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The Digital Divide in Post-Pandemic Education: Perceptions of Urban and Rural EFL Teachers in Indonesia

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ABSTRACT

The COVID-19 pandemic acted as an unprecedented catalyst, forcing a global transition to online education and exposing deep-seated infrastructural and pedagogical vulnerabilities. This study investigates the lasting perceptions of this shift among English as a Foreign Language (EFL) teachers in Indonesia, focusing on the persistent challenge of the urban-rural digital divide. Employing a qualitative case study approach, this research explores the experiences of four junior high school English teachers in Pontianak Regency—two from urban and two from rural schools. Data were gathered through semi-structured interviews and document analysis. The findings reveal a significant dichotomy in teacher perceptions shaped by geographical location. Urban teachers, while initially optimistic, developed negative perceptions due to pedagogical frustrations and declining student engagement. In contrast, rural teachers held overwhelmingly negative perceptions from the start, citing insurmountable barriers related to internet access, device availability, and lack of digital literacy. The study concludes that the emergency remote teaching experience has solidified teacher perceptions that a one-size-fits-all approach to educational technology is untenable in a diverse landscape like Indonesia, highlighting an urgent need for context-aware policies and equitable infrastructure development in the post-pandemic era.

Keywords: Digital Divide, Post-Pandemic Education, EFL Teacher Perception, Online Learning, Urban-Rural Disparities, Educational Technology

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1. INTRODUCTION

The COVID-19 pandemic necessitated an abrupt and universal shift to Emergency Remote Teaching (ERT), a crisis-response mode distinct from planned online learning (Hodges et al., 2020). While many educational systems have since returned to in-person instruction, this period has left a lasting imprint on educators' perceptions of technology's role in the classroom. This experience did not create new inequalities but rather cast a harsh light on pre-existing disparities, particularly the digital divide between urban and rural communities (UNESCO, 2020). In Indonesia, a nation characterized by vast geographical and socioeconomic diversity, this divide became a critical barrier to educational continuity (Anwar & Adnan, 2020).

Teacher perception – their beliefs and attitudes – is a powerful determinant of their classroom practice. According to the Technology Acceptance Model (TAM), perceived usefulness and perceived ease-of-use are key predictors of technology adoption (Davis, 1989). However, during the pandemic, adoption was not optional. This forced transition often bypassed the crucial step of building teacher confidence, leading to negative experiences that solidified into lasting negative perceptions (König et al., 2020). Furthermore, the Technological Pedagogical Content Knowledge (TPACK) framework suggests that effective technology integration requires a complex interplay of knowledge about technology, pedagogy, and content (Mishra & Koehler, 2006). The lack of preparation for ERT meant most teachers lacked the holistic TPACK needed for success, contributing to widespread frustration. The digital divide encompasses more than just access

to the internet; it includes disparities in device availability, digital literacy, and technical support (van Dijk, 2020). In many developing nations, this divide falls sharply along urban-rural lines (Lembani et al., 2020). Rural schools often contend with unreliable electricity, poor internet connectivity, and a student population from lower socioeconomic backgrounds, making online learning nearly impossible (Anwar & Adnan, 2020; Bonal & González, 2020). Studies from the pandemic era consistently show that students in rural areas experienced greater learning loss due to these infrastructural barriers (Ferri et al., 2020). This places an immense burden on rural teachers, who must innovate with limited-to-no resources, often leading to stress and burnout (Kim & Asbury, 2020).

Perceptions formed during a period of crisis, stress, and inadequate preparation are likely to shape future attitudes towards digital learning. Understanding these lasting impressions is vital for developing effective and equitable educational policies in the post-pandemic landscape. While the initial crisis has passed, the challenges it revealed – inadequate infrastructure, lack of training, and socioeconomic barriers – remain pressing issues (Sari & Suryani, 2021). **Despite extensive research on the immediate impacts of ERT, there remains a significant gap in understanding the *enduring perceptions* of teachers, particularly how these perceptions were shaped by pre-existing regional disparities like the urban-rural digital divide in a diverse context such as Indonesia.** Previous studies have often focused on the technical challenges or immediate responses, but fewer have delved into the long-term shifts in teacher mindset post-pandemic, especially considering the varied experiences between urban and rural educators.

This study addresses this context by examining the enduring perceptions of EFL teachers in Pontianak Regency, a region representative of Indonesia's urban-rural contrasts. By analyzing their experiences, this research aims to provide actionable insights for creating more resilient and inclusive educational systems. The study is guided by the following research questions:

1. What are the lasting perceptions of EFL teachers regarding the shift to online teaching?
2. What online teaching tools were viable, and what determined their use?
3. What were the fundamental challenges faced by EFL teachers, and how did these differ between urban and rural settings?

2. RESEARCH METHOD

A qualitative case study design was utilized to facilitate an in-depth exploration of the teachers' lived experiences within their specific contexts (Creswell, 2009). This approach was chosen for its strength in uncovering the rich, nuanced meanings individuals ascribe to a phenomenon, which is essential for understanding the complexities of teacher perception.

A. Participants

Four junior high school EFL teachers in Pontianak Regency were purposefully selected for this study. The selection was stratified to ensure representation from different contexts: two teachers were from well-resourced urban schools (Mempawah and Pontianak) and two were from under-resourced rural schools (Singkawang and Kubu Raya). Participants were aged 25-30 with 2-4 years of teaching experience.

B. Instruments and Data Collection

The primary data were collected through semi-structured, one-on-one interviews conducted via video call. This method allowed for consistent questioning while providing the flexibility to probe emergent themes (Patton, 2014). Each interview lasted approximately 20-40 minutes, was screen-recorded with consent, and transcribed verbatim. To triangulate findings, participants also shared supplementary documents, such as modified lesson plans and learning materials used during the online teaching period.

C. Data Analysis

The data were analyzed using inductive thematic analysis. The researcher immersed himself in the transcripts to identify recurring patterns and concepts. These were systematically coded and then organized into broader themes that directly answered the research questions. A comparative analysis was conducted between the urban and rural datasets to highlight key differences and similarities in their experiences and perceptions.

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3. RESULTS AND DISCUSSION

The findings revealed a clear and consistent divide between the experiences of urban and rural teachers, shaping their perceptions, technology use, and challenges.

A. Lasting Perceptions of Online Teaching

The perceptions formed during the pandemic were deeply ingrained and directly correlated with the teachers' teaching environment.

1. Urban Teachers: From Optimism to Pragmatic Skepticism

Urban EFL teachers initially approached online teaching with optimism, viewing it as a new opportunity, but their enthusiasm quickly evolved into pragmatic skepticism. This shift was primarily due to unforeseen pedagogical challenges rather than technical limitations, leading them to perceive online tools as supplementary rather than a complete replacement for in-person instruction.

- Teacher 1 recalled, "At first, I had a positive perception... but that perception turned negative with the many problems teachers face... The most influential factor is the unpreparedness."
- Teacher 2 added, "My perspective becomes negative when the implementation process is not as easy as expected. The need for adaptation is so complicated." This indicates that while urban teachers had access to the necessary infrastructure, the lack of readiness in pedagogical strategies for online environments led to frustration and a more critical view of ERT's effectiveness, aligning with findings on teacher burnout and disengagement (König et al., 2020; Kim & Asbury, 2020).

2. Rural Teachers: A Confirmation of Impossibility

In stark contrast, rural EFL teachers held overwhelmingly negative perceptions of online teaching from the outset, views that were merely solidified by their actual experience. For them, online learning was not a matter of pedagogical challenge but an existential impossibility due to insurmountable infrastructural and socioeconomic barriers.

- Teacher 3 stated, "I have a negative perspective... things are difficult due to the inadequate support factors at the school where I teach."
- Teacher 4 in the most remote location powerfully articulated, "I do not have the slightest positive perspective on online teaching... we live in remote villages with minimal internet access and telecommunications infrastructure."
  Their experiences underscore the profound impact of the urban-rural digital divide, where basic access to technology and connectivity remains a critical impediment, turning the mandate for online teaching into a source of immense stress and a symbol of policy detachment from local realities, as also observed by Anwar & Adnan (2020).

B. Comparative Analysis of Urban vs. Rural Teacher Experiences

To further illustrate the distinct experiences and perceptions, Table 1 provides a comparative overview of key aspects between urban and rural EFL teachers in Pontianak Regency.

Table 1. Comparative Overview of Urban vs. Rural EFL Teacher Experiences During ERT

Feature	Urban Teachers	Rural Teachers
Initial Perception	Optimistic, viewing ERT as an opportunity	Overwhelmingly negative, perceiving ERT as impossible
Shifting Perception	From optimism to pragmatic skepticism due to pedagogical challenges	Confirmed initial negative views due to foundational access barriers
Primary Challenges	Pedagogical issues (engagement, classroom management), digital competence gaps	Foundational access barriers (internet, devices, digital literacy, support)
Common Tools Utilized	Google Classroom, Google Meet (synchronous/asynchronous)	WhatsApp (makeshift), house-to-house teaching (non-digital)
Key Takeaway	Online tools are supplementary; in-person interaction is crucial	Online teaching is unviable without basic infrastructure

This table highlights the fundamental divergence in the ERT experience. Urban teachers, while facing their own set of challenges related to pedagogical adaptation and student engagement, operated within a functional technological environment. Their skepticism arose from the *quality* of online interaction and learning outcomes. Conversely, rural teachers were battling the *impossibility* of online learning itself, where the absence of basic infrastructure rendered most digital solutions moot. This stark contrast emphasizes that the digital divide is not merely about access but fundamentally alters the nature of educational challenges faced by educators, transforming pedagogical concerns into issues of basic survival in rural contexts.

C. Interpreting Findings in Light of Theory:

The experience of the urban teachers aligns with global reports on ERT, where initial optimism was often replaced by frustration due to a lack of pedagogical training and support, leading to teacher burnout and student disengagement (König et al., 2020; Kim & Asbury, 2020). Their journey highlights that access to technology is only the first step; effective integration requires deep pedagogical knowledge, as described in the TPACK framework (Mishra & Koehler, 2006). This study's urban teachers, despite technological access, grappled with the 'pedagogical content knowledge' aspect of TPACK, struggling to translate traditional teaching methods effectively into an online format and maintain student engagement. This implies that perceived usefulness (TAM) was hindered by a lack of pedagogical readiness, leading to negative attitudes despite technological availability.

The rural teachers' accounts provide a stark illustration of the digital divide's crippling effect on education (van Dijk, 2020). Their inability to use standard online tools and their resort to WhatsApp or house-to-house visits is a testament to their resilience but also an indictment of a system that fails to provide basic necessities (Anwar & Adnan, 2020). Their consistently negative perception was a logical conclusion drawn from an environment where the requirements for online learning were simply absent. This validates the argument by Hodges et al. (2020) that ERT should not be confused with, or judged by the same standards as, well-designed online education. For rural teachers, the very foundation of perceived ease-of-use (TAM) was non-existent due to infrastructural gaps, rendering the entire concept of online teaching impractical.

D. Contrast with Specific Prior Indonesian Studies:

While previous Indonesian studies, such as Sari & Suryani (2021) and Anwar & Adnan (2020), have highlighted the digital divide's impact on remote learning, this research further deepens our understanding by explicitly contrasting the *lasting perceptions* of teachers across urban and rural settings. Sari & Suryani (2021) documented the general challenges of infrastructure in Indonesia during the pandemic, and Anwar & Adnan (2020) focused on higher education. Our study contributes by providing a granular, qualitative insight into *junior high school EFL teachers'* enduring views, demonstrating how their geographical location fundamentally altered not just their experience but their post-pandemic educational philosophy. Unlike studies focusing on immediate responses, this research captures the solidified skepticism in urban areas and the confirmed impossibility in rural areas, offering a unique perspective on the long-term psychological and practical legacy of ERT in Indonesia's diverse educational landscape.

The pandemic, therefore, served as a nationwide, unsanctioned stress test of Indonesia's educational infrastructure. The results, as seen through the eyes of these teachers, indicate a systemic failure to support its most vulnerable populations.

4. CONCLUSION

The forced shift to online teaching during the pandemic has left a legacy of strong, context-dependent perceptions among EFL teachers in Pontianak Regency. The urban-rural divide was the single most significant factor shaping these views. While urban teachers are now skeptical about the pedagogical effectiveness of online-only models, rural teachers perceive them as fundamentally unviable due to insurmountable infrastructural barriers.

This study offers several crucial recommendations for the post-pandemic era, prioritized based on the urgency and foundational nature of the challenges identified:

A. Prioritized Recommendations:

- **Invest in Equitable Infrastructure:** National and regional governments must prioritize closing the digital divide by investing in reliable internet connectivity and ensuring device accessibility for all students, particularly in rural and remote areas. This is the most foundational step, as highlighted by rural teachers' experiences.
- **Develop Context-Aware Policies:** Future educational policies involving technology must account for regional disparities. Policymakers should consider developing flexible, hybrid models that allow schools in low-resource areas to adapt instruction to their local realities, rather than enforcing a one-size-fits-all approach.
- **Differentiated Professional Development:** Teacher training in educational technology must move beyond one-size-fits-all workshops. It should be context-specific, continuous, and focus on pedagogical strategies (TPACK) rather than just tool proficiency, catering to the nuanced needs of both urban and rural educators.

Ultimately, the lesson from the pandemic is not that online learning has failed, but that a system that ignores inequality is doomed to fail its students and teachers.

B. Limitations and Future Research:

This study, while offering rich qualitative insights, is limited by its small sample size of four EFL teachers from a specific region. The qualitative case study design provides in-depth understanding but limits generalizability to the broader Indonesian context. Additionally, the reliance on self-reported perceptions, though valuable, might be subject to recall bias.

For future research, it would be beneficial to:

- Conduct a larger-scale mixed-methods study to quantify the prevalence of these perceptions across more regions and validate qualitative findings.
- Explore student perceptions of online learning in both urban and rural settings to offer a complementary viewpoint.
- Investigate the long-term impact of ERT on teacher well-being and professional development trajectories, especially for those in under-resourced areas.
- Evaluate the effectiveness of specific hybrid learning models implemented in rural contexts post-pandemic.

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