Identity Alignment and the Sociotechnical Reconfigurations of Emotional Labor in Transnational Gig-education Platforms

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Abstract

Teaching has often been characterized as a "labor of love." Despite their passion, teachers often find themselves underpaid and unrecognized, leading them to engage in taxing emotional labor. Emotional labor in traditional educational settings is not new. However, teaching as online gig work has become increasingly data-driven and transnational. With the burgeoning popularity of online educational industries in China, U.S. teachers are entering the transitional gig economy to teach students, parents, and educational standards in cross-cultural contexts. Based on 24 semi-structured interviews with U.S. teachers who worked on Chinese gig-education platforms, this paper documents their challenges and how such platforms reconfigure their emotional labor, enabling them to reaffirm their identities as teachers and caregivers and rekindle the passion that gave their lives purpose and meaning. However, these platforms, underpinned by Chinese cultural values and data-driven technologies (e.g., datafication, algorithms, and surveillance) — which we dub *transnational emotional computing* — demand emergent forms of emotional labor with which participants must contend. This work contributes to a human-centered conceptualization of *identity alignment* and carries theoretical and design implications for the future of transnational gig platforms, especially for cross-cultural digital knowledge labor.

Keywords: Gig Platforms, Digital Labor, Emotional Labor, Crowdwork, Surveillance, Identity, Datafication, Algorithms, Online Education, ICTD, China

1 Introduction

Gig work is defined as economic activity in which workers generate income outside of traditional and institutionalized long-term employment arrangements. In recent years, the gig economy has emerged as a robust marketplace for "crowd work" and "work-on-demand via app" (De Stefano, 2015). In this new economic labor system, digital platforms, or "gig platforms," now intermediate workers and clients, facilitating entrepreneurial activities and labor tasks (Lampinen et al., 2018). Popular location-based gig platforms like Uber, Lyft, GrubHub, and TaskRabbit manage transportation, food delivery, and manual labor. Gig platforms like Upwork and Amazon's Mechanical Turk (MTurk) supervise remote, location-independent tasks. The gig economy enables global society to function.

Although the gig economy is a global phenomenon, scholars have predominantly addressed their uses and implications in Western contexts. They have paid less attention to the rise of gig platforms in the Global South (Dillahunt et al., 2017) or the transnational quality of gig platforms as they migrate across borders and mediate intercultural relationships. China, specifically, is one of the largest gig economies in the world (Wang and Xing Jiang, 2022). However, Chinese platforms and their impact on our global society are often overlooked in HCI and CSCW scholarship (Dillahunt et al., 2017). Our research examines how transnational gig platforms, developed outside the Western context, mediate relationships and interactions between Western workers and consumers.

Identity (Goffman, 2006; Butler, 2002) has been conceptualized as a self-concept (Gecas, 1982), a social construct derived from group membership (Tajfel, 1974), and a product of interactions (Bucholtz and Hall, 2005; Goffman, 2006; Hotho, 2008). Erving Goffman demonstrated how individuals manage their identities by expressing or suppressing aspects of their selves based on their perceived audience and sociocultural context. According to Arlie Hochschild, this Goffmanian process involves emotional labor or "the management of feeling to create a publicly observable facial and bodily display" (Hochschild, 2012). To explore what teachers express or suppress in the U.S. K–12 education system and gig education platforms, we draw on concepts of identity and emotional labor to understand how teachers regulate their emotions while interacting with stakeholders including students, parents, and other family members. Additionally, we consider how such challenges influence their professional identity and well-being.

In this article, we also research the transnational gig economy through Chinese gig education platforms, which have recently migrated to Western contexts. Increasingly, traditional kindergarten through 12th grade (K–12) teachers in the United States use these gig education platforms to generate extra income or as a new career. Teachers present a unique population for exploring gig work. Teaching is often framed as a labor of love that requires great sacrifice in the United States. That is, teachers are

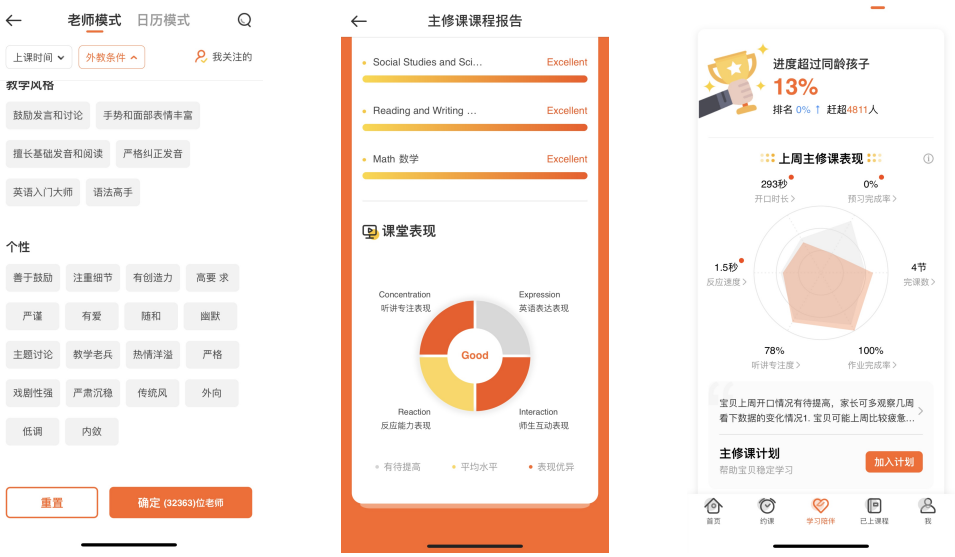
poorly paid and expected to provide wide-ranging support services for their students outside of their job description. Teachers are expected to prioritize the needs of their students and the educational institutions they work for over their individual needs. This sacrifice requires significant emotional labor, meaning teachers suppress their own emotions to appease others, such as students and parents (Hochschild, 2012). Teachers must negotiate burdensome social and bureaucratic demands, ranging from resolving student behavioral issues to buying their own classroom supplies (Macdonald, 1999). Moreover, K-12 teachers can be subjected to physical and emotional abuse in educational environments (Espelage et al., 2013) from students, parents, and colleagues (Mcmahon et al., 2014), which can severely impact their emotional well-being (Sutcher et al., 2016). As such, in the U.S., 8% of teachers leave the profession annually due to dissatisfaction with poor teaching conditions (Sutcher et al., 2016) and low compensation (Stinebrickner, 1998)(Shen, 1997).

Drawing on interviews with 24 U.S. K–12 teachers who work on Chinese gig education platforms, this research aims to understand the difficulties teachers encounter navigating the U.S. educational system and using gig education platforms. We utilize a research framework that unites concepts of emotional labor (Hochschild, 2012) and postcolonial computing (Irani and Dourish, 2009). It offers a situated and qualitative perspective on how gig platforms reconfigure participants' everyday emotional labor and demand new forms of emotional labor in the context of transnational knowledge-based gig work.

Our research confirms that in traditional environments, teachers perform emotional labor that taxes their professional and personal lives. As their labor is reconfigured in positive ways through gig education platforms, teachers can reclaim their sense of purpose and identities as educators. However, teachers must also contend with emergent forms of emotional labor introduced by online gig education platforms. We discuss the sociotechnical nature of transnational gig education platforms by introducing the concept of *transnational emotional computing*. This concept names the shifts in identity that occur when computing systems invite questions that spur individuals to rebuild their relationships with themselves, other people, and societal systems (e.g., labor markets). We show how the underlying mechanisms of transnational gig education systems reconfigure people's emotional labor and identity performances. Additionally, we engage with decolonial and postcolonial scholarship to discuss the politics of transnational gig education platforms. We challenge the prevailing design paradigm for computing systems by demonstrating how Chinese-designed gig platforms could normalize educational worldviews, perpetuate colonial mentalities, and establish a hegemonic platform identity. We conclude by advocating that researchers and designers prioritize the development of systems that resonate with workers' self-concept and their intrinsic motivations to engage in work, a concept we term *identity alignment*. This, we argue, holds promise for fostering more equitable working futures.

1.1 Background

In recent years, many gig education platforms have emerged, several of which have been designed in China, such as GoGoKid, Whales English, and VIPKid. In 2013,



(a) "Teacher mode" page (b) "Major course report" page (c) "Performance in major courses last week" at homepage

Fig. 1: The VIPKid Mobile Application Interface: (a) allows students and parents to select teachers based on categories such as gender (presented dichotomously), teaching experience, teaching style, personality, and availability; (b) shows how VIPKid uses self-determined metrics to quantify students' online class performance based on terms like concentration, expression, reaction, and interaction (e.g., concentration levels are calculated based on how long the student faces the camera). Employing gamification tactics, (c) shows parents a highly quantifiable and automated report of students' performance.

Chinese businesswoman Cindy Mi founded VIPKid[1]. It is the biggest platform of its kind, facilitating qualified North American teachers delivering one-on-one livestreamed English lessons for Chinese K–12 students aged 4 to 15. As of early 2020, the platform had a user population of around 800,000 students and 100,000 teachers. Teachers at VIPKid are hired as independent contractors and paid $14–18 per hour. Chinese parents, along with support teams hired by these companies, facilitate the online education process. The support teams, frequently undervalued and labeled as "AI," typically consist of migrant workers from less-developed Chinese cities. These workers enhance the platforms' capabilities, fulfilling the promise of automation. For example, "firemen" (*jiaowu laoshi* 教务老师) are available to help teachers address problems that arise during teaching. Learning partners are also hired to communicate with parents and help them by booking courses and recommending teachers.

[1] If the U.S. Won't Pay Its Teachers, China Will. https://www.bloomberg.com/news/articles/2016-12-19/if-the-u-s-won-t-pay-its-teachers-china-will

Importantly, Chinese-developed gig education platforms are also influenced by geopolitical tensions between the U.S. and China, and China's domestic regulatory policies. For example, in 2021, several platforms, including VIPKid and GoGoKid, paused operations in China due to new government regulations that banned private tutoring lessons with foreign educators[2]. These regulations were a part of China's broader "double reduction" policy aimed at reducing academic pressure on students and financial pressure on families. The policy abruptly ended the ability of platforms to offer classes with foreign teachers based abroad, disrupting the work of thousands of online teachers and creating financial uncertainty. They had to explore work alternatives such as using VPNs or seeking other similar part- or full-time job opportunities outside of China. This regulatory shift also accelerated some companies' international expansion efforts. For instance, VIPKid began focusing more on forming partnerships with U.S. educational organizations like BookNook. They also launched a "global platform"[3] to retain U.S. teachers and extend its reach to English-learning students in Global South countries beyond China. These shifts underscore the precarious nature of transnational gig work in education, highlighting the interplay between global geopolitics, national policy, and workers' livelihoods in the global digital economy.

2 Literature Review

This section is organized into three subsections. We begin with an explanation of identity and discuss the significance of the concept of emotional labor in teachers' identity performances. We then explore the relationship between gig platforms and education. After discussing research on gig work in Western contexts, we emphasize the importance of alternative transnational contexts. The third subsection then highlights how transnational gig platforms affect the reconfiguration of emotional labor, migration of values and politics, and emerging power tensions. The literature review thus introduces the concept of emotional labor, explores how this concept interacts with gig platforms and education, and then (from a postcolonial perspective) analyzes how transnational technology reconfigures these dynamics.

2.1 Emotional Labor in Performing Identity and Marginalization of K-12 Teachers in the U.S.

Researchers have conceptualized identity in multiple ways (Goffman, 2006; Butler, 2002). Gecas understood identity as a self-concept—either the representation of a person that others believe them to be or how an individual sees themselves (Gecas, 1982). While identity is often an individuated concept (Erikson, 1968) for many people, it is also a social construct generated through perceived membership in a social group (Tajfel, 1974). For example, our self-identity is defined through our occupation, social class, gender, sexuality, race, and ethnicity. Identity can also be viewed as an emergent product of interactions (Bucholtz and Hall, 2005; Goffman, 2006; Hotho, 2008). In his formative work, Erving Goffman (Goffman, 2006) argued that identity is constructed in the social settings in which we are embedded. He developed this view

[2]http://www.moe.gov.cn/jyb_xxgk/moe_1777/moe_1778/202107/t20210724_546576.html
[3]A New Chapter For VIPKid https://blog.vipkid.com/a-new-chapter-for-vipkid/

through a dramaturgical lens, arguing that people draw on extant rules and norms of their social settings to perform their self-identities. Thus, self-identity emerges as a learned and imitative behavior, based on cultural norms, that can look natural and situate an individual within a culture (Halberstam, 1991; Butler, 2012). According to Goffman, in performing identity, an individual expresses and suppresses different aspects of their self-identities as mediated by their relationship with the audience and sociocultural settings.

When people perform their identities, they unconsciously foreground certain aspects of themselves while suppressing others. To explore the relationship between what people express or suppress, we draw on the scholarship of sociologist Arlie Hochschild (Hochschild, 2012), who defines the "silent work of evoking and suppressing feeling—in ourselves and in others" as *emotional labor*. Emotional labor is a kind of relational work whereby people regulate and suppress their personal emotions in order to sustain and ensure "the outward countenance that produces the proper state of mind in others." Hochschild draws on Goffman's theories of the presentation of self (Goffman, 1956) to explain the dramaturgical demands of "frontstage" (visible to the audience) and "backstage" (invisible to the audience) behavior in the context of service-sector jobs. She proposes the idea of *feeling rules*—socially shared norms that guide how people "ought to feel" (Hochschild, 2012). In addition to *feeling rules*, other key tenets of emotional labor include *surface acting* – deceiving others about "what we really feel" (but do not deceive oneself) – and *deep acting*, which involves "deceiving oneself as much as deceiving others (Hochschild, 2012). Importantly, deep acting often involves a cognitive change where "the dissonance between experienced and expressed emotion is resolved (Brown et al., 2014)". In developing these notions, she focused on how members of organizations regulate their emotions while interacting with a range of stakeholders. For example, in the context of teaching, a teacher might engage in surface acting by pretending to be excited and hiding her frustrations about a student's unsatisfactory academic performance. Her job is thus to regulate and suppress her emotions – keeping their feelings and any performances related to their feelings backstage – to produce positive and professional emotions in front of their students. She can also engage in deep acting by shifting her emotional state to align with school expectations and embody the professional identity associated with her role as a teacher.

People benefit from the sense of security that comes through their ability to routinely enact a self-identity that adheres to their sense of self (Ibarra and Petriglieri, 2010). However, in many scenarios, people cannot outwardly perform their identity due to it violating social norms or the possibility of harassment, exclusion, and discrimination. The experience of being prohibited from expressing oneself is described as marginalization, in which individuals or social groups are pushed to the boundaries of society based on aspects of their identities, including race, ethnicity, and occupation. In the context of the United States K–12 education system, poor working conditions, a lack of autonomy and administrative support, and policy issues (Darling-Hammond, 2001) conspire to suppress teachers' ability to enact their identity as teachers. Emergent normative societal and cultural expectations for enacting an identity as a teacher have become institutionalized in educational environments (Flores and Day, 2006).

For example, prior research has highlighted the sudden shock and stark reality experienced by new teachers when they assume full responsibility for their roles. The disparity between their idealistic expectations and the actual classroom environment is compounded by a lack of support and guidance (Veenman, 1984; Flores and Day, 2006). Education researchers have highlighted myriad challenges teachers face in the United States (Banks and Banks, 2019; Nieto, 2009). They are often subjected to bullying, attacks, and verbal and physical harassment (Espelage et al., 2013), by students, parents, and colleagues (Mcmahon et al., 2014). There are even news reports about homophobia in schools where teachers are forced to leave as punishment for expressing their LGBTQ+ identities.[4] Cumulatively, these sources of pressure produce a pervasive sense of identity insecurity among teachers and marginalize their identity (Sutcher et al., 2016; Van Den Tillaart et al., 2009).

In the face of identity insecurity, teachers constantly engage in emotional labor to manage several aspects of their job. First, in addition to teaching, educators are asked to address students' behavioral issues (Sutton et al., 2009; Hargreaves, 2000) as well as improve their poor academic performances. Monitoring such disciplinary problems is a leading reason for teachers' dissatisfaction with their jobs (Liu and Meyer, 2005). Second, teachers regulate their emotions and engage in relational labor with parents. Parents often take for granted teachers' efforts and treat them with a lack of respect (Lasky, 2000). Teachers also regulate their emotions with respect to their home lives. Teaching is a time-consuming job that often limits teachers' ability to attend to their own needs or those of their families (Scott et al., 2019). In a 2014 Pew Research Center survey of 2,531 U.S. public school K-12 teachers, 54% reported finding it challenging to balance work and their personal lives. Additionally, 52% of the teachers discouraged young people from pursuing a teaching career[5]. Teachers' working hours can last up to 53 hours a week[6], and 67% report that feeling "burn out" is a serious problem[7]. The emotional labor teachers engage in takes a severe toll; many teachers are stressed (Garner, 2010), resulting in a high attrition rate. Eight thousand left the profession annually (out of 238,000 total teachers) in 2012, and two-thirds left before retirement (Sutcher et al., 2016; Shen, 1997). During the COVID-19 pandemic, these numbers surged, resulting in a teacher shortage.[8]

2.2 Gig-education Platforms Enabling the Transnational Gig Economy

Due to financial insecurity and low pay, U.S. teachers have found new careers in other work domains or taken on supplemental work to make a living. Gig work, specifically gig education, presents a unique opportunity for teachers to identify and establish new

[4]Kentucky's 2022 Teacher of the Year quits profession, citing homophobia https://www.nbcnews.com/nbc-out/out-news/kentuckys-2022-teacher-year-quits-profession-citing-homophobia-rcna35224

[5]What's It Like To Be a Teacher in America Today? https://www.pewresearch.org/social-trends/2024/04/04/whats-it-like-to-be-a-teacher-in-america-today

[6]https://www.rand.org/pubs/research_reports/RRA1108-9.html

[7]https://www.nea.org/about-nea/media-center/press-releases/nea-survey-massive-staff-shortages-schools-leading-educator-burnout-alarming-number-educators

[8]The U.S. Department of Education Announces Partnerships Across States, School Districts, and Colleges of Education to Meet Secretary Cardona's Call to Action to Address the Teacher Shortage https://www.ed.gov/coronavirus/factsheets/teacher-shortage

work roles. Yet, it remains unclear how such platforms mediate how teachers view themselves or want others to see them. The educational infrastructure has failed to support teachers, and teachers are engaged in emotional labor that suppresses their identity in traditional brick-and-mortar environments. Therefore, we explored how and why teachers work in the gig economy. Researchers have studied the gendered aspect of teaching in the United States and the circumstances of women entering into this profession(Griffin, 1997; Apple, 2018). They have documented women teachers' absence of voice, lack of autonomy, low status, low salary, and poor work-life balance.

As gig platforms unshackle people from normative work structures, granting additional flexibility and assigning work based on demand or availability (Grimshaw et al., 2002), researchers have looked into how they might affect the future of work. Gig work via digital platforms has profoundly impacted labor markets and has challenged regulatory frameworks. Due to the transformation of the traditional employer-employee relationship, gig workers often face uncertain income streams, lack of employment benefits (e.g., health insurance, retirement plans, and paid leave), and limited employment protections (Donovan et al., 2016; Tran and Sokas, 2017). Questions have emerged regarding different aspects of digital platforms-mediated gig work (e.g., classification of workers in the gig economy and their rights), leading to inconsistent rulings across different social, cultural, and judicial landscapes. For example, several U.S. states have implemented or proposed legislation (e.g., Assembly Bill 5 in California (Brown, 2020)) to reclassify gig workers as employees. European countries typically have enacted stronger labor protections, and social safety nets have influenced their regulatory response to gig work. For example, the Platform-to-Business Regulation and the Platform Work Directive (De Stefano, 2022) by the EU (Cauffman, 2019), Royal Decree-Law in Spain (Cárdenas and Villanueva, 2023), and the Good Work Plan in the UK (Government, 2018) recognize app-based workers as employees, ensuring they receive benefits like minimum wage and holiday pay. Existing studies on the gig economy in HCI and CSCW have similarly focused on popular Western platforms such as TaskRabbit, Upwork, Uber, Lyft, and Amazon Mechanical Turk (MTurk) (Prassl and Risak, 2015; Hannák et al., 2017; Ross et al., 2010a; Burke and Broderick, 2017; Ma et al., 2018).

In addition, there is a rapidly growing body of research on platform work and the gig economy in Global South countries (Soriano and Cabañes, 2020; Abilio et al., 2021; Chen, 2018; Ahmed et al., 2016). This research includes but is not limited to Soriano and Cabañes' study on "entrepreneurial solidarities" among online freelance workers in the Philippines (Soriano and Cabañes, 2020), Chen's research on how Chinese taxi drivers adapt to and resist the rise of ride-hailing platforms (Chen, 2018), and Abilio and colleagues' analysis of food delivery workers' working conditions during the pandemic in Brazil (Abilio et al., 2021). However, little work has addressed how Global North–Global South dynamics keep workers in the Global North, serving clients in the Global South. This study opens a new line of research by exploring these dynamics, focusing on how knowledge workers in the Global North serve clients in the Global South within the context of transnational gig education. Whereas scholarship on gig work has championed the opportunities and income potential created by gig work platforms, describing them as "boundaryless" (Popiel, 2017; Adams et al.,

2018), studies exploring gig work in non-Western contexts have offered a critical perspective towards gig work. These studies have highlighted the negative influences of gig work on globalization, including problems with wage structures (Hara et al., 2018), employment bias (Hannák et al., 2017), surveillance (Irani and Silberman, 2013), legal concerns (Adams et al., 2018; Prassl and Risak, 2015) and income disparities (Cook et al., 2018).

In cross-cultural and globalized settings, gig platforms have what we call a "transnational character." Whatever their country of origin, they mediate relationships between people across diverse countries and cultural contexts. Although scholarship exploring the transnational character of gig platforms has been limited, notable exceptions exist (Gray et al., 2016; Ross et al., 2010b). Research on gig platforms in the offshore IT industry has revealed an asymmetrical power relationship between Western clients and their vendor organizations in India, Brazil, and the Philippines (Carmel and Tjia, 2005; Carmel, 2006; Prikladnicki and Carmel, 2013). Besides the burden of impression management shouldered by offshore workers (Ravishankar et al., 2013), these studies have found that client preferences shape the coordination of schedules across time zones, at the cost of workers' preferences and agency. Scholarly research on the transnational character of gig platforms helps us to understand how such platforms are embedded with the logics (or politics) of their designers (Winner, 1980). Important questions persist regarding how those logics — especially when developed in a specific cultural and country context — reconfigure emotional labor in other parts of the world.

2.3 Gigging as Reconfiguring Emotional Labor and Identity: A Postcolonial Lens

To address these questions and deepen research on transnational platform politics, we explore and capture the experiences of U.S.-based gig workers who work for Chinese clients through China-based gig applications. In framing this exploration, we draw on world-system scholarship (e.g., (Hardt and Negri, 2001)) and postcolonial literature (e.g., (Irani and Dourish, 2009)) to interrogate how emergent transnational gig platforms shape and reshape emotional labor across global contexts.

As gig work expands transnationally, labor becomes increasingly flexible and precarious, causing worker instability and insecurity. Hardt and Negri attribute this precariousness to an economic shift that favors fragmented and contingent labor under the paradigms of globalization, neoliberalism, and digital capitalism (Hardt and Negri, 2001). In addition, "crowd work" (e.g., Amazon Mechanical Turk) and online freelancing are often perceived to lack materiality and be disconnected from stable employment or concrete labor protections due to their transnational legal complexities (Keulen, 2023). This perception often leads to the neglect of immaterial labor, such as the emotional labor and invisible labor that manages and sustains its precarity (Gill and Pratt, 2008; Baym, 2018). In line with assertions that data-driven technologies mediate transnational dynamics mediated (Fuchs, 2010), postcolonial computing scholars have highlighted how such technologies can impose cultural norms and values when introduced into new geographic locations (Irani and Dourish, 2009). This discussion is particularly relevant for understanding how certain pedagogies and epistemologies

are prioritized over others. For example, technologies designed with Western heteronormative conceptualizations of gender and sexuality can impose them on Indigenous cultures that were previously accepting of more diverse identities (Das and Semaan, 2022). While much work adopting a postcolonial computing perspective has examined how Western platforms fail to accommodate cultural differences in the Global South (Kumar et al., 2018; Das et al., 2021; Philip et al., 2012), less attention has been paid to platforms designed outside of the West. For example, few have considered India and China's computing relationship with African countries through the lens of digital colonialism (Mouton and Burns, 2021)). Irani and colleagues point out that "postcolonial conditions affect China and Sweden as much as they do India, Britain, Australia, or Kenya" (Irani et al., 2010). Therefore, while some non-Western countries (e.g., India and China) were not colonizers between the 14th and 20th centuries, a postcolonial computing framing can reveal the power-laden nature of technology and design in culturally diverse contexts. Building on Irani and colleagues' germinal work, Dourish and Mainwaring identified similarities in the practices that under-girded both computing and colonialism, underscoring the colonial impulses of technology (Dourish and Mainwaring, 2012). That is, they revealed tendencies in computing culture to reductive representations of human knowledge and identities, alongside assumptions about the universality of sociocultural realities.

Transnational gig education platforms have the potential to reshape emotional labor in myriad ways. Chinese cultural values, such as "wishing for dragon children" (*wangzi chenglong* 望子成龙) [9] and "respecting teachers"(*zun shi* 尊师) allow teachers to reclaim their identities and find meaning and purpose in work. Moreover, platforms reshape emotional labor through algorithmic logics. In addition to conceptualizing identity as self-concept and performance, HCI and social computing scholars have also examined how an individual's identity is constructed through interactions with sociotechnical systems and algorithms (Cheney-Lippold, 2018). To turn complex human phenomena into "something a microchip can understand" (Rudder, 2013), technologies use near-real-time interpretations of our data to generate an algorithmic identity – a datafied version of our selves and how others perceive us (Cheney-Lippold, 2018). Based on our interaction with a system and other individuals using it, algorithms use measurable types (or "data templates") to classify and categorize us. As systems collect more data about us, their algorithmic interpretations evolve (Cheney-Lippold, 2018). Categorical identity or membership is determined based on "algorithmic fit" – how well someone's measurable types resemble predefined algorithmic constructs. In the context of transnational gig education, algorithmic mediation (e.g., rating systems) can create new forms of emotional labor for teachers as they contend with different cultural definitions of what it means to be a successful teacher.

Transnational gig education platforms can also introduce new forms of emotional labor that have been shaped through different cultural logics of algorithmic surveillance (Zuboff, 2019). A growing body of research on the gig economy employs concepts

[9] The phrase *wangzi chenglong* 望子成龙 , translated as "wishing for dragon children," reflects a traditional Chinese cultural aspiration where parents hope for "dragon children," who possess both moral integrity and ability, symbolized by dragons that represent excellence and success in Chinese mythology. Such values and expectations are deeply rooted in Confucianism.

of algorithmic control and hegemony to understand how algorithms exert power over our routine experiences in adverse and often problematic ways (Wood et al., 2019; Rosenblat, 2018). For example, researchers have conceptualized Uber as a totalitarian system as it utilizes algorithmic-based management (Mohlmann and Zalmanson, 2017) to discipline drivers' behaviors and practices (Rosenblat and Stark, 2016). While these gig platforms rely on algorithmic recommendations with identity-based biases (Munoz et al., 2022), recent research by Munoz and colleagues (Munoz et al., 2022) has highlighted how gig workers control and negotiate their identity with these algorithms on gig platforms. Studies of algorithmic surveillance in HCI and CSCW literature have shown that both platform companies and customers perpetrate unnecessary data collection and surveillance through crowd work, freelancing, ride-sharing, and delivery (Kumar et al., 2018; Sannon et al., 2022). Such algorithmic surveillance exacerbates asymmetric power relationships and the politics of dyadic surveillance of an observer and an observee in the traditional workplace; algorithmic systems rely on a digital reality conceived by captured data while neglecting the workers' embodied reality (Newlands, 2021).

In this paper, we explore how transnational gig education platforms — platforms designed and implemented in China but used by teachers living in the United States — reconfigure emotional labor. We explore this through the personal histories of teachers who have taught or continue to teach in offline contexts but are using transnational gig education platforms. We conclude by highlighting how emotional labor is reconfigured in both positive and negative ways.

3 Methods

3.1 Participants and Procedures

This paper is based on qualitative research conducted between February 2019 and February 2020. To address our research questions, we conducted semi-structured interviews with 24 American teachers. We recruited these teachers on social media platforms, including Facebook, Reddit, Quora, and Sina Weibo. Given that prior research found a salience of Facebook and Reddit for gig worker populations (e.g., (Gray and Suri, 2019)), the first author also joined online groups on these two platforms to recruit participants. No participants were already part of our personal or professional networks. Participant eligibility during our purposive sampling (Campbell et al., 2020) was determined through the following criteria. Participants must (1) be current or former K-12 educators; (2) have participated in gig education work through at least one Chinese gig education platform; and (3) be U.S. citizens. We primarily recruited participants by sending them invites via social media platforms. After each interview, we used a snowball sampling approach (Biernacki and Waldorf, 1981), in which we asked participants to recommend people we could recruit for our study. By identifying participants through multiple social media channels and through snowball sampling, we intended to limit sampling bias, an approach utilized in similar HCI and CSCW studies (Hagar and Haythornthwaite, 2005).

3.2 Data Collection

We conducted individual, semi-structured, in-depth interviews with 24 participants. All of the participants in our study were female and well-educated, with 11 holding bachelor's degrees and 13 holding master's degrees. Hailing from 15 states in the U.S., 19 of them were identified as Caucasian, while 5 were racial/ethnic minorities, including African American (2), Asian (2), and Latina/o/e (1). Their ages ranged from 27 to 58 years old. We interviewed participants from diverse K-12 educational settings, such as public schools, schools catering to students from disadvantaged and low socioeconomic backgrounds, Title I schools[10], public charter schools, and private schools. They specialized in subjects including special education, math, science, and art. Their time serving as educators in formal educational environments and on gig education platforms ranged from 2 to 26 years and 2 to 30 months, respectively. Among our participants, 4 were full-time gig educators, while the remaining 20 were part-time gig educators. See Tables 1 and 2 for a detailed breakdown. All names have been changed to protect the anonymity of participants in our study. This study received IRB approval from our university Institutional Review Board.

Table 1: Summary of participant demographics.

ID	Age	Race	State	Degree Earned	Marriage	Children
Olivia	30-39	White	NY	Master	Single	0
Emma	20-29	White	FL	Master	Married	0
Amelia	20-29	White	LA	Master	Married	0
Ava	30-39	White	CA	Bachelor	Separated	4
Sophia	30-39	White	NJ	Master	Married	2
Sade	30-39	Black	TX	Master	Single	1
Jennifer	30-39	Asian	KS	Bachelor	Married	2
Charlotte	40-49	White	TX	Bachelor	Married	2
Isabella	50-59	White	KS	Master	Married	0
Camilla	40-49	White	TX	Bachelor	Married	2
Naomi	50-59	Asian	FL	Bachelor	Married	3
Carmen	40-49	Hispanic	NM	Master	Married	2
Chloe	50-59	White	WA	Master	Divorced	2
Layla	40-49	White	NV	Master	Married	2
Hazel	50-59	White	PA	Bachelor	Married	2
Grace	30-39	White	AR	Bachelor	Married	2
Stella	40-49	White	TX	Bachelor	Married	4
Scarlett	30-39	White	SC	Bachelor	Married	0
Claire	50-59	White	FL	Bachelor	Married	2
Bella	40-49	White	OH	Master	Married	5
Allison	50-59	White	FL	Master	Married	1
Destiny	30-39	Black	FL	Master	Single	0
Jade	50-59	White	TX	Master	Married	2
Samantha	50-59	White	TX	Bachelor	Married	2

The interviews lasted between 40 minutes and 4.5 hours, and averaged approximately 90 minutes in length. Participation in the study was voluntary. Interviews were

[10]https://www2.ed.gov/programs/titleiparta/index.html

Table 2: Summary of participant platform use and teaching experience.

ID	Gigging Status	Gigging (Months)	Teaching (Years)	Education Gig Platform Use
Olivia	Part-time	12	14	VIPKid
Emma	Part-time	5	6	VIPKid
Amelia	Part-time	14	8	VIPKid, Cambly
Ava	Part-time	30	6	VIPKid, GoGoKid
Sophia	Part-time	6	13	VIPKid
Sade	Part-time	25	7	VIPKid
Jennifer	Full-time	25	2	VIPKid
Charlotte	Part-time	4	4	VIPKid, GoGoKid, Whales English
Isabella	Full-time	24	17	VIPKid, GoGoKid
Camilla	Part-time	11	14	VIPKid
Naomi	Part-time	6	10	VIPKid
Carmen	Part-time	17	13	VIPKid, Magic Ears
Chloe	Full-time	12	12	VIPKid
Layla	Part-time	14	26	VIPKid, Canvas
Hazel	Part-time	14	21	VIPKid, GoGoKid, Whales English
Grace	Part-time	6	7	VIPKid
Stella	Full-time	12	6	VIPKid
Scarlett	Part-time	12	5	VIPKid
Claire	Part-time	4	17	VIPKid
Bella	Full-time	2	17	VIPKid
Allison	Part-time	14	31	VIPKid
Destiny	Part-time	8	15	VIPKid, ABC360
Jade	Part-time	12	20	Gogokid, Zibra English
Samantha	Part-time	11	8	VIPKid

conducted using technology that was most comfortable to the participants, including phone, Skype, and Facebook video. Participation in the study was voluntary, and informants did not receive financial compensation. Although interviews were initially intended to last for one hour, all participants expressed a desire to continue beyond the designated time limit even after being reminded. During interviews, the first author actively listened, creating space for participants to discuss their struggles and frustrations. Interviewing can be a reciprocal practice; speaking to someone who listens closely can be beneficial, as "one's experience, through the process of being voiced and shared, is validated" (Weiss, 1995). Additionally, the first author shared preliminary findings with participants to address their curiosity about their peers' experiences and to conduct a member check, ensuring the accuracy of the preliminary findings

The interview questions were semi-structured to allow participants to guide us through their experiences as K-12 and gig educators. The interviews were designed as life histories (Wengraf, 2001); we asked teachers about their lives, experiences working as K-12 teachers, and experiences as gig educators. When inquiring about their experiences with gig education platforms, we asked about their motivations for teaching and transitioning to gig education. We also asked them questions regarding their current routines, the challenges and obstacles they faced, and the pros and cons of gig work.

The interviews were audio-recorded and subsequently transcribed for analysis. At the end of each interview, the first author asked participants if they could add them to

our social media networks or access their gig platform profiles for triangulation purposes. They received consent from over half of the participants. These online traces served to validate our participants' experiences. We also further triangulated our interview data with archival data, including news reports, social media posts, and forum messages.

3.3 Data Analysis

All recorded interviews were manually transcribed and checked for accuracy. We then inductively coded our interview transcripts using the qualitative data analysis software Atlas.ti (Corbin et al., 2015). Specifically, we conducted an interactive and inductive analysis of the 24 interview transcripts using open coding and memoing. All codes were discussed by the research team on a weekly basis and visualized using MindNote, a visual brainstorming application. Several codes emerged related to motivations for becoming educators, challenging experiences as educators in traditional K-12 environments, and techniques for maintaining teaching practices. Codes like "natural choice" and "taking care of family" showed participants' motivations to be educators; "Financial struggles", "burnout", "glorified babysitter" and "student behavior issues" revealed teachers' challenges in offline settings. "Feeling respected", "flexibility", and "autonomy" were codes generated around participants' experiences with gig platforms. After consolidating redundant codes and group codes, we generated the themes reported in the results section related to how gig work re-configured teachers' emotional labor across their relationships with parents, students, and their families.

3.4 Author Reflexivity

The first author was born in China and received a K-12 education there. He earned both his undergraduate and master's degrees in the United States. He also had experience working in Chinese education media before graduate school. Fluent in both Chinese and English, his identity, background, and passion for studying HCI on a transnational level inspired him to pursue this project. They disclosed their personal background when speaking with participants. The second author, who was born and raised in Bangladesh, received his undergraduate education in his home country before pursuing graduate studies in the United States. While his experience of being educated in diverse cultural contexts significantly drew him to this project, he also contributed to the theoretical shaping of this study from his critical HCI background. The third author is an Iraqi-American who is a member of a marginalized minority group from Iraq. He served as the anchor author for this work, shepherding the research project from its inception through its written form.

4 Research Setting: The Emotional Toll and Financial Insecurity of Teaching in the U.S. Education System

In this section, we document participants' motivations and aspirations for being American K-12 teachers. We also highlight teaching as an emotional practice (Brown et al.,

2014), the emotional labor teachers have to contend with in traditional education systems, and the economic challenges they face as knowledge workers.

Many participants chose to become teachers to work for the social good. Their teaching motivations were emotionally tied to and deeply embedded in their identities as teachers. Among our 24 participants, 17 perceived teaching as a "natural choice" that suited their personalities. Additionally, 11 participants claimed that their former teachers inspired them to continue mentoring students. They enjoyed being around children to empower future generations. This is best illustrated by Olivia, a 36-year-old Caucasian from a Title I public school that supports low-income students throughout Upstate New York:

> *I think who I am today is also because I'm a teacher. Honestly, I think I was probably always a teacher deep down... I really can't imagine myself doing anything different.*

While their decision to become teachers was related to their interest in the social good, participants also described substantive issues with formal educational infrastructures that marginalized their identities as teachers. Indeed, effective teaching requires teachers to "modify and control" themselves in ways that "support organizational goals and enhance student behavior and academic performance" (Garner et al., 2013). They found that the realities of teaching required constant emotional labor. They described routinely regulating their emotions to meet students' needs and goals instead of their own (Garner, 2010). Such emotional labor includes spreading positive attitudes among students as a way to motivate them, despite being already tired and demotivated from long working hours and non-teaching duties such as cleaning classrooms and buying materials out of pocket for students. Sade, a 33-year-old African-American single mother from Texas, explains:

> *Your contract hours might be from 7:25 [am] to 3 [pm], but you're going to be there sooner or later. You might have to show up a lot early because a lot of teachers, like myself, have rotating morning duties and rotating after-school duties, things that are not explicitly spelled out in the contract... It doesn't turn off even when you get home.*

Participants often juggle multiple roles and regulate their frustrations to meet their students' needs. For example, up to one in five children experience mental health problems (O'Connell et al., 2009) in the United States. Without trained psychologists on campus, teachers end up filling this critical gap. Most participants had only formal teaching training, but the normative expectations of the educational system required them to serve other roles as well. Scarlett, for example, reported that she had to be a nurse and psychologist to meet her students' needs.Similarly, Amelia, a 29-year-old Caucasian teacher from Louisiana, describes these expectations:

> *I'm a little bit of everything in my role as a teacher. On any given day, you're a mom when they need a hug; you're the teacher because you're teaching lessons; you're fixing boo-boos when the kid has a cut, and the role changes as the kids change at any time of the day. I might have five different roles for my students.*

Six participants teaching in Title I schools, where at least 40% of students are economically disadvantaged, described how their jobs require significant emotional investment. They had to meet students' basic needs, ensuring they were well-fed and

cared for. They also had to create a nurturing and loving environment and enact care practices for students from distressed environments. Participants were initially frustrated by students' poor academic performance. While recalling their economic situations, they perform deep acting, shifting their feelings to sympathetic. Participants described feelings of guilt and sadness when they could not provide enough care for their students, as they believed they were expected to care enough to foster students' academic development. According to Scarlett, a 30-year-old South Carolina teacher who attended college for free, in exchange for working in a Title I public school for at least three years after graduation:

> *They were in high distress because of their economic status, so I had to work extra hard to help them meet their basic needs before we could even teach. After doing that for five years, I just burned out. I didn't have anything left.*

Participants reported suffering from burnout, anxiety, and depression, as they felt ill-prepared for their profession due to the stark realities of teaching. Their inability to cope with the emotional labor of their work limited their ability to enact their identities as teachers. Charlotte said:

> *Even though I got some experience in the classroom before student teaching and went through student teaching, I still wish there were a way to have a class that wasn't like throwing you to the wolves. I was still not prepared to deal with behavioral issues, the lack of respect, and a lack of support from the administration, so it kind of makes me wish that there was a way to change the education of teachers also.*

Income was another major source of dissatisfaction, as twenty-one participants reported facing financial challenges. Ten lamented that their pay was not proportional to the amount of time, effort, and emotional labor they invested in their work. Sophia, a 36-year-old teacher from New Jersey, shared her perspective:

> *I don't think teachers make enough money. Most teachers that I know have a second job. There used to be a going joke when I was teaching in middle school that the New York City garbage collectors made more money than some of the teachers we knew. Not that there was anything wrong with a blue-collar job, it was that, you know, we were still paying our college loans.*

Participants described how budget cuts in the educational system resulted in lower salaries and less job security. In addition, teachers had learned to reconcile and become accustomed to relying on outdated funding models while still being expected to maintain high teaching quality with fewer resources. Layla, a 49-year-old public school principal from Nevada with 26 years of experience in teaching, expressed her frustration with these challenges:

> *The state I live in, we are still using the same funding formula from the 1950s. It's no longer the 1950s, so that has meant that education is being funded exactly the same, and life is very different, so that has meant that not as many teachers get hired, classroom sizes are bigger, and [we are] just trying to continue to provide a good quality service for parents, which they want with less resources.*

Despite the shrinking resources, teachers felt they were expected to hide their frustrations to present themselves as competent professionals who effectively perform

their duties in front of parents and students. Additionally, our data shows that grim economic prospects have led more teachers to either leave jobs they were passionate about or engaged in labor actions to demand better wages.

To make ends meet, participants described taking on one or more jobs, such as waiting tables and babysitting. In the United States, 16% of teachers take a second job[11] and, as a whole, are five times more likely to have side jobs than the average full-time U.S. worker, according to the U.S. Bureau of Labor Statistics. [12] Beyond these conventional employment options, teachers turned to transitional gig platforms like MTurk as a means of coping with economic insecurities and reclaiming their professional identities.

In this section, we explore participants' motivations for pursuing careers in teaching, showing how their identities are deeply intertwined with their career choices and the challenges they face within the U.S. K-12 traditional education settings. We also highlight systemic issues such as low pay, lack of respect, and inadequate support – pressures that compel teachers to regulate their emotions and grapple with identity insecurity constantly. These challenges drive some educators to seek out gig education platforms as viable alternatives. While emotional labor has long been recognized in traditional educational settings, gig education platforms present novel reconfigurations of this phenomenon. This section establishes a foundation for understanding how these platforms not only reconfigure emotional labor in traditional settings but also introduce new forms of emotional labor in transnational gig education.

5 RESULTS: RECONFIGURING EMOTIONAL LABOR THROUGH GIG EDUCATION

This section demonstrates how gig education platforms introduce new forms of emotional labor for teachers through datafication, algorithmic management, and digital surveillance. Whereas prior research on the gig economy shows that income generation is one of the primary motivations among gig workers (Martin et al., 2014; Berg, 2015; Brewer et al., 2016), our findings reveal that another vital motivation for teachers was the reduction of the emotional labor required by gig education platforms. We found that the platforms allowed participants to rediscover their internal motivations for teaching. Their participation allowed them to regain a sense of fulfillment and freedom in their work and personal lives. Despite these benefits, these platforms also introduced new forms of emotional labor.

5.1 Reconfiguring Parent-Teacher Relationships and Emergent Emotional Labor through Datafication

In traditional educational environments, the fraught relationship between teachers and parents is characterized by a lack of respect for teachers(Marlow et al., 1996). Gig education platforms reconfigure this relationship: teachers are considered authorities

[11] https://www.nytimes.com/interactive/2018/09/06/magazine/teachers-america-second-jobs.html
[12] https://www.bls.gov/cps/cpsaat36.htm

and treated respectfully in these contexts. However, such systems also introduced emergent emotional labor through datafication.

5.1.1 Gigging as shifting responsibility from teachers to parents: "glorified babysitters" no more.

Sixteen participants shared that they felt undervalued and disrespected in brick-and-mortar schools. Indeed, among teachers considering leaving their profession, common reasons included a lack of respect from the community, such as parents and students, and emotional factors like a lack of "fulfillment, boredom with daily routines, stress, and frustration" (Marlow et al., 1996; Goldring et al., 2014). Five participants described how they were treated like "glorified babysitters" by parents who believed teaching primarily required behavioral monitoring. As Amelia explained:

> *A parent actually told me that I was more of a "glorified babysitter." She told me that her child was still learning on his own and that I was just kind of there to see it happen and facilitate it. That was like a punch to the gut. It really hurt my feelings...Parents are definitely the biggest blow to my self-esteem as a teacher.*

In addition to a lack of respect, ten participants disclosed the absence of accountability among parents, which further burdened teachers. They described how parents offloaded disciplinary responsibility on them, as opposed to disciplining their children. Participants also reported that they were typically blamed for poor academic performance, which was often beyond their control. Moreover, participants deliberately suppressed their emotions due to false public perceptions about their financial situations and the teaching profession, which portrays teachers as "greedy" and teaching as a "second-rate profession." Hazel, who had been teaching for 21 years, lamented:

> *I often see things in the news or on social media, and when there's an article about teachers, people vent their frustrations against us. That surprises me; they say we make too much money, and all we are doing is babysitting and things like that.*

The toxic combination of high expectations and lack of respect from parents created an untenable environment for participants that was emotionally taxing. Claire said that, "You deal so much with emotional issues and discipline issues during the day [that] you come home completely wiped out." Gig platforms exacerbated cultural differences between the U.S. and China, which undercut the perception of teachers as "glorified babysitters." We found that teachers' relationships with parents were reconfigured through their teaching on gig education platforms. That is, parents played an active role in their children's educational lives while also respecting and attending to the needs of those teaching their children — teachers.

Participants described feeling newly valued by parents on gig education platforms. This feeling was best captured by Sade, who had been teaching online part-time for 25 months. She described experiencing "culture shock" when first engaging with Chinese parents through VIPKid:

> *Everyone [in the U.S.] likes to say that, you know, they value education. A lot of times people close doors and call us glorified babysitters. One of the beautiful things that I've seen, [on VIPKid] parents and other people actually value education; they value educators*

and that's huge. You don't notice that until you meet other people from other countries. It's like, "wow you know what? We do care about our kids' education. We do care about the people who are educating them."

Most participants described feeling respected and appreciated by Chinese students and parents. While teaching online, they felt they could be transparent and honest with parents when discussing their children's behavior and progress without being blamed.

Not only did participants feel more valued, but they believed that the responsibility for student success shifted from the teacher to the family. As described by Carmen, a teacher who had been teaching online for 17 months:

[In China] it's a student's responsibility and the family's responsibility, too, for that child to do well. So, parents put forth a lot of effort to make sure that their students have opportunities to learn, where American parents make excuses for their children not learning, but it's never the child's fault or the parent's... it's always the teacher's.

As per Chinese cultural values, acquiring skills and education have long been considered virtuous life goals (Wu and Singh, 2004). Many Chinese parents expect their children to learn as much as possible so that they can excel in society. Parents are responsible for supporting their children and putting them in an advantageous position to succeed. The importance of parental responsibility can be traced back to Confucianism, where certain idioms, such as "wishing for dragon children" (*wangzi chenglong*), mediate the relationship between parents and their children. Here, the dragon symbolizes power and strength, and parents want their children to be robust and successful – qualities that education can impart. Through close interactions with students and parents via gig education platforms, teachers can experience Chinese values, philosophies, and educational cultures. For participants, emotional labor stemming from a lack of respect and accountability was reconfigured by Chinese values, such as respect for teachers (*zun shi*).

The respect and support they received from Chinese parents via gig education platforms enabled them to realize a self-concept that gave them purpose as teachers. Participants could refocus their attention on students' learning rather than engage in the invisible emotional labor that made teaching a taxing endeavor.

5.1.2 Emergent emotional labor through datafication: Authenticity and managerial control.

Despite the positive aspects of transnational gig education platforms mentioned above, the technology and values underpinning them mediated participants' experiences in adverse and problematic ways. Here, we document technical mechanisms such as quantification, tagging, classifying, and rating — together with new expectations from Chinese parents — which emerged emotional labor among participants.

Participants believed that their background and identity as American teachers made them ideal candidates to teach "authentic" English on gig education platforms, where parents could easily find them via its filtering features. Camilla elaborated:

[Chinese students and parents] are paying for a human experience; they're paying to hear English spoken out of my mouth. I'm able to use my expertise as a teacher to teach them

content, teach the language, and provide a great living example of someone who speaks English with an American accent.

Similarly, Sophia believed that having an authentic American teacher with a "traditional" accent teach their children English was highly valued by Chinese parents. Teachers like Sophia and Camilla equated adhering to these implicit expectations and values with "acting professionally" while teaching online. Sophia added:

I have a very thick Jersey accent, which I try to hide as much as I possibly can. When I'm teaching online, I try to have as much of that...traditional American television accent as I can.

Sophia's pursuit of a "traditional American accent" demonstrates that hiding her Jersey accent and adopting a "traditional" accent in response to the implicit expectations from the clients and platforms contributed to their conceptualization of what it means to "be" an authentic American teacher in the transnational gig education economy. Indeed, it required additional labor, including performing deep acting, to exhibit the professionalism required to maintain the image of an authentic American teacher. Participants were aware that their accent and emotional presentation mattered not only as a potential catalyst for "five Apple" reviews but also for increasing their visibility by being classified in ways the clients desired.

Gig education platforms provide participants with flexibility and autonomy, upheld by traditional Chinese values that respect teachers. However, these platforms still subject participants to prevalent contemporary Chinese cultural norms, such as the widespread acceptance of overwork (Huang et al., 2021; Li, 2023), exemplified by the "996 work culture [13]" in the technology sector (Wang, 2020). As students' success is considered to rely heavily on teachers, Chinese parents who worked with participants in our study sought to establish long-term, stable relationships with the teachers. This desire was amplified by the prevailing overwork culture (Huang et al., 2021) and intense competition among peers(Zhao, 2016) in contemporary China.

Platforms like VIPKid, therefore, designed features such as "priority booking," which allows parents or students to schedule book learning sessions based on a teacher's available time slots. Participants described that while teachers technically can decline these requests, the system's design incentivizes teachers to accept these bookings and makes them feel a responsibility to do so. This often leads to teachers losing control over their schedules, impacting their sense of agency. Ava, a teacher and mother of four from with, shared how such features affected her ability to manage her teaching commitments:

This is the teacher's choices as far as what she agreed to work, or at least make herself available for. But the incentives and then, having one of your favorite students ask if you can teach them during a certain time, can be very enticing and have us working more than we necessarily planned to.

Additionally, through quantification of labor, U.S. teachers are incentivized to teach many courses in a given period, especially during Chinese holidays. Such a mechanism has been adopted by other gig platforms, such as Uber (Rosenblat, 2018),

[13]The 996 work culture in China refers to managerial expectations, whether explicit or implicit, that require employees to work from 9:00 AM to 9:00 PM, six days a week.

with the goal of profit maximization. In this context, teachers were encouraged to prioritize Chinese students' education needs and work around the Chinese calendar.

Additionally, the Chinese parents in our study aspired to seek out teachers more likely to support their children's success. Yet, as expressed by participants, parents in China and teachers in the U.S. often have conflicting evaluative criteria for what makes a "good teacher." The gig education platforms allow parents to tag and classify teachers based on system-level categories using eighteen personality characteristics, six teaching styles, and other categories, including education, binary gender categories, and availability. Through this evaluation, the system presents digital identities for teachers to help parents select which teachers they want for their children. For example, parents assigned tags such as "patient," "positive encouragement," and "serious" to teachers. However, some teachers disagreed with how they were tagged, thus creating identity conflict and requiring emotional labor. Stella expressed a feeling of being commodified:

> *When it comes down to it, I'm kind of a product...They're looking for something very specific for their child and it helps them navigate through to find what they need.*

Because of tagging, classifying, and cultural differences, teachers often altered their teaching styles and deliberately suppressed their discomfort to conform to the expectations of what makes a good teacher in China. As described by Carmen:

> *I would think any kind of evaluation would change your behavior regardless if it was online or not, because if I was at work and I was told that I was too rigid and that I needed to be more personable, well, then I would have to change my behavior to become more personable.*

In addition, as with other professionals in the gig economy, teachers are assigned ratings on a five-star system, based on their teaching quality. This creates emergent emotional labor among the teachers, who must actively reshape their inner emotional life to conform to the client's expectation of good reviews. As noted by Newlands and colleagues, rating mechanisms demand emotional labor by conditioning consumers to exhibit socially desirable behaviors (Newlands et al., 2019). In our study, participants revealed their struggles to maintain near-perfect ratings and the immense stress that came with it. Camilla described the process as emotionally taxing:

> *I started with a four Apple review...it was like 4.87 for a while, it's now at 4.99 and I think I have to get like 50 more five Apple reviews to get to a five. I think it's ridiculous. A lot of teachers stress when they go below a five, and they freak out.*

Indeed, gig education platforms transform the teaching experience. There is a strong cultural respect for teachers and an emphasis on valuing education in China. Still, the remoteness of clients and their socioeconomic status, along with platform affordances, also affect teachers' experiences and their perceptions of respect and value. For instance, due to physical remoteness, issues such as physical attacks against teachers are not possible. The higher socioeconomic background of students' families likely heightens parental expectations, involvement, and better support. The platform's affordances, including the complex classification system mentioned earlier, standardize the teaching process, shape teachers' professional identities, and reconfigure their emotional labor.

In summary, gig education platforms are reconfiguring emotional labor so that teachers can reclaim a positive self-concept. However, as participants further engage with such systems, they are rendered as high-resolution (Singh and Jackson, 2021) commodities through datafication and are more likely subjected to managerial control, which introduces new forms of emotional labor.

5.2 Reconfiguring Teacher-student Relationships and Emergent Emotional Labor through Algorithmic Management and Surveillance

In this section, we first highlight participants' experiences of the emotional labor required to manage one-on-one behavioral issues in the classroom. We then document how this emotional labor was reconfigured through human and machine mediation when participants interacted with online gig education systems. We conclude by showing how algorithmic management and surveillance cause the emergence of new forms of emotional labor.

5.2.1 Human-machine collaboration: Mediating student behavioral issues through gig education platforms.

Thirteen participants described the emotional labor required to deal with student behavioral issues in brick-and-mortar schools. Most participants reported encountering behavioral issues regularly. Students were often distressed, throwing chairs, slamming doors, pushing their peers, and disrupting the rhythm and flow of teaching in other problematic ways. Scarlett, who taught in a public school for five years, described encountering and mediating behavioral issues daily. Disheartened, she ultimately decided to leave her school. She said:

> *I had stayed at school the night before until 5:30 or 6:00 pm, putting together something thought out; I couldn't even do the lesson without any disruptions... And you never knew when they would be triggered...As a teacher, I always had to be ready for the worst.*

Participants often felt that students did not value education or the work of teachers; one of their primary challenges was getting students to pay attention in class and value the learning experience. Charlotte, a 43-year-old public school Spanish teacher, described this struggle. Students openly mocked her Spanish accent, making her anxious when teaching. When participants were teaching in person, behavioral issues also manifested as physical attacks, as four participants noted. As elaborated by Destiny:

> *Over the years, I've had students who have thrown chairs and trays and tossed desks over. I've had a kick, bite, scratch, and pinch.*

Importantly, participants reported that the current system not only lets behavior issues fester but also erects hurdles for teachers to address emergent issues and threats to their physical and emotional well-being. In online gig education platforms, the taxing labor of classroom management was mediated by humans and machines via the platforms.

Human mediation is an essential part of Chinese classrooms. Teachers in Chinese brick-and-mortar schools often work in conjunction with human behavioral aids

(*banzhuren*), who mediate classroom-related behavior so teachers can perform their jobs without taking on additional emotional burdens (Liu et al., 2018). Gig education platforms are designed around this norm. For instance, at VIPKid, both "learning partners" and "firemen" are people who support students and teachers. They are often migrant workers working in big cities like Beijing. They are responsible for promoting a positive classroom culture that encourages student learning and effective collaboration between parents and teachers (Liu et al., 2018). This form of collaboration between teachers and parents differs from that in U.S. K-12 education and ESL (English as a second language) programs, where parents are typically less involved (Guo, 2006; Cotton and Wikelund, 1989). "Learning partners" often are primarily tasked with communicating with parents and enabling effective collaboration among students, parents, and teachers.

"Firemen" helped teachers with issues during classes. Eleven participants described how "firemen" helped them with urgent and disruptive behavioral issues. Apart from addressing students' behavior issues, they also supported students and teachers when so-called "AI systems" failed. Allison, who had been teaching through VIPKid part-time for over a year, shared her experience working with "firemen":

> *The firemen are very, very kind. So, if I'm having an issue in class where I can't hear the student...they will help me...There's a button that I could press to address behavior issues. And the firemen will come and contact the parents.*

Beyond human mediation, these online platforms were designed to alleviate behavioral problems through machine mediation. Specifically, the systems use AI technologies to reduce further the emotional labor of managing student behavioral issues. For example, VIPkid employs voice and emotion recognition to detect and report students' attention and concentration levels during learning sessions; this data is used to auto-generate feedback that is sent to parents so that they can support teachers. In turn, participants felt they could direct their energy to their teaching.

According to participants, AI was also used to personalize teaching. Algorithms were designed to assign students to participants, to ensure that teachers were paired with students that aligned with their expertise and teaching style. As a result, participants spent less energy disciplining their students. As described by Isabella:

> *I had a much different type of student in the beginning...I have an arts-based master's degree; I started getting more students who had art-based interests...my undergrad degree is in creative writing, so I have many students interested in a writing career... I feel like it is their algorithm that they're finding students that go with my teaching style, whereas, in the brick-and-mortar, you get whoever is randomly assigned to you.*

The combination of human and machine mediation led to most participants reporting positive experiences working online compared to offline settings. They expressed how their engagement with these systems enabled them to reignite their passion as teachers and thus reenact their teaching identity. As Sade elaborated:

> *Honestly, how this is set up is how teaching is supposed to be... you should not have to deal with behavior problems; you should not have to deal with children who are physically aggressive. I think it's a perfect setup.*

5.2.2 Emergent emotional labor through algorithmic management and digital surveillance: Quantifying work and teaching approaches.

While the system shifted teachers' emotional burden to human and machine mediators, other issues emerged. Scholars in platform studies have shown that digital labor is often subjected to algorithmic management(Rosenblat and Stark, 2016; Jhaver et al., 2018), and participants in our study reported similar management forms. For example, they reported feeling scrutinized by pervasive digital surveillance, which often works in tandem with invisible algorithms. Like several other participants, Amelia observed how algorithms were used to quantify her workload. As a result, her teaching performance was evaluated based on abstracted data. This algorithmically curated data was used to make decisions such as whether or not she should receive a raise or get a contract extension. Because she was still working hard to pay off student loans, Amelia explained:

> *One of the things that factor into [a pay raise] is how many classes you've taught, so for teachers who are doing this for the motivation of paying off a student loan, you're more likely to teach to make sure you get to that number so that you get that raise.*

Digital surveillance functions as another way to introduce emergent emotional labor. Apart from human surveillance by the "firemen," Jennifer explained digital surveillance in the virtual classroom setting:

> *They're scanning your classrooms to see if you are using the correct curriculum and correct maps...*

The pervasive surveillance in virtual classrooms required teachers to reflect on their teaching behavior constantly. Sometimes they would repress and manage their feelings, producing "emotional dissonance"—a conflict between how participants really feel and the surface feelings they're expected to perform. Consistent with preliminary evidence suggesting that surveillance can have "chilling effects" and actively suppress individuals' behavioral intentions (Penney, 2016; Stoycheff et al., 2019; Büchi et al., 2022), our study underscores that pervasive surveillance in online classrooms can lead to the constant suppression of normative teaching practices and contribute to teachers performing emotional labor. For example, Hazel revealed an observation concerning digital surveillance in the context of teaching specific subjects:

> *[VIPKid] has provided us with the map and would like us to use it, if we use a map. We can use another map, but it needs to match the map they gave us.*

As described earlier, AI technologies such as image recognition can quickly identify the maps used by geography participants. Hazel's remarks reveal that despite participants having the agency to use their own maps, they needed to align with China's standards. Here, the technologies we described served as tools to reinforce such norms. Carmen, a veteran teacher who had been teaching for 13 years, tried to justify such algorithmic surveillance from a professional perspective:

> *From a professional standpoint, teachers should use the maps of China that students are learning in school...if they use an Americanized Chinese map, it would look different than*

in the map that the students see at school, which could cause confusion, and I would think that it would be best practice to use what they are used to seeing.

The algorithmic surveillance implemented by gig platforms facilitates a pedagogical approach based on the uni-directional delivery of teacher lectures. This approach strongly differs from the collaborative and critique-oriented teaching methods more common in offline U.S. K-12 education. Regardless of U.S. teachers' perceptions of the effectiveness of these methods, they were required to conform to the teaching styles supported by the Chinese gig platforms' technological scaffolds. In sum, by teaching on gig education platforms, participants' emotional labor was reconfigured through both human and machine mediation. However, new forms of emotional labor were reintroduced as teachers were subjected to algorithmic management and digital surveillance.

5.3 Reconfiguring Familial Relationships and Emergent Emotional Labor through Cross-border Work Synchronization

In this final section, we consider how the emotional labor of teaching in traditional educational environments impacts teachers' personal lives. We also discuss how emotional labor is reconfigured via gig platforms, such that teachers are able to regain control and agency over their personal relationships and routines.

5.3.1 Gigging as regaining control: Putting one's self and family first.

Participants reported a lack of flexibility and work-life balance while teaching in brick-and-mortar schools, which created additional emotional labor for them. As a female-dominated profession[14], teaching has long been perceived as a flexible career that allows for work-life balance (Hochschild and Machung, 2012). Eleven participants explicitly stated that they chose to become teachers because they believed that this flexibility would enable them to be caring mothers and partners. However, this ideal was upended as they began teaching. Participants described how, rather than having flexibility and control over their work, their personal lives felt like a burden due to the toll of the emotional labor required in their workplace.

When describing the rhythm and temporal flow of teaching, most participants elaborated on how teaching constantly invaded their personal lives and demanded working beyond contracted hours. Charlotte, 43, a mother, explicitly pointed out the non-stop, grueling nature of teaching in her institution compared with other professions:

It's an emotionally involved profession. If any teacher says they're not emotionally involved, they're not really a teacher... I've worked as a secretary in customer service. [In] those jobs, most of the time, you come in, do your job, leave at the end of the day, and everything's left at the office, and you don't have to worry about it, but in teaching, you still worry. You carry it with you.

[14] https://www.theatlantic.com/education/archive/2019/02/the-explosion-of-women-teachers/582622/

Participants also described how they had extreme difficulty creating boundaries between their work and personal lives. That is, it was difficult to separate their identity as teachers from the other aspects of their lives. Sade, an African-American single mother, shared her struggles. She was particularly cognizant of how she prioritized the needs of her students over those of her children, which made her feel guilty:

> *There is supposed to be a work/life separation. I think that's a myth; for most teachers, you spend a lot of your time on a weekend catching up with the stuff you're supposed to complete throughout the week. You try to turn it off and separate the two, but it's rare.*

Maintaining healthy routines that balance work and personal life was particularly challenging among participants who work at Title I public schools. Amelia and Grace described feeling guilty about bringing work home, which impacted their ability to care for their own families.

Moreover, during significant life events, such as having children or being diagnosed with chronic disease, the normative expectations manifested in the traditional education system did not offer much flexibility. The system mainly inhibits participants' ability to adapt to and manage new familial responsibilities. As illustrated by Layla :

> *When you have a newborn, you're exhausted and do not get a lot of sleep. You're still expected to go in and give a 100% every single day, with no excuses.*

While the traditional education system inhibited participants from controlling their personal lives, engaging with gig platforms allowed them to feel like they regained control. Fourteen participants elaborated on how their work through gig education platforms alleviated the day-to-day stresses of teaching. Whereas participants were often expected to develop daily lesson plans in brick-and-mortar schools that took away from their ability to attend to their student's needs, this additional burden was removed from their work. Before classes begin, teachers are offered pre-designed lesson plans created by a curriculum team, which alleviates the burden of creating and planning daily lessons. Eight participants reported that the pre-designed courses and one-on-one short teaching sessions allowed them to focus their energy on their students fully. As described by Sade:

> *It's all done for you; all you're doing is the teaching part, so there are not a lot of extras that I have to do.*

Most participants reported that this additional support from those platforms significantly reduced their workload. As Grace explained:

> *There's no long drawn-out anything. There's no planning for the next class; I get to do the part that I love the most, which is just teaching and, you know, having fun.*

Beyond shoring up participants' identities as teachers, their use of gig platforms also gave them the perception of more autonomy to manage the rhythms of their routine lives. Thus, some participants were able to regain control of their personal lives, allowing them to spend time with family and attend to the needs of their children and partners.

5.3.2 Emergent emotional labor working as transnational digital labor: Loss of control and autonomy.

The use of gig platforms reignited participants' passion for teaching and reconfigured emotional work such that they could reenact their identities as teachers and parents. However, online teaching, mediated by transnational systems, also demanded new types of emotional labor that disrupted their personal lives in potentially problematic ways. For example, technical issues ranged from intermittent Internet connections to flaky software. Participants were often blamed for these issues, and language barriers created additional challenges and emotional burdens. Hazel elaborated:

> *There are times when teachers are sometimes blamed for those IT issues, and we're fairly certain that, you know, it's not us, and it's hard to explain [with the] language barrier. It can sometimes be difficult...we have no recourse when things we feel are unfair.*

In another challenge, all participants described working irregular hours to accommodate time zone differences and holidays. Participants taught early in the morning, late at night, and during major holidays in the U.S. Sophia told us that due to such irregular schedules, she had to adjust her lifestyle:

> *I wasn't a coffee drinker before this... Now I drink probably three-quarters of a pot every day.*

Despite perceiving greater control and autonomy over their schedules, they felt the need to compromise if they wanted to earn enough money, which was particularly difficult for participants facing financial pressures. For example, Ava said for five months, she would only sleep two to three hours during weekdays and five to six hours during weekends to pay her bills. This unhealthy sleep schedule caused fatigue, stress, and family tensions.

Despite this emergent emotional labor and risky factors such as platform dependency and precarious work, participants still saw gig education online as a promising career option. Among twenty-four interviewees, five participants had transitioned to teaching online full-time by relying on their partners' health insurance, while seven teachers planned to make a similar transition soon. Notably, over half of the participants showed interest in transitioning to teaching online full-time if the online gig education platforms were to offer benefits such as health insurance and retirement.

6 Discussion

In the following section, we first draw on HCI scholarship on how technologies shape transnational experiences and cultural norms to develop the concept of *transnational emotional computing*. We then use our data to challenge the Western-centric design paradigm and highlight the power and politics of transnational gig education platforms. Ultimately, we invite the HCI community to critically reflect on how contemporary power hierarchy and colonialism are mediated by the economy and technology. We conclude by discussing the implications of this work for worker-centered design, arguing that shifting design from work-centered to worker-centered requires greater attention to what we call *identity alignment*.

6.1 Sociotechnical Re-configuration of Emotional Labor: Transnational Emotional Computing

Highlighting its sociotechnical nature, HCI and CSCW scholars have described work as "a web-like arrangement of the technological artifacts, people, and the social norms, practices, and rules" (Baym and Ellison, 2023). In the field of HCI, prior work on transnational contexts has highlighted the interplay between technology and culture, highlighting the crucial role of everyday technologies and infrastructures in shaping transnational practices. These findings have emphasized the importance of ordinary infrastructures in supporting transnational design (Irani et al., 2010), mobile technology in transnational migration (Williams et al., 2008), how ICTs mediate transnational interactions and cross-cultural imagination (Lindtner et al., 2012), and diverse contexts and experiences of users across geographical and cultural boundaries (Williams et al., 2014).

To this existing scholarship, we introduce the concept of *transnational emotional computing*—a phenomenon that emerges when computing systems question an individual's relationships, forcing them to rebuild their relationships with the self, other people, and societal systems (e.g., labor markets). Our empirical findings reveal that educators frequently engage in emotional labor. Beyond traditional teaching, they play multiple roles in brick-and-mortar institutions. Moreover, their routines are shaped by their self-perceived responsibilities to their families at home. Despite their efforts, they often feel undervalued by students' parents (e.g., being called "glorified babysitters"), face challenging student behaviors, contend with physical attacks, and struggle with work-life balance. Figure 2 shows the critical aspects of examining emotional labor across contexts as it highlights how emotional labor — both front and backstage — is reconfigured through migratory societal and cultural logic.

Our study shows how the underlying mechanisms of transnational gig education systems reconfigure people's emotional labor and identity performances through a complex labor arrangement of human and non-human actors. For example, through their interaction with Chinese students and parents, our participants' relationships and expectations were transformed as they experienced and adapted to a culture that valued and appreciated educators (e.g., the Confucian value of *zunshizhongdao* – respecting teachers and valuing education (Han and Han, 2019)). While systems embedding such respectful values could reconfigure emotional labor in a positive way, they could also not align with participants' practices. For example, technological categorization and quantification of teaching designed with different cultural expectations blurred the lines between work and personal life and introduced a new dimension to their emotional labor. The technological aspects of gig education – datafication, AI-based surveillance, and algorithmic management of the platform – and the social aspects shaped by Chinese cultural and educational values and expectations formed a complex sociotechnical arrangement (Figure 2).

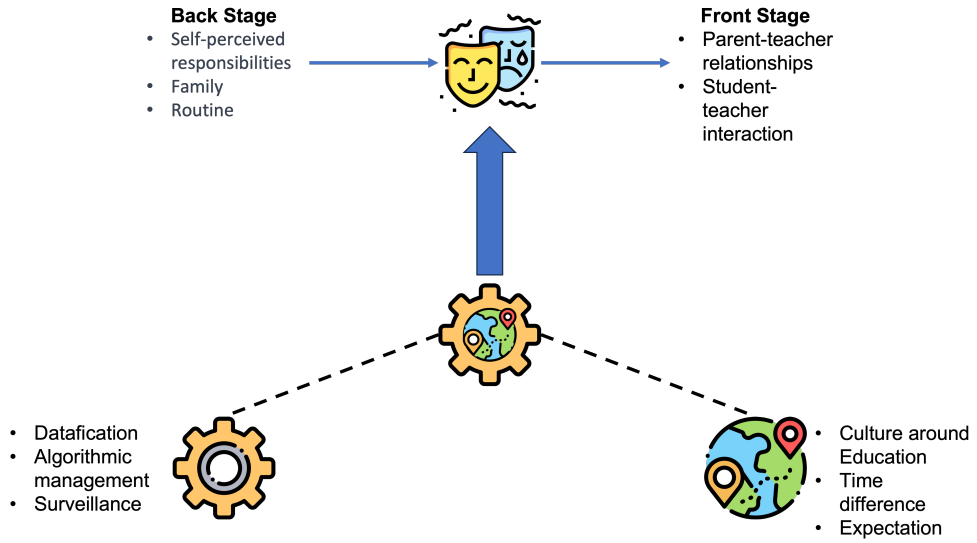


Fig. 2: Transnational sociotechnical systems mediating Perception and Performance of Identity

6.2 The Politics of Gig Education Platforms: Locating Power and Colonialism

In addition, this work challenges and complicates the dominant paradigm where systems being designed in the West (Wyche et al., 2015) subsequently migrate to Global South countries, where they are rapidly adopted (Escobar, 2011). Indeed, in critical HCI and social computing scholarship, decolonial and postcolonial researchers have argued that the prevailing design paradigm for computing systems is still primarily the Global North and Western-centric (Irani et al., 2010; Dourish and Mainwaring, 2012). Often used as an umbrella term, what and where is "the Global South?" Whereas the Oxford English Dictionary defines the Global South as "the countries of the world that are regarded as having a relatively low level of economic and industrial development, considered collectively, contrasted with the Global North" (Dictionary, 1968), researchers have critiqued such collective and monolithic views. In addition to using the U.S. South and Mediterranean and Eastern Europe as examples of Souths within the perceived North (López, 2007), they argued that BRICS[15] nations, many of which historically were colonies, re-legitimize and replicate imperialist and capitalist hegemony (Willems, 2014). Hence, we must critically reflect on how contemporary power hierarchies and colonialism are mediated by factors such as the economy and technology.

In our study, participants were from the United States, a well-established Global North location. But due to their financially constrained statuses, to understand their experiences and locate power in their engagement with gig work on platforms designed

[15]Brazil, Russia, India, China, and South Africa

and developed in China (a BRICS nation) we need to abandon the mainstream dichotomous narrative (e.g., developed vs. developing countries, the Global North vs. the Global South). Postcolonial computing scholars also encourage us to consider how "uneven power relations are enacted in design practice" — irrespective of nations' and regions' historical conditions (Irani et al., 2010). Computing systems that harness "human experience as free raw material for translation into behavioral data" lead to "unprecedented asymmetries in knowledge and the power" (Zuboff, 2019). To locate the power and politics in the context of transnational gig education platforms, we reflect on our findings from three angles: normalizing certain worldviews through education, perpetuating a colonial mentality, and establishing a hegemonic platform identity.

Normalizing certain worldviews through education. As different cultures and political ideologies compete to shape the narratives in education, technology can play a pivotal role in normalizing the sociopolitical views of decision-makers and designers. Like the historical use of cartography and maps to embed political views, gig education platforms surveil online classrooms to ensure U.S. educators' conformity with China's geographic map standards, molding students' worldviews according to China's perspective. While nationally dominant political views are normalized through a country's educational standards, gig platforms enable their global dissemination through AI monitoring.

Perpetuating colonial mentality. Gig education platforms can perpetuate a colonial mentality — the sense of cultural inferiority to historic colonizers (Nünning and Nünning, 2015). For example, the gig education platform VIPKid advertises English classes taught by certified teachers from the U.S. and Canada[16]. Such platform biases against linguistic accents, particularly those of racial minorities, reinforce a hierarchy that impedes cultural hybridity.

Establishing a hegemonic platform identity. Contrary to the preference for Western linguistic practices congruent with globally embedded colonialism, these gig education platforms exhibited a platform identity. While users worldwide could join, the majority were Chinese clients, which resulted in a "default" Chinese identity. While existing research on gig work highlights how Western companies dictate non-Western off-shore workers' schedules, we found that these platforms prioritized Chinese work hours and holiday patterns. The potential of a gig education platform like VIPKid to facilitate global connections between students and teachers for language learning is currently limited by its focus on primarily serving bilateral relationships between Chinese students and native English-speaking teachers from North America. This exclusivity shapes the platform's identity — who its clients and workers are and what purpose the platform serves.

6.3 Toward Identity Alignment for Worker-centered Design in Gig Economy

Building on our empirical findings, in this section, we discuss how to create a more equitable and fulfilling working environment in the gig economy by employing our

[16]https://www.vipkid.com/en-us/

concept of *identity alignment*. A growing body of research has uncovered moral and ethical dilemmas within the gig economy, in which platform design often clashes with worker-centered principles (Fox et al., 2020). In the landscape of platform capitalism (Srnicek, 2017), companies maximize profits by reducing product and labor costs at the expense of worker well-being. Previous studies have exposed moral and ethical issues associated with gig work, such as problematic wage structures (Hara et al., 2018), employment bias (Hannák et al., 2017), and income disparities (Cook et al., 2018). Flexibility, though appealing, often brings managerial control and job insecurity. Gig platforms also tend to prioritize work productivity over worker well-being. Building on broad critiques of user-centered design methods, Khovanskaya and colleagues (Khovanskaya et al., 2018) have argued that such methods affirm the status quo by designing around existing work routines. Therefore, expanding on the discourses around worker-centered design (Fox et al., 2020), which explore the design of sociotechnical systems to influence emerging and future work forms, we contribute to the HCI design agenda by introducing the concept of *identity alignment*. That is, *researchers and designers should prioritize the development of systems that resonate with workers' self-concept and their intrinsic motivations to engage in work.*

In our research, we have shown the transformative impact of transnational gig platforms on U.S. participants'identities as educators across cultural contexts. The current U.S. K-12 education system presents challenges like parental disrespect and classroom disciplinary issues that undermine participants' identities as teachers. In contrast, gig education platforms, designed around respectful cultural and educational values, align with teachers' self-perceptions as educators and caregivers. For instance, platforms such as VIPKid mediated student behavioral issues through a combination of human and non-human supports and allowed participants to reclaim their professional identities as teachers rather than babysitters. Thus, the participants regained a sense of professional purpose.

Based on our findings, we argue that designing systems that prioritize identity alignment and match workers' identities on the platform with their self-concept can improve their work-life balance and make work more meaningful for them. To achieve that objective, platforms could add features that pair workers with tasks that align better with their current or prior professional identities. For instance, MTurk could match teachers with tasks they do in their professional lives or tasks that could advance their professional careers, such as project management. Recognizing the capitalist constraints on social value-centric design (Wolf et al., 2022), we recommend companies redesign their business models to prioritize digital workers' needs. In other words, design "a double bottom line" — making a profit while pushing for social change (Gray and Suri, 2019). This approach can potentially improve workers' working environments, helping them find meaning in their work while leading to a more transformative outcome. Our findings also suggest that the reconfiguration of participants' lives through gig education platforms can help their internalized view of themselves and their identities more closely align. Thus, we contend that designing systems that prioritize identity alignment can enhance workers' work-life balance and overall quality of life while making work more meaningful for them.

That said, fully implementing identity alignment on gig platforms presents challenges, especially given the diverse motivations, values, and priorities of workers. Our study shows that, although all participants were committed to teaching, they engaged with transnational gig education platforms under varying circumstances. Some were committed to full-time work, whereas others participated part-time, viewing it as a secondary source of income. This diversity of interests and values poses challenges that may only be partially resolved through design. Designers should recognize that technical solutions for identity alignment have material benefits but can also be insufficient and temporal for platform workers, depending on their career stage and priorities. Nevertheless, designers can still prioritize identity alignment and strive for fundamental design values such as human well-being, dignity, and justice (Friedman and Hendry, 2019) while also being sensitive to the context. In our case, promoting well-being, dignity, and respect involved paying careful attention to the personal and professional identities of the teachers, particularly those who were dedicated teachers, wives, and mothers.

We recognize that technology alone cannot and will not resolve challenges that are fundamentally social in nature (Madianou, 2014). Therefore, it is crucial that workers have the right and opportunities to achieve financial insecurity and job dissatisfaction without heavily relying on platform-based solutions. This leads to a call for new research and enhanced public support for alternative career pathways for workers. Additionally, drawing on the recent emphasis in HCI on the design of technology and policy (Yang et al., 2023), we believe design implications could be more powerful when aligned with appropriate policies. Our findings have highlighted the transnational nature of gig work and its associated challenges among knowledge workers. Apart from incorporating design considerations, future work could also advocate for policy interventions on at both domestic and international scales to increase institutional support and to further improve workers' labor conditions.

7 Limitations and Future Work

While our study makes both empirical and conceptual contributions, we acknowledge its limitations. Qualitative methods are powerful because their situatedness and interpretative flexibility enable researchers to capture the complexity of participants' experiences (Pinch and Bijker, 1984; Strauss and Corbin, 1990). However, despite efforts to recruit a diverse group of participants, we did not secure any male online teachers, even though they constitute 23% of the U.S. K-12 public school teaching workforce[17]. Throughout our study, our observations indicate that female teachers are the predominant workforce on those gig education platforms. This paper thus primarily explores the experiences of female teachers' transitioning into the gig economy, including their motivations and the challenges they face in both traditional and gig education settings. As such, our findings may not be generalizable to male teachers. We encourage future research to use alternative methods, such as surveys with

[17]Characteristics of Public School Teachers https://nces.ed.gov/programs/coe/indicator/clr/public-school-teachers

large representative samples, to explore the gender differences and associated motivations and challenges to engage in transnational gig education work. Such methods could also help extend the current findings by quantitatively assessing the impact of data-driven and AI technologies in shaping workers' regimes and associated emotional labor. Additionally, our study, which focuses on interviewing U.S. K-12 teachers, has provided initial insights into how geopolitics, national policies, and digital knowledge workers intersect within the global gig education market. However, to fully explore the complex power dynamics — especially against the backdrop of rising nationalism and evolving perceptions of Western culture in the current U.S.-China political climate — future research could incorporate perspectives from Chinese parents, students, and platform designers. This approach could unveil more nuanced insights into the interplay between geopolitics, national identity, and how they influence digital education platforms and their stakeholders.

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