



DISTANCE EDUCATION FOR TEACHER TRAINING:

Modes, Models, and Methods

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Section I. Chapter 7

SUMMARY—MODES AND MODELS OF DISTANCE EDUCATION

Distance learning has evolved from the model of the solo learner, like Margaret in the Foreword of this guide, to a community of learners engaged in a common pursuit.

Section I of this distance education guide has focused on *modes* of distance education for teachers and on *models*—the paths, intentions, contexts, and conditions under which these distance education modes are enacted. In so doing, Section I also has discussed many of the shifts in and convergences among *audiences* (teachers, students, teachers, *and* students) and content *formats* (audio, multimedia, visual) and the benefits and challenges of each mode of distance education for teacher education.

Several themes regarding distance technologies emerge from and undergird the previous chapters.

Technology underperforms in the short run and overperforms in the long run. Despite the excitement associated with newer technologies, there is often little research demonstrating their effectiveness. The teaching and learning benefits of technology take time to accrue as users, designers, managers, and instructors learn how best to fit technology with distinct types of instruction and researchers accumulate an evidence base. This process is neither linear nor rapid and often requires much trial, error, revision, and redesign. Not surprisingly then, some of the most successful and high-performing technology tools are older technologies, such as interactive audio instruction, Computer Aided Instruction, and instructional television.

There is a strong evidence base in many types of distance technologies. In continuation of the above point, the research and evaluation base on

distance technologies has expanded significantly in the past decade. This is in part due to a growing recognition within the education community about the need to determine and ensure quality and for greater scrutiny around the rapid adoption of distance technologies with their “often-high costs and claims about potential impact” (Escueta et al., 2020, p. 899; Pouezevara et al., 2019).

The research base around more established and incumbent technologies, such as Computer Aided Instruction or certain forms of online learning is increasingly robust. Newer technologies, too, especially those situated at universities, such as MOOCs, mixed reality, and simulation software, have also benefitted from a growing evidence base. That said, this research expansion is not universal (e.g., mobile technologies still are relatively undertheorized); much of the research is observational (as in the case of online learning); much of the research ignores technology for teacher learning (particularly in the case of multimedia); there is often major publication bias (publishing what works versus what doesn’t); and not every intervention can be evaluated. But the expansion of research is promising, and we should anticipate more such evidence as researchers and practitioners reflect on distance learning during and following COVID-19 pandemic school lockdowns.

There is great untapped potential for teacher professional learning. Many of the technologies discussed in the previous chapters are designed primarily for *student* learning, with far fewer for *teacher* learning. Yet they may also hold multiple

untapped benefits for augmenting teachers' knowledge, skills, and attitudes. Distance education designers can incorporate teacher needs into distance offerings thus ensuring that the use of these technologies simultaneously enhances teacher skills as it educates students. For instance, simulation and mixed reality programs could bolster teachers' instructional and classroom management skills before they arrive at their pre-service practicum or very first teaching assignment. Interactive television programming could incorporate deliberately designed activities directed at teachers to improve their content and pedagogical content skills as it helps students master content.

Rapid technological changes in modes of distance education delivery are redefining distance education. Writing about technology—and by extension distance education—is difficult, for it is in a constant state of change. These changes are erasing concepts such as “distance,” redefining notions of “learning” and “education,” and compelling learners and their instructors to interact, learn, and work in previously unimaginable ways (Santally, 2016). Learning, even at a distance, means that institutions, administrators of distance education programs, distance instructors, and distance learners (both pre-service and in-service teachers) must reexamine how and where learning occurs, their roles and daily tasks within an ever-shifting technological and learning environment, and, by extension, how teaching and learning occur in the classrooms they manage.

Distance education has shifted from input- to outcome-based professional development. Traditional distance education, particularly print and broadcast media, often focused more on seat time (hours), knowledge transmission, minimal interaction between learners, and declarative knowledge gains measured by traditional assessment. This has changed dramatically as distance education is increasingly geared toward more learner-centered outcome-based experiences focused on teachers' competencies,

dynamic knowledge creation and sharing, and flexible assessments. The role of distance instructors has changed too as instructors increasingly operate as guides versus sole purveyors of information.

Distance education continues to shift from a static to a dynamic model that accommodates new educational and vocational contingencies and learner needs. As seen in the previous chapters, distance learning has been rapidly transformed as a result of the evolution, proliferation, and convergence of networked and wireless technologies and platforms, and the new types of interactions that such progression make possible. This confluence has brought new awareness of how learning experiences, instruction, and support must be structured within a distance learning model; how instructors and learners act and interact within a distance learning environment; and how technology can or should be used to support such shifts.

The most successful distance education models have moved from the model of the solo learner to one based on learners as part of a community. Distance learning has evolved from the model of the solo learner, like Margaret in the Foreword of this guide, to a community of learners engaged in a common pursuit. Learners are most enthusiastic about technologies that connect them with a community of peers. This focus on the need for community and community formation has become a hallmark of an increasing number of distance education experiences and will be explored in greater detail in the following section of this guide.

Technologies for teacher education are becoming increasingly fungible. Bates (2021) asserts that more than one mode of distance learning can produce roughly equivalent experiences, given sufficient imagination, time, and resources. Almost all distance technologies can scale professional development opportunities to teachers to allow more teachers to participate in high-quality professional learning. More importantly, distance

technologies can complement one another and expand the learning universe for teachers. Thus, when used together, as is increasingly the case, distance technologies can differentiate professional development offerings according to teacher needs; connect teachers to colleagues they know and those they don't; provide distance-based support and coaching; and offer ongoing and on-demand professional learning at a time, place, and pace that is convenient to teachers, provided they have a cellular or Internet connection (Burns, 2021).

Robust design can mitigate teaching variability.

In environments where many teachers lack sufficient content knowledge and pedagogical ability, highly structured digital and analog tools can mitigate inferior quality instruction. Scripted lessons, instructional television, interactive audio instruction, Computer Aided Instruction, virtual classes, radio lessons, and educational apps all have proved to be effective and engaging vehicles for standardize quality instruction and ensuring students' educational attainment in foundational skills (Fabregas, 2019; Pitchford et al., 2019).

Distance education should be part of a formal education system. The lessons of the COVID-19 pandemic school closures argue for a well-developed distance education system that is integrated, not peripheral to or parallel with, the overall education system. Developing and integrating distance learning into existing educational systems has implications for instruction, instructional design, content, support systems, the preparation of distance instructors and learners, and changes to the curriculum, content, assessment, infrastructure, teacher professional development, and how

programs evaluate their effectiveness and assure quality.

Distance education can no longer be a "nice-to-have" educational system on the periphery of the formal education system. Rather, as the COVID-19 pandemic school lockdowns and emergency remote learning highlighted, distance learning is a "must have." It must be viewed as an essential education pathway, and planned, integrated, and resourced accordingly so it is part of the overall teaching and learning system in a country, region, or province.

Distance technologies are one piece of the distance education ecosystem. While the technologies used to support teaching and learning are important for a well-functioning distance education program, more critical for teacher learning are the *type* and *quality* of instruction offered with and through these technologies, the quality of content, the design of learning and how that learning is assessed, and rigorous evaluation and quality assurance mechanisms that guarantee relevance, quality, and utility. Distance technologies will not compensate for poorly designed and taught distance courses, rather they will metastasize them, spreading educational mediocrity through the system. As the next section will emphasize, as they do in in-person learning, good design and instruction matter as much, perhaps even more so, in distance learning.

The above points summarize the preceding chapters of Section I of this guide. They also frame the remaining chapters of this guide, as Section II focuses on "best" or optimal teaching and learning methods across all modes and models of distance education.

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