Equitable CITE Pedagogy: Putting it into Praxis – A Summary

By the CITE Equity Working Group, 2023

Equitable CITE pedagogy includes a set of **goals** that operationalize equitable processes and outcomes, an **approach to design**, and a set of **guiding design principles**.

See the extended version of this work **here** and interactive version **here**.

Goals - We hope CITE pedagogy can…	
Empower learners and communities	Support teacher candidates and learners to: ● **draw on their diverse experiences and community knowledge** as they develop digital and computational literacies and the cognitive and social tools needed for teaching and learning. ● use **computing and digital literacies for a range of purposes** meaningful to them and towards hopeful and just futures ● promote students' **critical consciousness** and **empowerment vis a vis technology itself** **Empower faculty** to learn and grow alongside students.
Promote joyful, meaningful learning	Support teacher candidates and learners to **experience joy, self-efficacy, success, and well-being**, from the CITE learning they take part in, even if not from computing or digital life itself. Joy and meaning can emerge in learning as students sustain flow states in their "zone of proximal development," make personal and social connections, and overcome challenges in the learning process.
Transform institutions towards justice	Help us learn together across differences – about each other, with each other and from each other – so we can **work towards solidarity and a shared mission**. Name historical institutional injustices and then work to **transform the parts of the system where we have control**, including the classroom and in our collaborations with colleagues. **Push back on white mainstream assimilative schooling**. Seek to **affirm, build on, extend learners' linguistic and cultural practices**. Some of us may be in positions to audit curriculum, policies, placements, and budgeting to ensure the institution has the **capacity** for computing integration, that all students have **access** to those integrations and **participate**, and that students' **experiences** are empowering and fulfilling (Fletcher & Warner, 2021).

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Our Approach	
	What does it mean?
Affirming, learner-centered design processes	• Employ frameworks for design of classroom environments that help educators **consider learners' intersectional, multi-faceted identities**, abilities, language practices, and experiences (e.g. universal design for learning, translanguaging, culturally responsive / sustaining educational frameworks) • Acknowledge and build on **learners' digital lives including by collecting and analyzing data about learners and communities,** considering holistic data sources. • **Build trust with diverse groups** of design collaborators • Meaningfully consult those who you're designing for in the design process, potentially through processes like **participatory design,** and by analyzing outcomes for different students and groups • Mitigate the **"tropes, traps and detours" that can challenge equitable design processes**.
Cultivating equity-focused mindsets	National Equity Project's "Liberatory Design Mindsets." Some to highlight: • Practice self-awareness • Recognize oppression • Seek liberatory collaboration • Work with fear and discomfort • Work to transform power
Design Principles	
	Selected Teaching Practices / "Moves"
Co-learning and co-constructing knowledge in communities	• Engage in protocols that encourage you and students to **listen to one another, ask questions, build upon each others' ideas,** experiences and work, and to **manage conflicts** that may come up (including taking responsibility for harms done). • Embrace vulnerability. **Model your learning journey around computing and digital literacies**, and share your own goals and challenges with students to invite them to do the same. • Provide opportunities for you and learners to **reflect on their digital lives**, including the risks and benefits of participating in online communities. • Encourage students to generate alternative solutions for **resolving tech issues together**.

	● When introducing a new tool, model how you tinkered and explored with it and **provide opportunities for students to explore and share back** what they've noticed and learned. ● To promote supportive community environments, **notice and facilitate conversations about power dynamics** when it comes to whose contributions are heard and whose knowledge is being privileged, especially when engaging topics related to technology and computing. ● **To improve your course design** and solidify your own learning, ask for student feedback on tech and computing-integrated activities and **implement that feedback in future iterations**. ● Make time to **celebrate wins and discoveries as a community,** throughout the learning process. ● Help teacher candidates reflect on the roles that **digital tools might play in helping them get to know and build community with diverse families and students**.
Supporting learner agency to tinker with, modify and create tools	● Ask students to **share about their prior experiences with technology and how they learn best** in tech mediated environments – including their communication styles, language practices, and strengths – without making assumptions ● Ask learners to **collect data about their own use of technology** in different contexts to critically examine their engagements with tools. ● Apply **principles of universal design for learning**, like using technology to support multiple means of engagement, choice, assessment, representation, action and expression. ○ Mobilize tech tools to promote students' **multimodal and multilingual participation** (e.g. use of reactions in Zoom, emojis / gifs / memes, music, sound, small and whole group interaction, translation tools, and collaborative tools like Jamboard, Padlet, and Nearpod). ○ Ensure **students have access to tools** before assigning their use. ○ Locate **supplementary resources for learning about tools** (including self-paced videos, podcasts, tutorials other multimedia). Try creating your own guided tutorials for students. ○ **Modify pacing** and other aspects of learning designs based on student input. ○ Help **students monitor their own progress** around computing and digital literacies by clearly sharing expectations, perhaps with rubrics, checklists, and specific guidelines. ○ Encourage students to **choose from among several tools, topics, and modalities to show their learning**. ● **Do any activities you expect students to do** and troubleshoot as needed.

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	• Support learners to **process the emotions that can come with taking risks** around computing or technology. Help students take on a growth mindset and leverage their strengths. ○ Discuss computing and design practices like “debugging” and “iteration.” Assure learners **it is expected and natural for errors to happen**, and to work out kinks in a first prototype. • Be aware of the **assistive technologies** your students might use to engage with course materials.

Centering creativity	• Ask students to **try out** digital / computational as well as low-tech, unplugged/off-screen **solutions for different situations and to solve different kinds of problems**.
	• **Showcase examples of diverse groups of people and individuals** creating technology for a range of creative purposes.
	• Provide time and space for teacher candidates to **engage with their identity, mindsets, issues relevant to their communities** by creating their own computational artifacts and digital projects.
	• When assigning creative projects to learners, **consider the balance of structure and agency**.
	  ○ Take care when providing fleshed out examples, which students may feel they have to copy.
	  ○ Provide **specific parameters** or options even for open-ended assignments.
	• Aim to **assess process, not just product,** and employ strategies for peer and self-assessment.
	• Provide learners **multiple chances to receive feedback and revise** their creative work, considering what “works” and what “isn’t yet working” given a project’s audience and purpose.

Vetting and critiquing tools, tech and tech cultures	• Design activities that **support teacher candidates to decide how and whether to use particular tools** and media in their (future) classrooms.
	• Remind students **they can decide what to share about themselves** in which digital environments. If an assignment encourages use of a tool that a student deems too risky, provide alternatives or ways to mitigate risk.
	• Faculty and teacher candidates can **research about and vet the tools and media they incorporate** into their teaching, considering their risks and potential impacts. Some questions to consider in that process:
	  ○ **Who** created the tool / media and for what purposes?
	  ○ **Does it have a cost?** If not, why not? (Keep in mind that sometimes tools sell user data to advertisers, and that free and open source are not always the same.)

	○ What kind of **privacy policy** does the tool have? What might be the risks to privacy of using this tool? How does this tool **collect and use user data?** ○ How is the tool / media **representing people of various racial, ethnic, gender, class groups, abilities, sexual orientations etc**? What kinds of messages might it send to learners of varying identities / backgrounds? ○ What kinds of **impacts** does or might this tool have on various groups, mental health, the environment, democracy / civic life, social relationships and so on? ○ **How might learners with different abilities** (physically, neurologically, psychologically) experience this tool or media? ○ **How might bi/multilingual students and families and those learning English** experience this tool or media? What language(s) are supported? What ideologies about language are advanced? ● Support teacher candidates to imagine **how they might modify the problematic aspects of an educational technology tool** or prototype a new one.
Mobilizing computing and digital tools for social action	● Consider these 5 action steps when developing students' critical computing literacies: **investigation, production, circulation, dialogue, and mobilization** (Lee & Soep, 2016). ● Structure activities that guide teacher candidates to use **digital tools to participate in civic life** and to do the same with their learners. ● Ask teacher candidates to **interpret graphs / charts / data that shed light on some aspect of an injustice** or an issue related to your course, and then to interrogate and **think critically about data sources**. ● Ask teacher candidates to **collect and visualize data about a particular issue** related to educational inequity or issues their learners face, and **develop presentations to real audiences to advocate** and make recommendations ● Showcase and model tools that teacher candidates might use on their own or with their students, for **digital storytelling or solving problems related to issues they care about**. Share personal experiences about a social or educational issue by creating a digital photo essay, video, game, animation, storymap or other interactive media. ● Support teacher candidates to use computing tools (e.g. social media) to **organize and advocate for a cause relevant** to your subject area, to education, or to learners and their communities.

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Adopting expansive notions of learning	• Foster an atmosphere of **open-mindedness about what counts as a valued digital and/or computing literacy**, and how these might be defined and/or applied. • Support teacher candidates to **investigate where computing and digital literacies show up in their communities, everyday life, and in various academic and intellectual communities**, and to support their students to do the same. • Value and **encourage students' personal goals around computing** and tech as much as course goals. • Leverage digital and computing literacies to help you **research and share perspectives that might be marginalized in your discipline.** Practice citational justice by paying attention to who gets cited in and credited for the work you share with students, and who gets overlooked. Learn more at #CiteASista. • Draw on **wider and more expansive, multimodal sources of knowledge**, especially those that emerge from marginalized communities and may be devalued by dominant forms of schooling and/or may exist outside institutions. • Ask teacher candidates to **explore media and computing projects created by diverse groups of people** for various purposes, and to **use these as mentor texts** for their own project-based learning and curriculum design. • **Invite members from local organizations, families, small businesses and cultural institutions** willing to talk to your students about the ways they mobilize tech and computing • Develop **holistic assessments** that provide students with choices regarding what topics they explore, how they show what they know, what tools and media they use, what language they employ, what audiences they want to reach.