humanised identity claims and restore cultural identity.

7 | CONTEXTUALISING THE CASE OF KLAMATH IDENTITY RESTORATION

The United States colonised indigenous/native people in Oregon in the 1800s and restricted them to live on reservations. During the Reservation Era, the Klamath experienced economic success in the timbering industry. In 1954, the

United States implemented termination policies designed to dismantle native identity and promote assimilation (Fixico, 1980). The United States determined that the Klamath's economic success under reservation policies indicated the Klamath could easily assimilate, and therefore, the tribe was a good candidate for termination. The US government sold Klamath reservation lands, distributed payments to Klamath, and instructed Klamath to assimilate into dominant society. Lacking the skills and desire to assimilate, the Klamath suffered societal disintegration in the wake of termination.

Following the Native American self-determination movement of the 1960s to 1970s, President Reagan issued a policy statement in 1983 repudiating termination policies and initiating a "Period of Restoration" among Native American tribes (Danver, 2010). During this period, the Federal government slowly returned control of tribal affairs to tribes, allowing tribes to fund and govern institutions such as universities and cultural centers through which cultural identities could be restored. In 1986, the Klamath successfully petitioned the United States to have their status as an independent nation recognised. Since the 1980s, the Klamath have been struggling to restore their cultural identity through land reacquisition, history clarification, language revitalisation, and natural resource preservation initiatives. In 1998, the Klamath adopted an organisational website as part of one such initiative and quickly realised the pedagogical role their website could play in their larger cultural identity restoration efforts.

Chairman Gentry explained that the reach of initial identity restoration efforts was limited when they were using print media, eg, newsletters, to get their message out. The adoption of a website allowed the Klamath to reach a vast audience and communicate "language, traditions, morals, and values" to members dispersed across the world. Gentry said, "It is so easy to keep to ourselves and try not to be a problem, but we need to use every avenue and technology to take our place in society; it is about standing up and taking our place." When asked what she hopes to achieve through the website, Public Information Officer (PIO) Tupper replied, "I really hope when individuals come—tribal or not—they get a sense of *who we are*."

8 | METHOD

The study presented in this manuscript is part of a larger program of research involving the generation of insights for a Native American Nation's upcoming website redesign. One of the goals of the nation's IT department was to use their website to shape public opinion in the midst of a struggle between the Nation and the State over water rights. Given the unprecedented victories of another Native American Tribe, the Klamath, in the arena of water rights acquisition, I studied the Klamath website.

On their home page, a vivid purple and orange sky framed the image of a Klamath chief overlooking a lake as the sun sat atop surrounding mountains, as shown in Figure 2. The History page, with an equally stunning backdrop of this scene at dusk, portrayed an oppressed people, damaged, but not defeated by termination policies enacted by their colonisers. Drawn in by the aesthetic appeal and compelling content of the Klamath website, I used Internet Archive's WayBack Machine to study previous website versions as well. I compiled findings, and after presenting suggestions to the nation's IT department, we concurred that there was something special about the Klamath website and its power to convince us to join their cause.

I reached out to the Klamath leader, Chairman Gentry, to gain insight into their website strategy. Chairman Gentry shared his vision for the website and put me in touch with PIO Tupper who has been instrumental in guiding my understanding of the intentions behind the website design. Notably, I learned water rights initiatives were just one part of the Klamath's agenda, which focused on using their website to educate the public about who the Klamath are and how website users can join the Klamath in their movement to restore Klamath cultural identity to the likeness of the cultural identity of their ancestors.

The primary data used in this study came from the Klamath's organisational website. Through the WayBack Machine, I examined archived versions of the Klamath websites dating back to 1998. Such archival data are not subject to the retrospective biases common to survey and interview methods of investigating political topics (Franz &
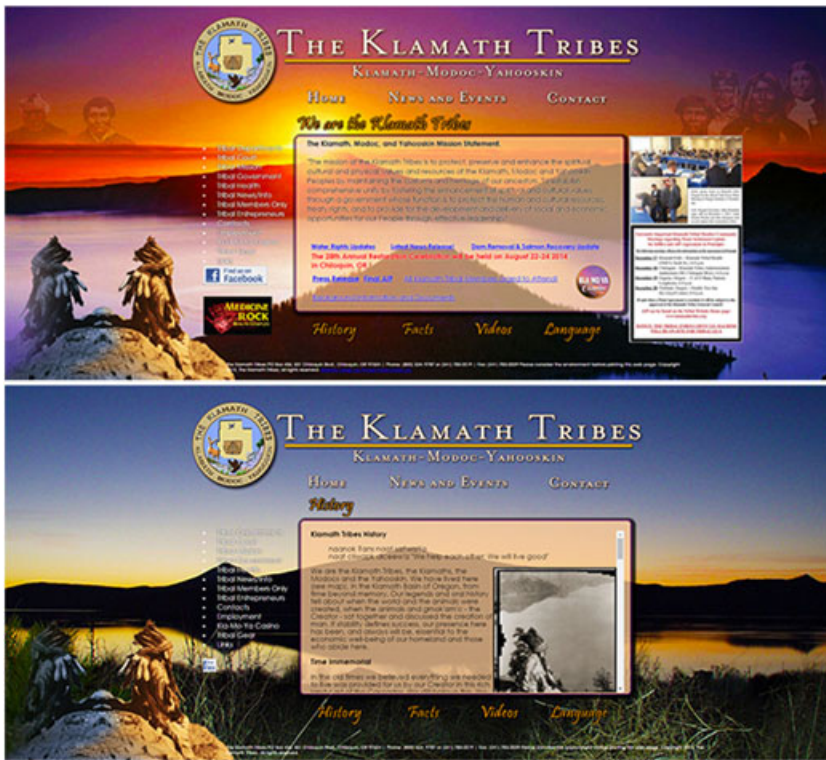
FIGURE 2 Screenshots of klamathtribes.org: Home page captured 1/2/2014 (top), History page captured 10/30/2013 (bottom) [Colour figure can be viewed at wileyonlinelibrary.com]

Robey, 1986) and, as such, are well suited to investigating cultural identity. I also consulted sources such as books, news and journal articles, and anti-Klamath websites during this study to gain an understanding of diverse agents and perspectives that make up the Klamath social context.

Website texts were analysed using "critical hermeneutics," an integrative approach to understanding subjective meanings and the constantly evolving social systems that shape those meanings (Myers, 1994a). This method combines interpretative and critical elements to "dissolve the boundaries" between these 2 research traditions (Myers, 1994a, p. 188; Thompson, 1981). See Table 2 for an explanation of how this research meets the criterion for successful critical research.

Hermeneutics, a method for understanding texts or information technologies, allows users to appropriate website texts by attributing meanings that may or may not align with those intended by the author (Lee, 1991; Ricoeur, 1981). Thus, I drew upon the idea of the hermeneutic circle to understand the website in light of the Klamath and the Klamath in light of the website. By consulting relevant scholarly and nonscholarly sources, I reduced the effective history separating me from hermeneutic understanding. I also engaged in conversations with those leading the emancipatory pedagogical process (ie, the Chairman, PIO, and website developer) to better understand the local context and macrocontext and the relationship between the website and its creators.

Hermeneutic interpretation is made meaningful by the background knowledge a hermeneuticist brings from the "world behind the text" (Lee, 1994). Pertinent to this study, the history and social systems of the United States stand behind the Klamath website and inform interpretation. Just as there is a world behind the website that appropriates users, the website allows construction of the "world of the text" (ie, a hermeneutist's enactment of the text). In other words, hermeneutic interpretation allows users to see and enact new worlds as the text emancipates users, allowing

TABLE 2 Principles for conducting critical research

Principle from Myers and Klein (2011, p. 25)	How the principle was demonstrated in this research
The principle of using core concepts from critical social theories. Critical research should center on core concepts from critical theorists. Data collection and analysis should be approached with these core concepts in mind.	This research uses core concepts from the work of Paulo Freire (eg, critical awareness and solution enablement) to understand the process around how an ICT can be used for emancipatory pedagogy to address the societal challenge of cultural identity decline.
The principle of taking a value position. Critical research is value laden by nature. Critical research is motivated by and speaks to a moral belief.	The value position represented in this research is that it is desirable for oppressed groups to have a voice in shaping their identity.
The principle of revealing and challenging prevailing beliefs and social practices. This principle relates to identifying prevailing practices or beliefs that could be harmful and challenging them by providing arguments or evidence in favour of an alternative practice or belief.	This research provides evidence from a successful ICT4-human-D project to challenge the prevailing practices of external leadership of ICT4D projects, technology gifting, and industrial/economic orientation of ICT4D projects.
The principle of individual emancipation. Critical research should facilitate the awareness of human needs and potential. Critical research should also evoke reflection and enable emancipatory transformation.	This research recognises the human need for emancipation and the potential of oppressed people to lead emancipatory pedagogy. This research also outlines the process through which self-reflection and self-transformation efforts can lead to emancipation.
The principle of improvements in society. The goal of critical research is not only to shed light on domination and systems of power but also to suggest ways domination can be thwarted and society can be improved.	This research not only identifies termination as a form of domination but also reveals that emancipation is possible when the oppressed harness the potential of ICT for critical awareness and solution enablement.
The principle of improvements in social theories. Critical researchers should remain open to discovering flaws or inadequacies in existing social theories.	The process model described in this research emerged from Paulo Freire's work but was modified to include the role of ICT framing tools and ICT tactic tools in the emancipatory process.

Abbreviations: ICT, information communication technology; ICT4D, information communication technology for development

them to perceive a different world (Ricoeur, 1981). Although users may vary slightly in their enactment of the world of the text, Lee (1994) asserts that there should be little difference in the worlds enacted by sincere readers.

I sampled the 305 archived versions of the website between 12/5/1998 to 5/17/2014. During the period of analysis, the website experienced a high degree of content stability between site redesigns but was completely redesigned 6 times. Each redesign represents a different version of the website. Following a redesign, content was slowly added to each version, culminating in a point of greatest maturity just prior to the next redesign. Although I examined each of the 305 archives to some degree, I hermeneutically analysed only the 6 mature versions (archive dates: 2/24/1999, 3/9/2001, 11/1/2006, 2/21/2009, 1/18/2012, and 5/17/2014).

9 | OBSERVATIONS AND DESCRIPTIONS

The research question asks: How can ICT be used for emancipatory pedagogy to address the societal challenge of cultural identity decline? The emancipatory pedagogical process entails critical reflection leading to awareness of the oppressed, the problem facing the oppressed, and systems of oppression, as well as enablement of solutions. Examining the Klamath's actions through the lens of Freire's theories reveals how the Klamath used their website to guide users in emancipatory pedagogy by embedding emancipatory knowledge through ICT tools, specifically, ICT tools that taught ideological frames (ie, value-laden schemas of meaning) and protest tactics (ie, political expressions that challenge the status quo). Information communication technology framing tools were used to facilitate awareness; ICT tactics tools were used to facilitate solution enablement. See Figure 3 for a model of how ICT tools were deployed for emancipatory pedagogy. By reading and rereading the website texts until a point of saturation had been achieved, I was able to draw out insights related to how the Klamath led emancipatory pedagogy using ICT tools and how ICT
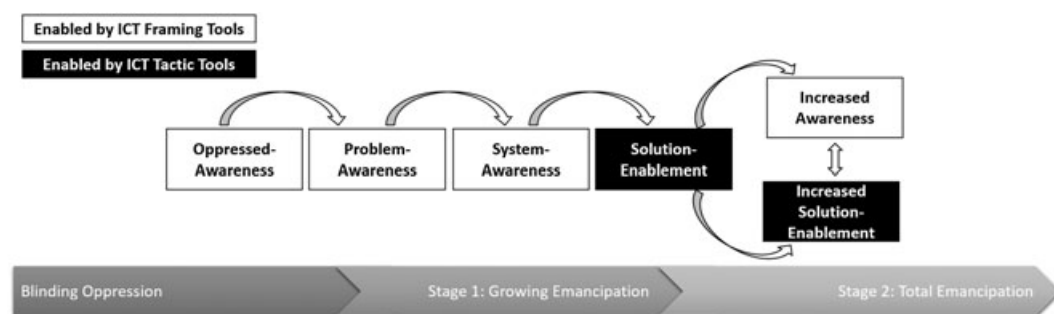
FIGURE 3 Information communication technology framing and tactic tools in the emancipatory process

tool use for emancipatory pedagogy evolved over time. What follows is a description of my hermeneutic analysis of how meanings are constructed through the Klamath website.

10 | INFORMATION COMMUNICATION TECHNOLOGY FRAMING TOOLS FOR OPPRESSED AWARENESS

Identity frames were an ICT tool used to express cultural values, frame historical events, and provoke reflection around "who" the Klamath are, ie, oppressed awareness. The history pages of each version read, "We saw success as a reward for virtuous striving and likewise as an assignment of spiritual favor, thus, 'Work hard so that people will respect you,' was the counsel of our elders." The History page, starting at version 2 and continuing through version 6, explained, "From the first, Klamath Tribal members demonstrated an eagerness to turn new economic opportunities to our advantage." Hermeneutic understanding is shaped by "the world behind the text" (Ricoeur, 1981); this "world" includes a history of media portrayals of Native Americans as "lazy, drunken primitives" (Evans-Pritchard, 1989, p. 102). Such portrayals appropriate website users and color understanding. Thus, I understood the repeated emphasis of the Klamath value of hard work to be combating the "lazy" frame behind the text.

Another stereotype against Native Americans in the world behind the text relates to "government dependence" and "asking for handouts." The termination pages on versions 2 through 6 featured a commentary submitted by Allen Foreman, Klamath Chairman 1999 to 2007, lamenting that many nonmembers viewed the Klamath "with envy and growing contempt" for the compensation members received from the 1960s sale of reservation lands, which non-members viewed as an "unearned and undeserved" government handout. Combatting this negative frame, the commentary concluded, "The Klamaths have never and do not now wish to participate in federal welfare dependency." The second through sixth versions reiterated the following frame: "The Klamath Tribes contributes upwards of $25 million dollars into the Klamath County economy each year through goods and services." Positive identity frames taught by the Klamath website served the purposes of combatting negative stereotypes in the world behind the text and emancipating users to construct the world of the text.

News frames led to common understanding of the world behind the text and served as a tool for provoking acts of cognition and awareness of the "concrete situation" of the oppressed (Freire, 2000, p. 46) by describing hate crimes and incidents of "anti-Indianism" in Klamath Basin such as harassment of Klamath leaders, vandalism of Klamath properties, and racial slurs on signs denouncing Klamath initiatives. For example, the Klamath educated users through a statement on their third version describing how 3 adults used gunshots to terrorise Klamath children on a school bus. Embedded in discussions of health, wealth, and well-being disparities between Klamath and non-Klamath in the region, data frames also taught oppressed awareness and fostered common understanding of the world behind

the text. The termination pages of the last 5 versions described the Klamath situation from 1966 to 1980, "Twenty-eight percent died by age twenty-five. Fifty-two percent died by age forty. Forty percent of all deaths were alcohol related ..." Together, these ICT tools fostered oppressed awareness by revealing symptoms experienced by the Klamath and "awakening of critical consciousness," which "leads the way to the expression of social discontents precisely because these discontents are real components of an oppressive situation" (Freire, 2000, p. 36).

11 | INFORMATION COMMUNICATION TECHNOLOGY FRAMING TOOLS FOR PROBLEM AWARENESS

Problem frames were used to teach problem awareness. This ICT tool shaped users' understanding by allowing them to reject former understandings, such as self-blame associated with a colonised mentality, and explore alternative explanations of the problem by enacting the world of the text. As is common in a postcolonial context, the Klamath faced a host of challenges. By naming and defining the problem Klamath leaders saw as most urgent, problem frames provided a foundation from which those in the struggle could converge for critical reflection. Version 1's history page reads, "Since 1954 we have struggled to maintain Tribal identity." The Land Restoration page of version 3 suggests that of all the tangible losses experienced by the Klamath (eg, loss of land), the more important losses were intangible. This problem frame asserts that loss of Klamath identity "did incalculable psychological damage to the Klamath people" who were "inappropriately viewed as having 'sold out' their Indian heritage." Issues such as alcoholism, suicide, domestic violence, loss of self-esteem, and post-traumatic stress syndrome were framed as symptoms of the identity loss problem. In addition to the overarching cultural identity problem, the websites defined subproblems related to each dimension of Klamath identity, ie, modern identity, traditional ethnicity, race, and lifestyle. For example, the subproblem of decline of natural resources impedes the Klamath's angler lifestyle and traditions relevant to their traditional ethnicity.

Urgency frames, such as those taught via images of dead fish following the fish die-off of 2002 (embedded in a newsletter in version 3), provoked critical reflection on the essence of time and enabled the convergence of appropriation of meaning that was necessary for the "systematic and deliberate form of action" (Freire, 2000, p. 179) required for emancipation through "cooperation in a shared effort" (Freire, 2000, p. 176).

12 | INFORMATION COMMUNICATION TECHNOLOGY FRAMING TOOLS FOR SYSTEM AWARENESS

Systems frames were an ICT tool for teaching users about the oppressive systems proliferating the Klamath's problem. These frames allowed users to enact the world of the text and consider explanations beyond those offered in the world behind the text. Each version discussed termination as the oppressive system to blame for Klamath cultural identity loss. The Klamath Economic Self-Sufficiency Plan, linked to versions 3 through 6 read,

> The Termination Act removed the land and its resources from the Klamath's economic, spiritual, cultural and social stewardship. It was the land which defined the Tribes and its people and which provided not only sustenance, but also the spiritual and cultural identity ....

Teaching that the Klamath have been "victimized by the vagaries of federal-Indian policies" the Economic Self-Sufficiency Plan used the following ICT framing tool to promote the world of the text, "this single act of Congress had devastating effects on the Klamath Tribes...."

Cause and effect frames were used to promote cognitive connection between oppressed awareness, problem awareness, and system awareness. The land restoration pages of versions 3 through 6 read,

> *In the 1960's when the State assumed management of the wildlife the mule deer were estimated to be at 60 deer per square mile. Today the [sic] are below 4 per square mile .... The wocus beds have been reduced to a fraction (less than 10%) of their former range as the wetlands throughout the Klamath basin are drained and water diverted for agriculture.*

Other cause and effect frames taught of the connection between the modern dimension of Klamath identity and termination by describing the decline in economic wealth of Klamath. The link between race and termination was addressed in frames teaching about changes in inheritance laws to favour non-Indian relatives. Frames teaching about the consequent decline in Klamath language speakers relate traditional ethnicity to termination.

13 | INFORMATION COMMUNICATION TECHNOLOGY TACTIC TOOLS FOR SOLUTION ENABLEMENT

In the world behind the text, individuals were divided in their strategies and efforts. By aiding users in the enactment of the world of the text, ICT framing tools enabled cooperative praxis. While ICT framing tools were used to enact the world of the text, ICT tactic tools were used to alter the world behind the text.

Strategy narratives were an ICT tactic tool used by the Klamath to facilitate solution enablement. Version 1, with the primary purpose of fundraising to obtain war relics, explained the importance of these relics to the Klamath and defined a clear goal on the home page, "We must raise $500,000 by July 31 1998," complimented by the fundraising strategy, ie, an online art auction. Version 4 featured a draft of the proposed Klamath Basin Restoration Agreement (KBRA); an accompanying press release taught Klamath strategies for negotiating with stakeholders in the region to resolve legal disputes over water and implement natural resource preservation initiatives through the KBRA. Over time, the Klamath used a variety of strategy documents, eg, the Forest Management Plan and the Klamath Hydroelectric Settlement Agreement, in their pedagogical mission, which enabled others to join in support of these strategies through campaigning and voting. Information communication technology tactic tools teaching "how-to-strategies" for political conversations promoted political engagement by those in the personal sphere; "calls for help," such as the statement "Please join us in this effort" on the home page of version 1 spoke directly to users, inviting users to enact the world of the text to learn how to join the struggle. Other versions, too, contained ICT tactic tools in which strategies for user participation in the identity restoration process were taught.

Links to external websites such as those with information about how to register to vote in US elections (to elect US politicians in favour of Klamath initiatives) and findings from environmental studies enabled solutions by promoting continued critical engagement beyond the Klamath website. A tribal gear e-commerce page and an online art auction, enabled by the interactivity of the website, facilitated fundraising. Strategy updates were another important tool for solution enablement because they kept those in the struggle up-to-date on strategy changes. For example, a press release on version 3 entitled, "Former Foes Unite to Solve Klamath Crisis," solidified the Klamath partnership with the corporation responsible for the hydroelectric dams, which were killing culturally relevant fish in the basin; the press release read, "we have a plan to put the Klamath Basin back together ecologically as well as economically, but we can't do it without PacifiCorp as a partner." Event announcements, such as press releases about upcoming meetings and links to regional conference websites provided opportunities for users to get involved. Finally, success stories, such as those describing the acquisition of war relics or the passing of the KBRA, were an ICT tactic tool for solution enablement as they promoted efficacy.

14 | HOW ICT TOOLS WERE EMBEDDED IN WEBSITES

Information communication technology framing tools were embedded in the websites through text, images, and videos. Color was used to draw attention to frames. Version 3's termination page featured a white background with

left-aligned black text; at the bottom of the page, "They want their way of life back" appeared in red, center-aligned text with a larger font. Images complimented frames, eg, images of Klamath in traditional garb taught identity frames related to traditional ethnicity. Images of dead fish and images accompanying stories of dwindling wocus yields taught urgency frames and cause and effect frames.

Application of hermeneutic principles allowed me to iterate between understanding of the world behind the text and understanding of specific symbols or shorthand for frames within the text. The poster page of all versions described how the color yellow was used as shorthand to evoke collective memory around native culture for Klamath users. Navigation links designed to look like wocus and images of c'wam fish served as shorthand for subproblem frames, symbolising the effects of poor land management following termination. Use of Klamath language in page titles served as shorthand for identity frames, symbolising the distinctive language associated with Klamath traditional ethnicity. Using shorthand in this way to represent frames can capture attention, aid recall, and communicate complex meanings in efficient ways (Miranda et al., 2016; Young, Miranda, & Summers, 2013).

Information communication technology tactic tools were embedded in the websites through PDFs, links to other sites, and auction/e-commerce platforms. Applying suspicion (Ricoeur, 1976), I was able to understand the macrocontext and ways in which some specific tools were more controversial than Klamath leaders described them to be. The Klamath PIO contended that land reacquisition initiatives were a top priority, and agriculture groups opposing these initiatives would not intimidate the Klamath. Yet related ICT tactic tools (eg, strategy narratives for acquisition of publically held federal lands within the boundaries of the Klamath's pretermination reservation) were placed deep in websites on the land restoration page. Such placement allowed more committed users to access these ICT tactic tools, while concealing them from casual browsers who might sympathise with farmers competing to have those same lands opened for public cattle grazing. In contrast, less controversial tactics such as voter registration and fundraising were placed on the home page or near the surface of the website to support solution enablement through ease of access.

15 | USE OF ICT FRAMING AND TACTIC TOOLS OVER TIME

The website became denser with ICT tools over time. Version 1 featured 3 ICT tactic tools: strategy narratives, calls for help, and a success story. Version 6 featured links to 2 strategy narratives, 3 strategy updates, and an event announcement on the home page alone, with additional ICT tactic tools, such as an e-commerce page, placed throughout the version. The poster page of version 2 featured only 1 tactic tool, a partial strategy narrative featuring contact information for users interested in purchasing a copy of the official Klamath poster. This strategy narrative did not include an explanation of where the poster sale proceeds would go. In contrast, the poster page on version 6 featured a comprehensive strategy narrative teaching that funds raised would go to the Klamath Cultural Center and Museum building fund.

Notably, over time, more ICT tools were embedded and ICT tools were used to address a greater number of, and more diverse, economic and industrial objectives, each of which brought the Klamath closer to their human development objective of cultural identity restoration. The increasing sophistication of ICT tactic tools over time reflects the evolution of thought and growing emancipation of those creating the website.

16 | CHALLENGING PREVAILING ICT4D PRACTICES

Using ICT for social good is more complicated than one might expect. This unique case stands in contrast to prevailing practices described in the ICT for social good literature, specifically the ICT4D literature. Consistent with a critical approach, I now challenge prevailing practices in ICT4D projects based on what I learned from the Klamath case. Specifically, I challenge the practices of external leadership, technology gifting, and pursuit of instrumental objectives related to economic or industrial development rather than symbolic objectives related to human development.

First, I challenge the prevailing practice of external leadership in ICT4D projects. This practice suggests a lack of efficacy around the oppressed's ability to lead in the pervasive and oppressive postcolonial context. Observation of the Klamath's successful ICT4D project, which featured no outside leadership, suggests greater efficacy in the oppressed's abilities to lead ICT4D projects is merited. Freire's theories suggest that the oppressed not only can but should lead ICT4D projects when the goal is emancipation. In a postcolonial context, symptoms of trauma may be interpreted as problems rather than symptoms. The Klamath's unique understanding of their local context and macrocontext provided insight into the overarching problem the Klamath faced, allowing them to distinguish between symptoms and identify desirable solutions.

Freire asserted that the pedagogy of emancipation "must be forged with, and not for, the oppressed" and the "oppressed must be among the developers of this pedagogy" (Freire, 2000, pp. 48, 54). Referring to the oppressed, Freire (2000, p. 45) stated,

> "Who are better prepared than the oppressed to understand the terrible significance of an oppressive society? Who suffer the effects of oppression more than the oppressed? Who can better understand the necessity of liberation?"

The assertion that the oppressed should lead ICT4D projects is not intended to discourage nonoppressed who recognise that oppressive systems dehumanise them also. Indeed, Freire's theories depict an important role for the nonoppressed who would join the struggle. The role of the nonoppressed is one of a learner who would join the struggle through the oppressed-led emancipatory pedagogical process. The nonoppressed should recognise the seedlings of emancipation and nurture them through apprenticeship, cooperation, unity, organisation, and cultural understanding. To stand with the oppressed requires that the nonoppressed resist the urge to "treat the oppressed as their possessions" by willingly relinquishing their power to dominate (Freire, 2000, p. 126). Freire depicts traditional pedagogy as the "depositing" of facts or knowledge, turning the oppressed "into 'containers', into 'receptacles' to be 'filled'" (Freire, 2000, p. 72). In contrast, emancipatory pedagogy involves the oppressed and nonoppressed inventing and reinventing solutions through "restless, impatient, continuing, hopeful inquiry" together—as equals—with equal ownership of the struggle (Freire, 2000, p. 72). Only when the oppressed and nonoppressed engage in this way can true generosity prevail.

How though, if implementation of emancipatory pedagogy requires political power and resources the oppressed lack, can the oppressed lead prior to emancipation? This study reveals that the oppressed can harness the emancipatory functions of ICT—decreased constraint on authorship and influence (Miranda et al., 2016)—to requisition the power needed for solution enablement. Gifting of technologies was not observed in this case. While most ICT4D projects roll out expensive, complicated technologies, the Klamath were able to achieve much using one of the simplest, easy to use, and easy to access ICT, an organisational website. This suggests ICT affording autonomy may be of greater use to oppressed groups than ICT for which the oppressed must stretch out their hands, even if ICTs affording autonomy are less complex or fashionable. While there is a place for true generosity in the emancipatory process, generosity must be accompanied by praxis. Simply "depositing" technology into a postcolonial context will not lead to emancipation (Freire, 2000, p. 89) and may cause harm (Lin et al., 2015).

Another prevailing practice in ICT4D projects involves primary pursuit of economic and industrial objectives. In the 15-year period of analysis, the Klamath used their website toward solution enablement for a variety of such objectives, but each was approached as a step toward their overarching, human development objective, cultural identity restoration. When the Klamath advocated for greater water allocation to the Klamath Basin, the website featured ideological frames describing the connection between water levels, the survival of the culturally relevant natural resources, and aspects of Klamath cultural identity affected by those resources. Using this approach, the Klamath succeeded in a variety of instrumental outcomes such as negotiation of the KBRA and the Klamath Hydroelectric Settlement Agreement. The finding that the Klamath focused on a symbolic, human development objective suggests that the instrumental disposition of developmental agencies may reflect their status as nonoppressed. Another implication of the Klamath's instrumental successes through symbolic pursuits is that it might be easier to unite people around a symbolic objective.

17 | NORMATIVE RECOMMENDATIONS

The findings from this research and application of cyberactivism research reveal technical implications for Native American nations and other oppressed groups. While ICT framing tools enabled awareness, ICT tactic tools enabled solutions. Thus, neither ICT framing tools nor ICT tactic tools are sufficient. Another findings is that use of color, images, video, and text alignment enhanced frames. Placing noncontroversial ICT tools near the surface of the website may increase their impact. Placing controversial ICT tools deeper may allow more committed users to access those tool by navigating deeper into the website without alienating less involved users. Embedding documents or links to external websites can facilitate solution enablement. Interactivity features of ICT allow embedded ICT tactic tools such as online auctions or e-commerce pages, which can facilitate instrumental outcomes. In addition to ICT tactic tools identified in this study, cyberactivism research has identified potentially useful ICT tactic tools, ie, online petitions, statements from culturally legitimated theorists, digital platforms for contacting powerholders, information-sharing tools, and platforms for designing activism plug-ins and widgets (Yetgin et al., 2012).

Given the moral orientation of this research, normative recommendations must not only be technical in nature. Just as there are dark sides of ICT, there are dark sides of empowerment. Freire (2000, p. 45) warns that "almost always, during the initial stage of the struggle, the oppressed, instead of striving for liberation, tend themselves to become oppressors ...." In order for the oppressed's struggle to have meaning, critical reflection must not be abandoned after initial awareness. It should be noted that any groups—such as terrorist organisations claiming to be oppressed by dominant society—that proffer ICT tactic tools, which are oppressive, violent, exploitative, or unjust are not practicing emancipatory pedagogy. Emancipatory pedagogy can help the oppressed find power within themselves to liberate all, but groups seeking to use ICT-led pedagogy to requisition hegemonic power to reverse the roles of the oppressed and oppressors will not find in this power the strength to emancipate either (Freire, 2000).

17.1 | Contributions

Myers and Klein (2011) describe 3 elements of critical research: insight, critique, and transformation. First, this research provides insight through the identification of 7 ICT framing tools and 9 ICT tactic tools germane to the study of emancipatory pedagogy. I applied Freire's theories to depict the role of these ICT tools in the emancipatory pedagogical process. The model depicted in this manuscript synthesises prior IS research on cyberactivism tools with process theories of emancipation to sharpen understanding of how ICT framing and tactic tools bring about critical awareness and enable social change. The parsing of how ICT framing and tactic tools differentially affect the emancipatory process augments research on the ICT framing and tactic tools typology (Yetgin et al., 2012) and on ICT tools for social action (Selander & Jarvenpaa, 2016).

Second, describing a case where the oppressed successfully led an ICT4D project of their own volition, towards their ends, using the ICT that they deemed best, this study provides critique by challenging prevailing practices in ICT for social good projects. Research has demonstrated that ICT4D projects will not succeed without participation from recipients (Heeks & Kanashiro, 2009). Yet IS scholars found that the "powerful and pervasive" postcolonial context may prevent ICT recipients from being active participants in development projects (Lin et al., 2015, p. 698). Augmenting that finding, this research suggests that in postcolonial societies oppressive contexts combined with prevailing practices prevent participation by the oppressed and value realisation in ICT4D projects. The critical hermeneutic approach of this study allowed the Klamath's success to be viewed in historical, cultural, and social context, enabling contribution also to macroprocess theories around ICT4-human-D. In light of the observation that the primarily local orientation of ICT4D research has left a gap in understanding (Avgerou, 2008), this research answered the call for application of critical, postcolonial theories to develop macrolevel understanding (Lin et al., 2015) around ICT4D practices and processes.

Third, this research promotes transformation. The finding that ICT tools empowered a once marginalised group to take back control of their identity narrative contributes to understanding of how ICT can shape the public sphere. Researchers have highlighted the need for investigation into digital emancipation/hegemony by ideological groups

looking to recruit others to join their struggle (Miranda et al., 2016) and called for examination of the capacity for ICT to alter power relations and institutions in society (Castells, 2007; Yetgin et al., 2012). In doing so, this study reveals that an ICT can not only reflect the growing emancipation of developers but also provide tools for solution enablement and transformation at the societal level.

18 | LIMITATIONS AND FUTURE RESEARCH

Because of the nature of critical inquiry, I necessarily take a stance that supports one view and may be "unfair" to other views (Deetz & Kersten, 1983, p. 148). My critical approach necessitated that I stand with the Klamath and address moral and methodological issues simultaneously (Stahl, 2008). While this research cannot claim scientific neutrality, "because of the dialectic nature of understanding, research is never value neutral" (Deetz & Kersten, 1983, p. 150) and taking a value position is a fundamental principle of critical research (Myers & Klein, 2011). Examination of ICT tools for pedagogy by other groups seeking to recruit individuals to join their struggle is needed. Specifically, research examining ICT tool use by groups seeking to become or solidify their role as oppressors could have important practical and policy implications.

This manuscript describes a unique case where ICT tools were used for social good without conforming to prevailing practices. Further research examining the effects of external leadership, technology gifting, and human development objectives is needed to determine whether these practices may be helpful or harmful in other contexts.

I made every effort to be aware of my own "historicality" and reduce the "effective history" separating me from the website by immersing myself in the history of Klamath. Nonetheless, study findings are rooted in my cultural identity as non-Klamath and my likely ignorance of some meanings that might be evident to Klamath (Myers, 1994b). However, as an outsider, I may have noticed things an insider would not have found noteworthy. Further, despite cultural separation, the hermeneutic process allows me to understand the already existing, socially constructed world of the Klamath standing behind these websites in a deep and meaningful way (Lee, 1994). Triangulating interviews with Klamath leaders alleviate these concerns to some degree, but future research is needed to understand how other users experience the emancipatory pedagogical process and the role of ICT tools in the production of culture. Future semiotics research examining signs and symbols on websites would also be valuable.

19 | CONCLUSION

In the 1990s, anthropologists began to realise that technological innovations meant filmmakers no longer held a monopoly on identity representations of colonised groups (Ginsburg, 1994). Today, emancipatory functions of ICT enable even those with limited power and resources to take back control of their identity by using ICT framing tools to promote awareness and ICT tactic tools to promote solution enablement as ICT developers lead in the emancipatory pedagogical process. Despite the potential for ICT to be voice giving (Ferguson, Soekijad, Huysman, & Vaast, 2013), ICT4D projects can lead to devoicing of the oppressed (Lin et al., 2015), lending credence to the assertion that using ICT for social good is more challenging than one might expect. Notably, the Klamath used an ICT to make their voice heard by shirking prevailing ICT4D practices in their ICT4-human-D project. This case of oppressed-led development through emancipatory pedagogy serves as an example for other groups pursuing emancipation and reveals insights for developmental agencies seeking use ICT for social good and minimise "dark side" effects.

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