Confronting Digital Dilemmas in Translator and Interpreter Training

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Chapter 12

Remote Interpreting and Student Stress in Hybrid Training Environments

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Introduction

The rapid advancement of digital technologies has significantly transformed interpreter training, especially in response to the COVID-19 pandemic, which required a quick transition to remote education. Recent research highlights the integration of technology into interpreter training, focusing on the potential of remote interpreting platforms to address both practical and pedagogical challenges. Scholars such as Pöchhacker (2020) and Fantinuoli (2019) have underscored the transformative potential of these tools; however, research is still only trying to keep pace with technological change. This chapter contributes to this growing field by exploring the integration of a remote simultaneous interpreting training platform (RSITP) into the interpreter training curriculum. The case study presented and discussed will describe the experience with a tailor-made RSITP at Comenius University in Slovakia and the impact of remote interpreting training on students' self-reported stress levels and their ease of work during simultaneous interpreting training.

The study was conducted in a unique hybrid teaching environment, shaped by ongoing COVID-19 restrictions that required a combination of remote and face-to-face teaching. The RSITP, referred to as "i-nest", was developed to meet the needs of two Slovak universities, Comenius University and Matej Bel University, and was widely utilized during the peak of the pandemic in 2021–2022. Its continued use during the transitional academic year 2022/2023 provided a valuable opportunity to evaluate the comparative impact of traditional and distance training modalities on interpreting students. The hybrid format alternated between sessions conducted in standard interpreting booths on the premises and remote sessions facilitated via i-nest, creating a unique context for research.

During the hybrid instructional period, an interesting trend emerged: students frequently reported lower levels of stress during remote interpreting sessions compared to on-site sessions. This observation inspired the design of a short questionnaire aimed at systematically capturing students' subjective stress levels, ease of work and contributing factors in both training

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environments. The survey, which was distributed to students in the interpreting programme of Comenius University, used Likert scales and open-ended questions to gather insights. The results provided preliminary evidence that remote interpreting sessions may alleviate certain stressors associated with physical booths, although the technical challenges of the remote environment were also a significant concern.

This chapter is structured to explore these findings within the broader context of technological integration in interpreter education. It begins by outlining the specific challenges of moving to remote interpreting training, and links these challenges to existing research on stress in interpreting and the integration of digital tools in training. In doing so, it situates the experiment within the limited but growing body of literature on remote interpreting training, addressing both its potential benefits and its limitations.

The second section outlines the research methodology, providing a detailed description of the RSITP platform, its functionalities, and the challenges encountered during its implementation. This section also introduces the survey design and explains its focus on stress levels, work comfort, and related factors, thus providing transparency in the research process. Finally, the third section presents the results of the study, highlighting the observed differences in students' stress levels between traditional and remote modalities. It also explores the implications of these findings, including their relevance to the design of interpreting training curricula. Drawing on broader discussions about digital transformation in education, this section reflects on how RSITPs such as i-nest can address the dual challenge of fostering digital literacy while managing the psychological impact of technological integration.

The chapter concludes with practical recommendations for interpreter training programmes. These include strategies for using remote platforms to enhance student learning, developing digital skills, and addressing technical challenges to ensure equitable access and effective training. Finally, the analysis contributes to the ongoing discourse on digital trends in interpreter education by advocating for a balanced and research-based approach to integrating remote technologies into interpreter education. This perspective is consistent with the broader goal of preparing interpreters for the demands of an increasingly networked and digitised global environment.

Technology Integration in Interpreter Training: Challenges and Stress Implications

The integration of remote interpreting technologies into interpreter training marks a profound transformation in pedagogical practices, driven by rapid technological advancements and caused by the COVID-19 pandemic (see Davitti & Braun, 2020). This shift has provided new opportunities for innovation in interpreter education but has also revealed significant challenges. This section explores these challenges and their implications for stress in remote interpreter training environments, drawing on a wide range of scholarly sources.

Challenges of Technology Integration in Interpreter Training

Interpreting, a profession as old as human communication itself, has repeatedly demonstrated its ability to adapt to historical upheavals. After the First World War, the profession gained formal recognition with the emergence of interpreting as a distinct profession, particularly within newly established multilateral institutions. After the Second World War, the profession underwent a second major transformation with the rise of simultaneous interpreting. These moments of crisis not only accelerated innovation but also redefined the professional and technical contours of interpreting. A similar pattern emerged during the COVID-19 pandemic, when improvised remote solutions were quickly adopted to sustain interpreting practice and training. Many of these initially makeshift measures have since been integrated into professional routines and training practices, resulting in lasting changes in how interpreters are trained and how the profession continues to evolve.

Distance interpreting technologies have therefore become a critical component of interpreter training, providing continuity and adaptability during periods of disruption. Platforms such as Zoom, KUDO, or in our case, i-nest have been instrumental in facilitating the rapid transition to online learning environments. However, while these technologies have enabled distance learning in unprecedented circumstances, their integration has also revealed a number of persistent challenges. These include limitations in technological infrastructure, the need for revised pedagogical strategies adapted to digital contexts, and ongoing concerns about equitable access for all students (for further discussion of equity in the use of technology, see Orrego-Carmona, 2025, chapter 3 this volume).

The adequacy of existing platforms for interpreting training remains a key concern. Ahrens et al. (2021) note that many commercial platforms lack essential features for interpreter training, such as dual-track recording, real-time relay interpreting, and immersive virtual booth setups. Even platforms such as Zoom, which include basic simultaneous interpreting functions, fall short of meeting advanced pedagogical needs. Čeňková (2020) highlights how platforms like KUDO offer a professional-grade solution but require significant customisation and preparation to accommodate the specific requirements of educational contexts, such as multilingual mock conferences.

These limitations require workarounds, such as assigning fictitious language channels to simulate multilingual scenarios, adding complexity and preparation time for trainers and students (Čeňková, 2020; Perez and Hodáková, 2021). The broader interpreter training community, including organisations like CIUTI, has acknowledged these challenges and continues to seek innovative solutions (Ahrens et al., 2021).

Interpreting education traditionally relies on real-time feedback, interaction, and non-verbal cues. However, remote platforms disrupt these dynamics, making it harder for instructors to provide immediate, context-sensitive feedback. Davitti and Braun (2020) observe that the lack of face-to-face interaction

affects the quality of communication between instructors and students. Students, in turn, often report feelings of isolation and reduced engagement, particularly in larger, less personalised online classes (Ahrens et al., 2021; Čeňková, 2020). Yet the research by Podlucká (2020) from the same geographical context seems to support the opposite argument, where a significant number of students thrived in the distance training environment.

These disruptions are not limited to instructor–student interaction but also extend to peer-to-peer engagement, which is a vital element of collaborative learning in interpreter education. Remote environments introduce further barriers to informal communication and group cohesion, making it more difficult for students to exchange feedback, build trust, and work together effectively. Nordmann et al., (2020) suggest that fostering student engagement in online settings requires reimagining pedagogical strategies to ensure active participation and meaningful collaboration.

The technical demands of distance learning compound these challenges. Connection instability, multitasking, and platform incompatibility are common sources of frustration (Ahrens et al., 2021). Studies conducted before the pandemic show that managing multiple platforms and dealing with technical disruptions increases cognitive load, leading to fatigue and reduced performance (Lepp et al., 2019). The shift to distance learning during the pandemic amplified these problems, particularly for students who lacked digital literacy or access to reliable technology (Breitenbach, 2021).

When teaching simultaneous interpreting (SI), giving feedback, and discussing impressions with students, one cannot help but notice that the phenomenon of multitasking is particularly problematic in online settings. Research suggests that cognitive capacity is finite; when students attempt to juggle multiple tasks simultaneously, the quality of their performance declines (Lepp et al., 2019; Wood & Zivcakova, 2015). The burden of navigating multiple platforms and technologies is even more pronounced and relevant in the context of simultaneous interpreting, a task that is already characterised by high cognitive demands (see Kurz, 2003). This tendency was particularly evident during the early stages of acquiring simultaneous interpreting skills, as demonstrated in our experiment.

Stress Implications in Remote Interpreter Training

The challenges of technology integration are closely linked to stress, a pervasive factor in interpreters' training and practice. As interpreting moves into increasingly digital environments (Fantinuoli, 2018; Braun, 2019; Pöchhacker & Liu, 2024) it is crucial to consider how technological demands interact with the already complex stress landscape of the profession. Stress in interpreting manifests itself in a variety of ways, including traditional stressors inherent to the role, new stressors introduced by remote environments, and individual perceptions shaped by personal coping skills and digital literacy.

Simultaneous interpreting is inherently stressful due to its cognitive, emotional and physical demands. Traditional stressors include the need for sustained attention, rapid decision-making, and constant exposure to audience scrutiny (Kurz, 2003). Physiological studies confirm that interpreting triggers significant stress responses, such as elevated cortisol levels and increased heart rate, which can impair performance and affect well-being (Moser-Mercer et al., 1998). Understanding how these stressors are altered or exacerbated in remote contexts is therefore critical to assessing the impact of digital transformation on the field of interpreter training.

In educational settings, these stressors are often amplified. Mock conferences, classroom assessments, and the public nature of feedback sessions create high-pressure scenarios that regularly induce anxiety among students (Gumul, 2021). During the pandemic, the shift to remote training introduced an additional layer of complexity for interpreting students. Beyond the demands of acquiring interpreting skills, they were now required to quickly familiarise themselves with new digital platforms, manage technical troubleshooting independently, and often work with incompatible or technically inadequate hardware. This transition also introduced a new set of stressors specific to the remote mode of delivery. One of the most important was the physical and psychological detachment from the interpreting environment. The phenomenon of "not being there", as described by Ziegler and Gigliobianco (2018), led to a reduction in situational awareness and a sense of disconnection. For many students, this sense of disengagement intensified feelings of isolation, especially in the absence of immediate interaction with peers and teachers (Čeňková, 2020).

These psychological pressures were compounded by the technical challenges associated with remote interpreting (see, for example, Roziner & Shlesinger, 2010). In our experience, and as discussed later in this chapter, persistent problems such as unstable internet connections, poor sound quality and platform malfunctions were frequently cited as major sources of frustration. Čeňková (2020) notes that even minor disruptions during simulated multilingual conferences significantly increased participants' stress levels. In parallel, Ahrens et al. (2021) highlight the cognitive load of managing multiple technological tasks simultaneously – such as navigating software features while interpreting in real time – adding another dimension to the already demanding task of learning to interpret.

Closely related to these technological and cognitive pressures is the issue of fatigue. Students and teachers alike report increased levels of exhaustion in remote classes compared to face-to-face sessions, a trend attributed to the mental strain of prolonged screen-based interaction and the limited opportunities for informal breaks and physical movement (see Ahrens et al., 2021). The cumulative effects of continuous online engagement, multi-tasking and reduced non-verbal feedback appear to contribute significantly to this fatigue. These findings highlight the need to structure remote interpreting courses to allow for regular breaks and mindful management of screen time.

Yet, stress in interpreting is not determined solely by external circumstances such as technological complexity or instructional design. Individual perception plays a pivotal role in shaping how students experience and respond to stress. According to Lazarus' appraisal theory of stress (1977), it is the individual's evaluation of their capacity to manage a given situation that determines their stress response. In the context of remote interpreting, Gumul (2021) highlights that students who display positive attitudes toward technology and who possess effective coping strategies are generally more resilient and better able to navigate the pressures of the remote learning environment. This suggests that psychological readiness and adaptive mindsets are just as critical as technical preparedness in mitigating stress and supporting student success.

For students, the abrupt shift to remote learning during the pandemic intensified feelings of uncertainty and anxiety (Ahrens et al., 2021). However, some students viewed the experience as an opportunity to develop new skills and adapt to evolving professional demands (Čeňková, 2020). This variability in stress perception highlights the need for personalised approaches to interpreter training that address individual differences in coping styles and attitudes.

The integration of distance technologies into interpreter training has brought both opportunities and challenges, requiring adaptation of pedagogical practices and technological solutions. While limitations such as platform inadequacies and interaction barriers are notable hurdles, they have also driven innovation in training methodologies and the development of specialised tools. Stress, a significant factor in interpreting, takes on new dimensions in remote environments where technological and psychological pressures combine. However, perhaps surprisingly, after alluding to multiple stressors ranging from the general anxiety caused by the pandemic and the uncertainty it brought, to having to work with new, untested ways of working, to the general stress associated with coping with the cognitive load and other related stressors in the early stages of simultaneous interpreting, our experiment reveals a rather surprising trend: as we will discuss in this chapter, preliminary findings from the experiment conducted at Comenius University suggest that for some students, remote interpreting may actually reduce stress compared to traditional on-site settings. This finding, derived from a limited survey, suggests that remote platforms may reduce certain stressors, such as performance anxiety and physical proximity to peers or teachers.

Methodology

The i-nest Platform

In the context of interpreter training during the COVID-19 pandemic, universities were faced with the urgent need to move to distance learning formats. While consecutive interpreting could be taught relatively effectively using standard videoconferencing tools such as Microsoft Teams or Skype,

simultaneous interpreting was far more challenging. It requires a highly specialised environment – a virtual simultaneous interpreting lab – that replicates the conditions of professional practice. In the early months of the pandemic, the range of tools suitable for teaching simultaneous interpreting was very limited. Zoom, although widely used, lacked key features such as dual-track recording and structured relay interpreting, which limited its pedagogical effectiveness (Čeňková, 2020; Ahrens et al., 2021). A few institutions had access to professional platforms such as KUDO, but a dedicated, pedagogically oriented RSITP was still lacking.

In response to this gap, two Slovak universities – Comenius University in Bratislava and Matej Bel University in Banská Bystrica – jointly approached a private provider of physical conferencing and interpreting technology to address the lack of suitable platforms for remote simultaneous interpreting training. Drawing on the company's previous experience in building and equipping traditional interpreting labs for both institutions, the universities commissioned the development of a bespoke remote platform designed to replicate the essential features of an on-site interpreting lab. The result was the i-nest platform, which played a central role in the Comenius University experiment and represented an innovative attempt to adapt interpreter training to the needs of distance education. Designed by the author of this chapter in collaboration with Martin Djovčoš of Matej Bel University, i-nest was developed as a dedicated RSITP, tailored to meet the pedagogical and technical needs of interpreter training during and beyond the pandemic.

Development of i-nest began in early 2021, with the first trial version completed after more than six months of design and testing. The platform was designed as an online solution hosted on an external server, requiring students to register in advance. Teachers were given special administrative accounts that allowed them to create online classrooms with a maximum of 14 students per class. After pilot testing in 2021, i-nest was formally launched in 2022 and used at two universities for interpreter training in the academic years 2022 and 2023. However, both universities no longer use the platform.

The primary aim of i-nest was to replicate the functionality of a professional interpreting lab while meeting the specific needs of distance learning. Each student was provided with an individual virtual booth, complete with microphone control, muting options, relay channels and volume adjustment. The platform supported video and audio streaming, allowing students to be visible to trainers or the entire class in full class mode. The inclusion of relay interpreting capabilities further enhanced its ability to replicate real-world interpreting scenarios.

The trainer interface was designed with controls to manage the training process effectively. Trainers could listen to one or more students simultaneously, play and record audio files, and remotely control students' microphones. The trainer interface allowed trainers to control audio channels for each ear independently, allowing simultaneous monitoring of the source speech and one or more student outputs. In addition, the trainer interface

supported both individual and group communication. Initially limited to unidirectional communication, the platform was later updated to allow two-way discussion with the entire class. A text chat function allowed trainers to communicate directly with individual students or the whole group, adding flexibility to the interaction process.

The platform required the use of a specific web browser (Firefox) and specified minimum hardware and software requirements for students' devices. However, these requirements could not be verified remotely, leading to potential performance differences based on individual setups. User manuals and troubleshooting guides were developed to assist users, and a short troubleshooting session (10–15 minutes) was held at the beginning of each remote class to address technical issues.

Despite these measures, technical challenges remained. The platform required significant computing resources and a stable, high-quality internet connection. Students often encountered bandwidth problems that required video streams to be turned off during interpreting exercises. Audio quality was also inconsistent, occasionally interrupting interpreting activities. Due to these challenges, a small group of students (three) who could not meet the technical requirements for connection were excluded from the remote classes and assigned alternative individual assignments; they were not included in this study. Given the technical requirements of the platform, Microsoft Teams was used as a backup communication tool for problem solving and general discussion, but not for interpreting.

Despite the technical glitches and occasional complications, the i-nest platform proved to be a valuable tool for maintaining the continuity of SI training during periods of disruption to on-site instruction. By providing a

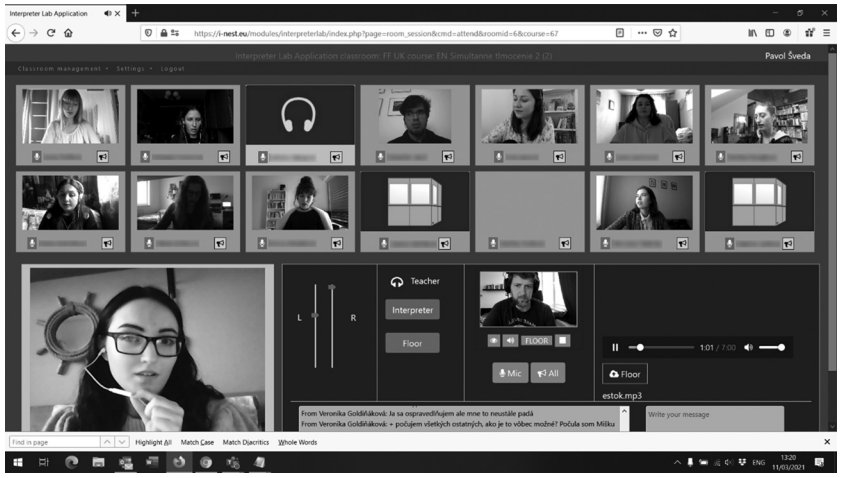

Figure 12.1 Teacher's interface in the i-nest remote simultaneous interpreting training platform

virtual alternative to the physical interpreting lab, the platform ensured that students could continue to develop critical skills in an environment that closely simulated professional conditions. Structured feedback collected at the end of the semester as part of the university's standard course and instructor evaluation process revealed that students were generally satisfied with the platform and responded positively to its introduction. Many appreciated its innovative features and its role in enabling uninterrupted training under challenging circumstances.

Description of the Experiment and Data Collection

The experiment was conducted during the 2022–2023 academic year as part of an introductory SI course for first-year M.A. students in translation and interpreting. These students were enrolled in various language combinations where English was paired with another language; however, for the purposes of this course, they only interpreted from English into Slovak. The instructional materials utilized for this course consisted of pre-recorded speeches and presentations prepared by the students, with each presentation lasting no more than 10 minutes. The materials employed in this course can be characterized as beginner and/or intermediate level, as the course design is tailored to the introductory stages of SI training.

The course followed a standard weekly schedule, with one 90-minute lesson per week. Students participated in both on-site and remote interpreting sessions to ensure exposure to both modalities. Each student had between one and five sessions of each type, with some students experiencing additional sessions due to enrolment in other simultaneous interpreting courses. At the end of the semester, after grades had been awarded, a questionnaire (described below) was distributed to collect data on students' experiences of both on-site and remote interpreting.

The questionnaire comprised 16 questions and aimed to capture students' individual experiences of stress and ease related to work in both on-site and remote interpreting sessions. Administered via Google Forms, the survey employed a simple self-report format. Given the pandemic limitations and the inability for long-term planning, we couldn't employ more comprehensive methods such as physiological measures of stress (e.g., cortisol levels or heart rate variability) or standardised psychological testing frameworks such as the Perceived Stress Scale (Cohen et al., 1983). While such methods are often regarded as more robust in stress research (Moser-Mercer et al., 1998; Lepp et al., 2019), our survey can be viewed as an initial probe that offers valuable insights into students' perceptions during a transitional period in interpreter training.

The questionnaire commenced with contextual questions to collect demographic and background information about the respondents. Students were asked to indicate their age and gender, as well as the number of remote and on-site interpreting sessions they had attended. Following the contextual

section, the survey incorporated both quantitative and qualitative components. Students were asked to rate their perceived stress levels and ease of work for both on-site and remote interpreting sessions using Likert scales. These quantitative questions facilitated direct comparisons between the two modalities and enabled basic statistical analysis of the data. To complement the numerical ratings, the survey also included optional open-ended questions. These qualitative questions invited students to elaborate on the specific factors influencing their stress levels and to discuss the perceived advantages and disadvantages of each training environment.

The survey was conducted anonymously at the end of the semester, after grades were finalised, to minimise the impact of academic concerns or instructor bias on the responses. Participation was voluntary, with 22 out of the 37 students enrolled in the course responding, resulting in a response rate of approximately 59%.

Given the improvised nature of the survey and its reliance on self-reported data, the scope of the findings is necessarily limited. The design did not allow for an in-depth exploration of the multifaceted phenomenon of stress in interpreting, nor did it include physiological or standardised psychological measures, as already mentioned. Nevertheless, the survey offered a useful preliminary overview of students' experiences and highlighted certain patterns that may warrant closer, more systematic investigation. Despite its methodological limitations, the data contribute a relevant insight to the ongoing discourse on the integration of remote technologies into interpreter training, capturing a moment of rapid pedagogical adaptation and digital transformation.

Presentation of the Results

Characteristics of the Group

The survey participants consisted of 22 first-year M.A. students enrolled in a simultaneous interpreting course. This group had a mean age of approximately 22.6 years and a median age of 22, including both male and female students. Gender representation was unbalanced, with females making up the majority of respondents. Regarding experience, students reported an average of just over one semester of simultaneous interpreting training across all language combinations, highlighting their relative inexperience in the discipline.

Students exhibited a high level of comfort with digital technologies and online learning tools. On a scale of 1 (not comfortable) to 5 (very comfortable), the average rating for comfort with digital technologies was 4.18, whereas the average comfort rating for online learning tools was slightly lower at 4.04. These results suggest that most students felt confident in their ability to navigate the digital platforms and tools needed for remote interpreting training.

Comparative Analysis of On-site and Remote Interpreting: Ease, Stress, and Comfort Levels

This section presents an analysis of general trends in student responses to questions regarding their experiences with on-site and remote interpreting technology. The analysis focuses on three key aspects: ease of use with interpreting technology (Questions 8 and 12), stress levels during interpreting (Questions 9 and 13), and overall comfort in interpreting settings (Questions 10 and 14). These questions were designed to compare students' experiences in traditional on-site interpreting booths versus the remote interpreting environment provided by the i-nest platform. By examining the mean and median responses for each question pair, we aim to uncover patterns in how students adapted to these modalities, highlighting the advantages and challenges associated with each setting.

Question 8 asked students to rate the ease of working with interpreting technology in on-site booths, while Question 12 addressed the same for remote interpreting using the i-nest platform. The mean score for on-site technology was 4.27, compared to 3.82 for remote technology. These results suggest that students generally found on-site interpreting technology slightly easier to work with, though the difference was not substantial. The median score for both questions was consistent with the means, supporting this trend.

Question 9 measured stress levels during on-site interpreting, while Question 13 focused on stress experienced during remote interpreting. Stress levels were rated on a scale from 1 (no stress) to 5 (high stress). The mean stress level for on-site interpreting was 3.14, compared to 2.82 for remote interpreting. This indicates that, on average, students experienced slightly lower stress levels while working remotely. The median values (3 for on-site and 3 for remote) further support this observation.

Question 10 assessed comfort levels when interpreting in on-site booths, while Question 14 evaluated comfort during remote interpreting sessions. Comfort was rated on a scale of 1 (very uncomfortable) to 5 (very comfortable). The mean comfort score for on-site interpreting was 3.5, compared to 3.77 for remote interpreting. Interestingly, students reported feeling slightly more comfortable during remote interpreting sessions despite encountering some technical challenges.

The table below summarises the general trends and averages for paired questions comparing on-site and remote interpreting experiences. It includes the mean and median values for each question pair, providing insights into ease of work, stress levels, and comfort across the two modalities.

The comparison reveals that students generally found on-site interpreting technology slightly easier to use than the i-nest platform, with a mean score of 4.27 compared to 3.82. However, remote interpreting sessions elicited slightly lower stress levels (2.82) compared to on-site settings (3.14). Comfort levels were marginally higher for remote interpreting (3.77) than for on-site booths (3.5), suggesting that despite technical challenges, students felt relatively at ease in the remote setting.

Table 12.1 Trends and averages for paired questions comparing on-site and remote interpreting experiences

Question Pair	*On-site Mean*	*Remote Mean*	*On-site Median*	*Remote Median*	*P-value (Significance)*
Ease of Work (Q8 & Q12)	4.27	3.82	4.0	4.0	0.12
Stress Levels (Q9 & Q13)	3.14	2.82	3.0	3.0	0.03
Comfort Levels (Q10 & Q14)	3.5	3.77	3.5	4.0	0.01

To determine the significance of differences in the students' experiences across on-site and remote interpreting modalities, paired t-tests were conducted for each question pair. For ease of work (Questions 8 and 12), the analysis revealed a slight decrease in ease of use for remote interpreting compared to on-site interpreting; however, this difference was not statistically significant ($p = 0.12$). Stress levels (Questions 9 and 13) were notably lower for remote interpreting, with the statistical analysis confirming this difference as significant ($p < 0.05$). Similarly, comfort levels (Questions 10 and 14) were found to be slightly higher for remote interpreting, with the difference also reaching statistical significance ($p < 0.05$). These results indicate meaningful distinctions in stress and comfort between the two modalities, while ease of use remained comparable.

These findings suggest that while ease of work with interpreting technology remained relatively comparable across on-site and remote modalities, students reported lower stress levels and higher comfort when interpreting remotely. This highlights the potential of remote interpreting platforms, such as i-nest, to provide a supportive and less anxiety-inducing environment, even if technical adjustments are required to optimise their usability. The high level of familiarity with digital tools among respondents likely contributed to their ability to adapt effectively to the remote modality, despite occasional technical challenges.

Analysis of Stressors in On-site and Remote Settings

Responses to the open-ended questions (11 and 15) offered detailed insights into the frequency and significance of stressors related to on-site and remote interpreting. These findings underscore the unique challenges presented by each modality, as reported by the students.

In the context of on-site interpreting (Question 11), booth partner interactions emerged as the most frequently mentioned stressor, reported by 14 out of the 22 respondents (63.6%). Several students (10 respondents, 45.5%) identified the presence of the instructor as a significant source of stress, often stemming from performance anxiety or the perception of being closely observed. Attention-splitting demands, such as managing multiple cognitive tasks simultaneously, were noted by 9 students (40.9%). Environmental factors, including background noise, were cited by 6 students (27.3%) as

Table 12.2 Comparison of on-site and remote interpreting stressors (Q11 and Q15)

On-site Interpreting Stressors (Q11)	*Frequency*	*Remote Interpreting Stressors (Q15)*	*Frequency*
Booth partner interactions	14 (63.6%)	Internet connection quality	16 (72.7%)
Instructor presence	10 (45.5%)	Sound quality issues	14 (63.6%)
Attention-splitting	9 (40.9%)	Distractions at home	11 (50.0%)
Background noise	6 (27.3%)	Remote software console	8 (36.4%)
Terminology, names, topics	5 (22.7%)	Background noise	8 (36.4%)
		Attention-splitting	7 (31.8%)
		Personal technical limitations	2 (9.1%)

contributing to their stress during on-site sessions. Additionally, the topics of presentations, along with challenges related to terminology, names, or numbers, were mentioned by 5 students (22.7%).

For remote interpreting (Question 15), stress was primarily linked to technical and situational challenges. The most frequently reported issue was internet connection quality, cited by 16 respondents (72.7%), reflecting the reliance of remote interpreting on stable and reliable connectivity. Sound quality issues were noted by 14 students (63.6%), emphasising the vital importance of audio clarity in effective interpreting. Distractions at home were mentioned by 11 students (50.0%), demonstrating the challenge of maintaining focus in non-classroom environments. The remote software console interface and its functionality were stressors for 8 students (36.4%). Additionally, other challenges included background noise, reported by 8 students (36.4%), and divided attention, mentioned by 7 students (31.8%). Finally, two respondents (9.1%) pointed out personal technological limitations, such as problems with their computer hardware or software, as sources of frustration.

The data reveal a clear divergence in the nature of stressors between on-site and remote interpreting. On-site stress is primarily shaped by interpersonal dynamics, such as booth partner interactions and instructor presence, along with environmental distractions. In contrast, stress from remote interpreting stems predominantly from technological issues, including internet and sound quality, compounded by home-based distractions and the complexities of the remote platform.

Analysis of Subgroup: Students Stressed with On-site Interpreting

This part of our analysis focuses more closely on students who reported higher stress levels (4 or 5) in Question 9, when asked about their stress during traditional on-site interpreting. This subgroup consists of seven students, representing those who experienced significant or very high stress. Their responses to Questions 11 through 15, which capture individual

stressors for on-site and remote interpreting and the general stress levels for both formats, are examined to identify patterns and distinctions for this particular group of students.

The most frequently mentioned stressors for on-site interpreting among this subgroup of students included interactions with booth partners and the presence of the instructor, noted in 71% of the responses. These values are higher compared to the average for the entire sample (63.6% for the booth partner and 45.5% for the instructor). Additionally, attention-splitting was reported by 57% of the subgroup, highlighting the cognitive demands of managing multiple simultaneous tasks. Environmental factors, such as background noise, were identified by 43% of the respondents, compared to 27.3 % for the overall sample. Challenges related to terminology and preparation were mentioned less frequently, yet still appeared in 29% of the responses.

In remote interpreting, the stressors shifted significantly, with internet connection issues emerging as the most prominent concern, reported by 86% of the subgroup. Sound quality problems were the second most cited issue, mentioned by 71% of respondents. Other challenges included distractions at home (43%), the remote software console interface (43%), and continued difficulty with attention splitting (29%). These findings underscore the technical and environmental challenges unique to remote interpreting.

For the subgroup of seven students who reported high stress levels (4 or 5) during on-site interpreting (Question 9), their responses to Question 13, which assessed stress during remote interpreting, demonstrated a substantial reduction in perceived stress. The mean stress level for on-site interpreting within this group was 4.0, whereas the mean stress level for remote interpreting was significantly lower at 2.14. Similarly, the median values reflected this trend, with a median of 4.0 for on-site stress compared to 2.0 for remote stress.

To evaluate the significance of this difference, a T-test was conducted. The results indicated a statistically significant reduction in stress levels when comparing on-site to remote interpreting for this subgroup. The analysis yielded a t-statistic of -2.24 and a p-value of 0.033, confirming that the observed difference is unlikely to have occurred accidentally ($p < 0.05$).

Table 12.3 Comparison of stress levels in on-site and remote interpreting for subgroup vs. whole group

Question	*Mean (Whole Group)*	*Median (Whole Group)*	*Standard Deviation (Whole Group)*	*Mean (Subgroup)*	*Median (Subgroup)*	*Standard Deviation (Subgroup)*
Stress On-site (Q 9)	3.14	3.0	0.92	4.0	4.0	0.58
Stress Remote (Q 13)	2.82	3.0	0.82	2.14	2.0	0.38

This significant decrease in stress suggests that the remote interpreting environment may have provided a less anxiety-inducing setting for students who typically experience heightened stress during on-site interpreting sessions. This reduction may perhaps be attributed to the absence of physical booth dynamics, reduced social scrutiny, and a greater sense of control over their immediate surroundings, which are characteristic of remote settings. However, it is important to note that while stress levels were lower overall in the remote modality, the technical challenges and environmental distractions highlighted in Question 15 responses remain critical areas for further refinement and support.

These findings underscore the potential benefits of integrating remote interpreting platforms into interpreter training, particularly for students who may be more susceptible to stress in traditional on-site environments. By addressing the unique stressors of each modality, training programmes can create more inclusive and adaptable learning experiences for their students.

Discussion of Results and Wider Implications

Limitations of the Experiment

While this experiment offers valuable insights into the comparative experiences of students in on-site and remote interpreting settings, it is important to acknowledge its limitations. First, the study relied on self-reported data, which can be subject to biases, such as selective memory or the influence of external factors unrelated to the interpreting environment. More robust methodologies, such as physiological measurements or standardised stress scales, would provide a more objective evaluation of stress levels.

Additionally, the smaller sample size (22 respondents, with a subgroup of 7 students experiencing higher stress levels during on-site interpreting) limits the generalisability of the findings. The voluntary nature of the survey may have further introduced selection bias, as students with particularly strong opinions or experiences may have been more inclined to participate. Moreover, the technological infrastructure required for remote interpreting was demanding, leading to the exclusion of three students who could not meet the platform's technical requirements from the remote classes. This exclusion raises concerns about equity and the digital divide, as students without access to reliable internet or compatible devices may encounter additional barriers in their training.

The study also focused solely on interpreting from English to Slovak; the applicability to other language combinations, which might present different linguistic or cognitive challenges, has not been tested. Moreover, the simplicity of the questionnaire, although practical, did not facilitate a deeper exploration of the complex interplay of factors influencing stress and performance in interpreting.

Broader Implications and Connections to Previous Research

Despite its limitations, the experiment offers meaningful insights into the broader discourse on interpreter training in the digital age. The finding that stress levels were significantly lower during remote interpreting aligns with previous research by Ahrens et al. (2021) and Ziegler and Gigliobianco (2018), which emphasised the potential of remote platforms to foster less anxiety-inducing environments for students. Reduced social scrutiny and greater independence in remote settings may alleviate some of the pressures faced in on-site environments, as illustrated in this study.

However, the technical challenges associated with remote interpreting, such as internet connectivity issues and sound quality problems, highlight broader concerns raised by Čeňková (2020) and Moser-Mercer (2005). These findings emphasise the importance of developing robust and user-friendly platforms that minimise technical disruptions. The i-nest platform, while innovative, showed that even custom solutions require significant refinement to effectively meet the demands of interpreting training.

The experiment also highlights the broader need for equity in digital education. Breitenbach (2021) and Nordmann et al. (2020) both discuss the digital divide and its impact on student access and outcomes. Chapter 3 by Orrego-Carmona in this volume also explores this phenomenon. This study's exclusion of students who could not meet the technical requirements underscores the risks of exacerbating inequalities in education when adopting advanced digital tools. Future implementations must consider accessibility as a fundamental criterion to ensure that all students can benefit from technological advancements.

Implications for Interpreter Training Programmes

The results of this study suggest that remote interpreting platforms have the potential to complement traditional on-site training, offering students a less stressful and more adaptable learning environment. Training programmes could benefit from integrating remote platforms into their curricula, not as replacements for on-site instruction, but rather as supplementary tools. This hybrid approach could provide students with exposure to the diverse modalities they are likely to encounter in their professional careers.

To address the limitations observed, future research should adopt more comprehensive methodologies, including larger sample sizes, objective stress measurements, and evaluations of long-term outcomes. By connecting this experiment's findings with the broader body of research, it becomes clear that the successful integration of remote platforms into interpreter training will require a balanced focus on technological, pedagogical, and equity considerations.

Conclusion

This chapter explores the integration of remote interpreting platforms into interpreter training by focusing on the comparative experiences of students in both on-site and remote modalities using i-nest, an RSITP platform. The study provides several key insights into how remote platforms can complement traditional on-site instruction while highlighting the unique opportunities and challenges they present.

The findings indicate that while students generally found on-site interpreting technology slightly easier to use, remote interpreting sessions were associated with significantly lower stress levels and slightly higher comfort. These results suggest that remote interpreting platforms can provide a supportive and less anxiety-inducing environment for students, particularly those who experience heightened stress in on-site settings. However, technical challenges, such as internet connectivity issues and sound quality problems, remain significant obstacles that require attention in future platform development.

The open-ended responses further revealed distinct stressors associated with each modality. On-site stress was predominantly influenced by interpersonal dynamics, such as interactions with booth partners and the presence of instructors, whereas remote interpreting stress stemmed largely from technical difficulties and home-based distractions. These findings emphasise the importance of addressing both modality-specific and shared challenges to create optimal learning environments for interpreting students.

While the study highlights the potential of remote platforms such as i-nest to enhance interpreter training, it also underscores the limitations and risks of these tools. The exclusion of students who cannot meet the platform's technical requirements reflects the broader issue of the digital divide, which must be carefully managed to ensure equitable access to educational resources. Additionally, the reliance on self-reported data and the small sample size limit the generalizability of the findings, indicating the need for further research using more comprehensive methodologies.

The results align with prior research, including that of Ahrens et al. (2021) and Čeňková (2020), which emphasise the transformative potential of digital tools in interpreter education while acknowledging the technical and pedagogical challenges they present. This study reinforces the value of a hybrid approach, combining the strengths of on-site and remote training to prepare students for the evolving demands of the interpreting profession.

In conclusion, integrating remote training platforms into interpreter education marks a significant advancement in adapting learning to a digitalised world. While challenges persist, this study's findings indicate that with careful planning, strong technical support, and a commitment to accessibility, remote interpreting platforms can significantly enhance interpreter education. By addressing both the opportunities and limitations of these tools, interpreter training programmes can better prepare students for the complexities of a profession increasingly influenced by technological transformation.

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