'How it started/how it's going': Aligning Teacher Educators' designs, approaches and identities in our new online reality

Paula Antoinette Gowdy, Jaime Pizarro Aura, Danisa Thamara Salinas
Universidad Andres Bello, Santiago Chile.

Abstract

E-learning scholars have long predicted the conversion of conventional education to online learning spaces. That conversion has now happened. Regardless of what occurs in a post-pandemic era, teaching and learning will never be the same. Where does that leave teacher educators (TEs) who grapple with how to best prepare future teachers for the new era? The aim of our research was to determine the impact of supporting a small group of Chilean TEs in re-designing their online instructional approaches by aligning them with contemporary learning theories and goals. In the Chilean context, prior to the pandemic, e-learning was still on the periphery, and transitions from teacher-directed approaches had only just begun. In this 10-month qualitative inquiry, we focused on the TEs experiences online as they adopted sociocultural-based, 21st century instructional designs, and implemented strategies intended to promote agency and engagement in their students. The TEs long-held teacher-centric identities and approaches sometimes interfered in this trajectory. Yet, their heightened critical awareness of the ineffectiveness of traditional teaching paradigms in online settings combined with their grounded efforts and perseverance, resulted in positive evidence of 'real'change to their designs, practices and identities – changes many have been seeking in educational systems for some time.

Keywords: Teacher education; online learning; sociocultural-based instructional design; identity; 21st century principles.

1. Introduction

> "*Nothing has to stay the way it is…Anything that seems set in stone or inalterable can indeed change.*"

> (Angela Merkel, address to Harvard University graduates, 2019)

The world irreparably changed in 2020. Nowhere is this more evident than in the contexts of health and education. In both areas, front line workers have had to make adaptations to their daily practices that have had serious consequences for many people. Yet, it is upon these individuals that the weight and responsibility has fallen to react at the ground level. In the field of education, with more than 1.3 billion students worldwide out of school (UNESCO, 2020), teachers have been scrambling to find ways to ensure that formal learning continues. TEs have had the added burden of grappling with preparing pre-service teachers (PSTs) for a future reality post pandemic that is yet unknown. This dilemma is being faced where both PSTs and TEs, like many others, struggle in online spaces for the first time. In 2019, Angela Merkel, the well-regarded Chancellor of Germany, could not have foreseen the current situation, but her words cited above certainly warned us of the impermanence of systems, even notoriously resistant ones, such as education.

An abundance of research documenting the educational challenges in this new evolving reality is just beginning to appear (Scull *et al*. 2020). Despite the volume of emerging scholarship, relatively few theory-based studies are reporting on the experiences of TEs and the implications that the 'new world order', or 'dis-order' is having on their practices. Given these unprecedented global events, many questions arise about the future of education. Where will teachers practice? Will it be online or in a blended scenario? Or if face-to-face, will their conventional practices suffice in the new world? Will the boundaries between formal and informal learning become even more blurred? In recent World Economic Forum reports (Scheleicher, 2021) those deliberating these questions and the future of education predict a more human-centred system, where digital literacy, adaptability and resilience will be key. The responsibility falls on TEs to model these qualities and the practices that promote them.

Considering the educational realities in 2020, the aim of our research was to examine the impact of supporting TEs in re-designing their practices online as they aligned them with contemporary learning theories and goals. We focused on a small group of Chilean TEs as they taught PSTs online for the first time. The following questions were formulated to guide the study:

1. From the perspective of this small group of TEs, in what ways were their teaching practices unsuccessful in transitioning to an online scenario?

2. What impact, if any, does a more human-centred and learner-centred design have on these challenges?

3. In the TEs views, what influence do these changes have on the way they see their roles, their own identities, and practices as educators?

2. Implementing contemporary theory and goals in online learning designs

For over two decades, scholars working in the area of technology and learning have extolled the potential of technology to bring about much needed change in higher education (Garrison & Kanuka, 2004) while some, like Prinsloo (2016) acknowledge major dissention and disappointment. From this debate coinciding with emerging global discourse around 21st century learning goals, online learning is proving to lead to multiple benefits - increased learner engagement, self-directed learning and regulation skills, creativity, and critical thinking (Charbonneau-Gowdy & Chavez, 2019). Adinda & Mohib (2020) have shown that such benefits are not an automatic result of the various affordances offered by technology, but rather dependent on the essential epistemological conformity that exists between instructors' professed approaches and their actual practices in online spaces. It is not enough to espouse 21st goals and contemporary learning theory in online learning spaces, if instructors' *designs* and *practices* fail to promote agency, social cognitive presence, and identity empowerment (Smith *et al*. 2016), reflective of these theories and goals. Thus, in the case of TEs teaching online for the first time, the confluence of their instructional designs, approaches and practices in online spaces had serious implications for the profiles that PSTs mediate and their future effectiveness as professionals in the aftermath of the pandemic.

Essentially, instructional designs based on sociocultural perspectives place emphasis on the roles of learners, their agency and the kinds of identities as learners they mediate in the learning context. These social learning/learner-centred designs are rooted in Vygotsky's (1981) groundwork to establish the critical implications of social interaction to higher order thinking. These designs often reflect 21st century learning goals, project-based learning, problem-based learning as well as adult learning principles (Garrison, 2017). In online environments, learner-centred designs are distinguished by a focus on knowledge building, support for interpersonal interaction, freedom of choice, opportunities for mentoring and feedback, access to a variety of educational and technological resources. Teacher-centred designs focus primarily on content configurations and textual management tools (Adinda & Mohib, 2020).

In a recent study, Margarayan *et al*. (2015) assessed and compared the instructional design quality of 76 Massive Open Online Courses (MOOCs). Their findings revealed that most of these courses fared poorly based on the assessment of their instructional designs. Of interest to our study was the framework built on key instructional design theories and models (Merrill, 2013), that the authors used to assess the quality of the online courses and the design approaches that supported them (p. 78-79). We found the framework and the key questions

used in their analysis (p. 80-81) applicable to our study and a way to concretize the sociocultural perspectives. Their study allowed us to draw inferences as to the causes of the challenges that the TEs were facing in their practices in our own inquiry and with this knowledge work towards design solutions.

3. Methodology

3.1. Employing a design-based research approach

A design-based research approach was used in the study. Design-based research is considered an emerging methodology, connected closely with educational contexts and involving teachers' situated use of Information and Communication Technologies. Typically, the research involves multiple iterations and collaboration between researcher(s) and practitioners and has a pragmatic influence on practice (Anderson and Shattuck, 2012, p. 16–18). In the present study, there were two iterative cycles coinciding with the two semesters in 2020 in the Chilean context.

The *first iteration*, from March to July 2020, served for analysis and exploration: analyzing the challenges TEs faced in online courses and exploring changes to strategies and course designs. Community-building strategies were considered a priority and included: TEs contact of absentee students, personal images/photographs and videos posted on course web environments in the pre course period and sharing of stories and interests in initial synchronous sessions. Increased opportunities to build student agency were planned, for example, group projects, pair work and involvement of students in assessment processes.

In the *second iteration*, from August to December, substantial design changes were constructed by TEs in their individual courses. Ways to operationalize the designs into practice during the semester included for example: using short "micro teaching chunks" instead of lecturing to teach content; exploiting discussion forums and learner-generated materials for teaching, building critical thinking and improving skills and knowledge; increasing feedback (peer and teacher); co-constructing rubrics with students; initiating group assessment; use of authentic material, flipped classroom scenarios and critical thinking discussions in synchronous sessions.

These two iteration cycles were followed by a period of reflection and evaluation through TE and PST interviews and online conversations with the researcher.

3.2. Context and Participants

The study took place in 2020 with a group of 4 full-time Chilean teacher educators, 2 males with 35 and 31 years of teaching experience and 2 females with 9 and 38 years of experience, plus a researcher. The TEs were teaching a variety of course subjects to 17 first year

undergraduate students enrolled in the English pedagogy teacher preparation program. Thus, neither the majority of students nor the TEs had ever met one another face-to-face. The courses included: Phonetics, Language in Use, Writing, Reading, Speaking and Listening.

In Chile, one of only three members of the OECD in Latin America, the advancement of English is considered a major priority of government. Despite economic stability, the country's system of education is still evolving to meet higher educational standards reflective of developed countries - a goal that many say will be determined by the quality of its teachers. Most HE students are first generation and from clearly divided socio-economic backgrounds. Obvious disparities exist in terms of access to IT resources and the cultural capital students bring to their study programs.

3.3. Data Collection and analysis

Qualitative data tools used as data sources included: both mid and end-of-year TE and PST interviews, a student questionnaire, observations of digital teaching environments and field notes. The field notes consisted of a) recorded data from six hours of Zoom design conversations between TEs and the researcher and b) student year-end reflective self-assessment portfolios (*n=17*). A student questionnaire after the first semester gathered feedback from student PSTs about their experiences online during the first cycle of the study.

Data was analyzed using a combined inductive-deductive process (Miles *et al.*, 2014). After establishing a conceptual framework, a series of iterative steps were taken that included: I) inspecting the data sets for data that could inform the research questions, ii) multiple readings and considerations of the data sets, iii) condensing and coding the data for key concepts and ideas that related to the theoretical framework and literature review; iv) identifying and refining salient or common themes from coded data; v) forming a conceptual framework that could be corroborated by findings. Open communication between TEs and the researcher allowed for cross-referencing and added to the reliability and validity of the findings.

4. Analysis and Findings

In analyzing the abundant data from the various data sets of our inquiry, two key overarching themes were uncovered: 1) initial status quo designs and their impact on the practices, roles, and identities of TEs and PSTs and 2) TE's changing designs and the impact on their own practices, roles, and identities. A deeper analysis of these themes revealed that the transition from one design to the other had an important influence on practice and identity.

4.1. Impact of status quo designs online on practices, roles, and identities

When the directive came from above for TEs to conduct classes online on the institution's Blackboard system, Consuelo, Rosario, Javier and Héctor were faced with teaching a new

cohort of 1st year PSTs in a virtual space for the first time. All TEs reported that they were understandably *concerned*, *fearful*, *lacking in confidence* and *self-efficacy*, *overwhelmed*, and even *bored*, yet determined "to try to do our best" (Javier, 1st Interview). Each of the TEs reacted quickly to attempt to understand the technological tools, the multiple affordances available with these tools and their limitations, and to apply each of their well-established personal instructional design frameworks for teaching the course. These designs were for the most part content-centred, information-driven and teacher directed, evident in the reliance on teacher-chosen and created course materials, lecturing and classic assessment formats. As Javier remarked reacting to a student questionnaire comment: "We gave everything to them. We are like mothers and they [PST students] are like children" (2nd Interview) illustrating the control and responsibility that TE's typically held for learning. In response, the PSTs showed increased absenteeism, boredom, and a reluctance to engage - cameras and microphones were kept off and there was little student activity on course websites. Ironically by the end of the first semester, when their preoccupation to engage PST students had met with little change, all four of the TEs reported feeling a loss of control and a sense of disempowerment. In response to his failed efforts to elicit discussion Javier remarked at the end of the semester: "I gave up!" (1st Interview).

At the same time, the TEs' traditional designs and practices had a significant impact on the PSTs on several levels. In reaction to the lack of personal contact and teacher-controlled practices, many students revealed feelings of *stress*, *being overwhelmed*, *unmotivated* and *anxious*, feelings that were confirmed across multiple data sets. In synchronous classes, the PST's refused to open their cameras or use audio; only a few would add comments to the chat. Many were absent as the semester progressed and some appeared only for assessments. The behaviours and sentiments uncovered from the various data sets indicated that there was a shared sense of disempowerment both on the part of TEs and the PSTs.

4.2. Contemporary learning theory designs' impact on practices, roles, and identities

After analyzing the emerging data from the first semester, the TEs felt: "forced to make changes and rethink our effectiveness" (Rosario, 1st interview) and to move *beyond their comfort zones*. In team collaborations with the researcher, they began to initiate an about-turn in their course designs. These new designs entailed new practices based on key features and proven instructional principles for effective 21st century-based online learning (Margaryan *et al*. 2015). In Javier's phonetics course, students posted explanations of their pronunciation issues and sought *feedback* from classmates, thus *building on their own existing knowledge* and *co-constructing new skills*. In all four courses, *authentic materials* were implicated – for example, invitations to faculty webinars offered by experts on "real teaching issues"; social media materials replaced Power Point presentations; reading assignments on current world issues replaced textbook content. *Critical thinking* was promoted in a variety of ways. In Rosario's course, students shared their assignments with

classmates to analyze mistakes and recommend improvements. Mind maps in reading served a similar purpose in Consuelo's course. Javier *significantly altered his assessment practices* – students in groups were challenged to spot transcription errors in authentic text rather than completing individual multiple-choice tests. In Javier and Héctor's courses *students took on the role of expert* by *collaborating* in groups *to create* and present chunks of theoretical content and involve classmates in related activities. Online forums organized by Javier encouraged students to *share opinions and expertise* and to *problem solve*.

These new instructional practices were accompanied by and supported *building community* online - increasing *group work*, sharing personal stories and peers helping peers. Together they had important implications for the TE's roles and identities. As instruction became increasingly a shared responsibility, they began to assume the role as guides and facilitators, rather than lecturers. Javier noted: "I used to be in front of the class teaching them the main principles of phonetics and then practicing. This time it is flipped." (2nd Interview). His words reflect an emerging image of the TEs moving from the front of students to their sides, and assuming identities as trusting team players focused on working and learning together. Increasingly over the semester, the TEs portrayed identities as professionals that were characterized by confidence, creativity and resilience, identities that were acknowledged by the PSTs. Regardless of the TE's recognition that there was still much progress to be made, they also were aware that the changes made were irreversible. Rosario declared emphatically: "Even when we go back to onsite teaching, I will definitely not teach the same way I used to teach before this period of online teaching. I will definitely be moving away from my comfort zone all the time." (1st Interview). It is worth noting that in Hector's final class, all cameras and microphones were turned on.

5. Conclusion

Our findings provide clear evidence that there are solutions to the chaos and disruption in education presently. The findings of our study indicate that TEs can help lead that charge. The process began with the TEs recognizing that applying their well-honed conventional practices in their online courses led to unresponsive, disengaged, and discouraged PST behaviours and few signs of learning (RQ1). In response, the TE's took unusual steps to adopt new practices aligned with contemporary learning principles. Moving progressively from teacher-controlled to learner-driven practice in the new online setting resulted in promising signs of self-directed, creative, critically thinking, and responsible students, driven to learn and be collaborative (RQ2). As for the TE's, their bold steps to connect theory to their designs and practice required confidence, courage, creativity, and resilience. These indications of new professional identities were accompanied by 21st century teacher roles as trusted learning guides and creators of strong learning communities (RQ3). Despite the limited size of the study, the encouraging results call for further research in this area and in broader contexts.

This pandemic has caused many of us to see our ordinary practices, through new eyes; this study has evidenced the advantages of exploiting this opportunity for finding answers to the educational challenges that for so long have alluded us.

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