

# Spoken Interaction for Cultural Onboarding: A Voice-Based Assistant for First-Year International Students

INDIRA SPANOVA, University of Twente, The Netherlands

For many first-year international students, starting university can be a challenging experience involving practical, emotional, and cultural transitions. However, existing onboarding tools often overlook the cultural dimension, leaving students to navigate unfamiliar norms without structured support. This study investigates the potential of *Onboarding Buddy*, a voice-based assistant designed to support cultural integration through spoken interaction and role-play scenarios. The research began with qualitative interviews with eight international students to identify key cultural challenges and expectations. Based on these insights, a low-fidelity prototype was developed and subsequently evaluated with seven students. The evaluation focused on perceived usefulness, relatability, and emotional safety. Results showed that students found the tool helpful, emotionally supportive, and especially valuable for building confidence in unfamiliar social situations. These findings suggest that thoughtfully designed spoken interaction can provide an accessible and empathetic approach to cultural onboarding for international students in higher education.

**Additional Key Words and Phrases:** Cultural onboarding, international students, spoken interaction, conversational agents, voice-based assistant, student integration, role-play interaction, human-computer interaction

## 1 INTRODUCTION

Starting university abroad can be a challenging experience for most international students, especially for the first few months. This period is marked by a complex mix of academic, cultural, and emotional transitions. Fresh experiences, such as adapting to new educational systems, managing performance expectations, and daily routines away from home, create a stressful environment. Research has proven that most international students have had to encounter a variety of obstacles while adjusting and may struggle to seek help due to social discomfort [1, 11].

Among these challenging transitions, cultural integration in the university seems particularly difficult. The adaptation often involves learning to understand and interpret unfamiliar social behaviours, communication styles, and institutional norms. As an example, in Dutch universities new international students may experience confusion when encountering direct communication style, informal classroom dynamics, or the active role of student associations (see Appendix A). These unspoken expectations can cause anxiety and negatively impact students' ability to integrate, reducing their sense of belonging. However, the process of cultural onboarding is often left to chance. Many international students rely on observing others [7], which can lead to important cultural gaps not being addressed.

There are a few existing tools (e.g., Cultural Atlas [9]) that offer cultural information, but none focus on cultural onboarding within

the university setting. Moreover, existing resources are also text-based and may be seen as overwhelming and time-consuming to browse through, especially for students who are already navigating unfamiliar systems. On the other hand, spoken interaction offers a spontaneous and cognitively effortless way to engage. Previous studies in human-computer interaction have shown that speech increases perceptions of empathy [10], and that virtual agents can help users feel supported and socially connected [3, 6].

This research explores the design of *Onboarding Buddy*, a voice-based virtual assistant developed to support first-year international students with their transition to university life. Initially, the tool was envisioned to support emotional, practical, and cultural aspects of onboarding altogether. However, to ensure a feasible scope, this thesis focuses specifically on the assistant's role in cultural transition in the University of Twente. This study aims to investigate how spoken interaction can help international students integrate into Dutch university culture.

## 2 RELATED WORK

For many international students, the first few months involve adjusting to academic, practical, and cultural challenges. Andrade [1] and Smith and Khawaja [11] note that students experience emotional and social stress during this process, especially when norms differ from what they were used to. Zhou et al. [13] describe cultural shock as a common aspect of transitioning, and Gu, Schweisfurth, and Day [7] show that students tend to rely on informal coping practices such as observing or asking peers. Unfortunately, these mechanisms can be unreliable and leave gaps in understanding. The studies point to a structural gap in how universities support international students beyond practical onboarding, leaving cultural onboarding unaddressed. This highlights the need for tools that help students feel more prepared and included within their academic and social environments.

Most existing tools support cultural adaptation at a general level. Platforms such as the Cultural Atlas website provide country-specific insights, while government-supported apps (e.g., Ankommen [2], Welcome App NL [12]) offer orientation for migrants and newcomers. These tools primarily target national integration and do not address the specific needs of international students in university settings. They lack contextual knowledge of academic norms, classroom dynamics, and peer interaction. Moreover, current tools usually require typing-based input and may be too text-heavy.

On the other hand, spoken interaction provides an emotionally expressing way of communication that lowers barriers to engagement. Schroeder and Epley [10] found that speech increases perceptions of human-likeness, helping users feel more comfortable interacting with digital systems. Bickmore and Picard [3] support their idea, showing that voice-based agents can simulate supportive presence, making them ideal for use in sensitive contexts. However, in the students' cultural onboarding context, general-purpose voice assistants

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such as Siri or Alexa fail to meet user expectations for empathy and cultural sensitivity [8]. Bickmore, Schulman, and Yin [4] emphasize that agents perceived as relatable and emotionally aware are more likely to maintain engagement and foster trust. These qualities are especially important when students are hesitant to ask for help or unsure how to behave.

One of the main features of Onboarding Buddy is role-play. Role-play has long been used in training, therapy, and education to help people simulate unfamiliar situations. In virtual environments, Gratch et al. [6] found that it can increase trust and reduce social anxiety. Their work suggests that role-playing with conversational agents may help students manage real-life stressing situations more effectively.

To date, there appear to be no existing tools that offer spoken interaction and role-play for cultural onboarding of university students. This positions the Onboarding Buddy as a novel contribution to both research and practice.

### 3 RESEARCH QUESTION

Given the limitations of existing tools and the opportunities identified in the literature, this study investigates the following research question:

*How can a spoken virtual assistant support first-year international students in adapting to Dutch university culture, and to what extent does it address challenges identified in the existing cultural onboarding experience?*

This question is explored through the following sub-questions:

- What cultural onboarding challenges do first-year international students face when adapting to Dutch university life?
- In what ways does a voice-based assistant with role-play features support cultural integration for international students?

### 4 METHODOLOGY

To address the research questions, this study follows a user-centered design approach structured in three iterative phases: (1) a qualitative interview study to understand students' experiences, challenges, and needs, (2) prototype development based on the findings, and (3) an evaluation phase to assess the assistant's usefulness. The developed product for this study is a low-fidelity prototype that simulates the intended features of the tool, particularly a voice-based Q&A assistant and contextual role-play scenarios.

The study was conducted in alignment with ethical guidelines. All participants were informed about the purpose of the study, gave their informed consent, and were assured of anonymity and confidentiality of their responses. No personal identifying information was collected, and participants were allowed to withdraw from the study at any time.

#### 4.1 Interview Study

As the first phase of this research, a qualitative interview study was conducted to find existing cultural onboarding challenges faced by international students. The interviews were conducted with the aim of identifying cultural pain points, unmet needs, and tool expectations. These findings served as the foundation for the design of the Onboarding Buddy.

Eight international students from the University of Twente participated in the study and were recruited based on diverse cultural backgrounds. Semi-structured interviews were conducted online, lasting around 20-30 minutes. The protocol consisted of open-ended questions about participants' first months at the university, experiences of cultural confusion, how they managed unfamiliar cultural situations, and more (see Appendix B.1). Follow-up questions encouraged participants to reflect on whether and how they asked for help, and the kind of guidance they would have appreciated then.

All interviews were audio recorded and transcribed. Afterwards, a thematic analysis was conducted following the six-phase method by Braun and Clarke [5]: (1) familiarization with the data, (2) initial coding, (3) searching for themes, (4) reviewing themes, (5) defining and naming the themes, and (6) producing the report. Coding was done inductively so that themes would emerge from the data. A final thematic codebook can be found in the Appendix B.2.

Key themes identified included:

- **Navigating in a new environment** - describes challenges faced during the first weeks at the university. Examples: *"There were many things happening at once and I didn't really know what I was supposed to do"* (P6), *"I felt like I was guessing half the time"* (P7).
- **Cultural Norms and Misunderstandings** - highlights confusion about unspoken Dutch norms and expectations. Examples: *"In my country, we never split like that. When someone sent me a Tikkie after dinner, I thought it was rude"* (P5), *"Here, everyone talks to teachers like friends. That was weird for me. I didn't know if it was allowed"* (P2).
- **Social Integration and Belonging** - reflects the difficulty of making friends and feeling a sense of exclusion in the student community. Examples: *"After the first module, it felt too late. Everyone already had their groups, and I didn't know how to join in"* (P5), *"It's hard to connect with Dutch students, they usually stay in their own groups"* (P8).
- **Expectations for Support Tool** - includes participants' ideas and suggestions for the tool's functionality and tone. Examples: *"It should feel like talking to someone my age... not too formal, but still helpful"* (P6), *"Practicing conversations would help me a lot. I rehearse in my head anyway, it would be nice to do it with the app"* (P2).

The results influenced the design of the Onboarding Buddy, with a specific focus given to peer-like tone, voice assistance, and realistic role-play scenarios.

#### 4.2 Prototype Development

Based on the interview findings, a low-fidelity prototype of the Onboarding Buddy was developed to address key cultural onboarding challenges faced by international students. The goal was to create a voice-based virtual assistant that offers casual, supportive, and culturally relevant guidance in a way that feels peer-like and accessible.

For this study, two main features were prioritized. The first one is the voice-based Q&A assistant, which helps by answering quick onboarding questions (e.g., "How do I address the professor?"). This

feature aimed to reduce students' hesitation to ask "obvious" questions and provide short, spoken answers. The next feature is the role-play scenarios, which simulate culturally uncertain situations (e.g., joining an association or starting conversations at a student event). These interactions allowed students to practice responses in a low-risk environment and become more emotionally prepared for encountering them in real life. Additionally, a daily "cultural norms tip" was included. The feature does not provide spoken interaction, but it increases awareness of unspoken expectations.

Figure 1 illustrates the homepage of the prototype and examples of two core features: the voice-based assistant and the role-play interface. The prototype was built using Figma. Each screen was connected to a predefined interaction, allowing participants to simulate usage during the evaluation phase. The complete prototype is included in the Appendix C.

### 4.3 Evaluation

To assess the effectiveness and perceived usefulness of the Onboarding Buddy prototype, the next phase was an evaluation session. Seven participants were recruited from the same international student population as the interview phase. Each has completed at least one semester at UT and had previously encountered challenges related to cultural onboarding. Evaluation sessions were conducted individually, in person, and lasted around 30 minutes.

Each participant interacted with the Figma prototype by walking through two predefined use cases: (1) asking a quick university cultural question ("How do I join a student association?") and (2) engaging in a short role-play scenario (dealing with direct feedback). For the conversation simulation, CustomGPT was used (see Appendix D). Participants were encouraged to think aloud during the interaction, and their responses were observed and recorded. After the session, they completed a brief post-evaluation questionnaire that included both Likert-scale items and open-ended questions about what they found helpful or confusing.

The feedback was analyzed thematically. Patterns from the responses were grouped under categories such as usefulness, reliability, and emotional comfort. This evaluation focused specifically on (1) how clearly and effectively the voice assistant provided information, (2) how well the role-play scenarios supported emotional readiness and social confidence, and (3) students' overall perception of the assistant.

The evaluation was limited in scale. Nonetheless, it provided initial evidence of how students interact with culturally contextualized spoken tools and highlighted areas for further refinement.

## 5 RESULTS

The evaluation of Onboarding Buddy prototype provided initial insights into how international students experience voice-based cultural onboarding tools. Findings are presented below in relation to the tool's core features and the overall user experience.

### 5.1 Voice Assistant

Participants found the voice assistant to be helpful for simple, low-stakes cultural questions, especially when they were unsure about social norms they considered "too basic to ask." All participants

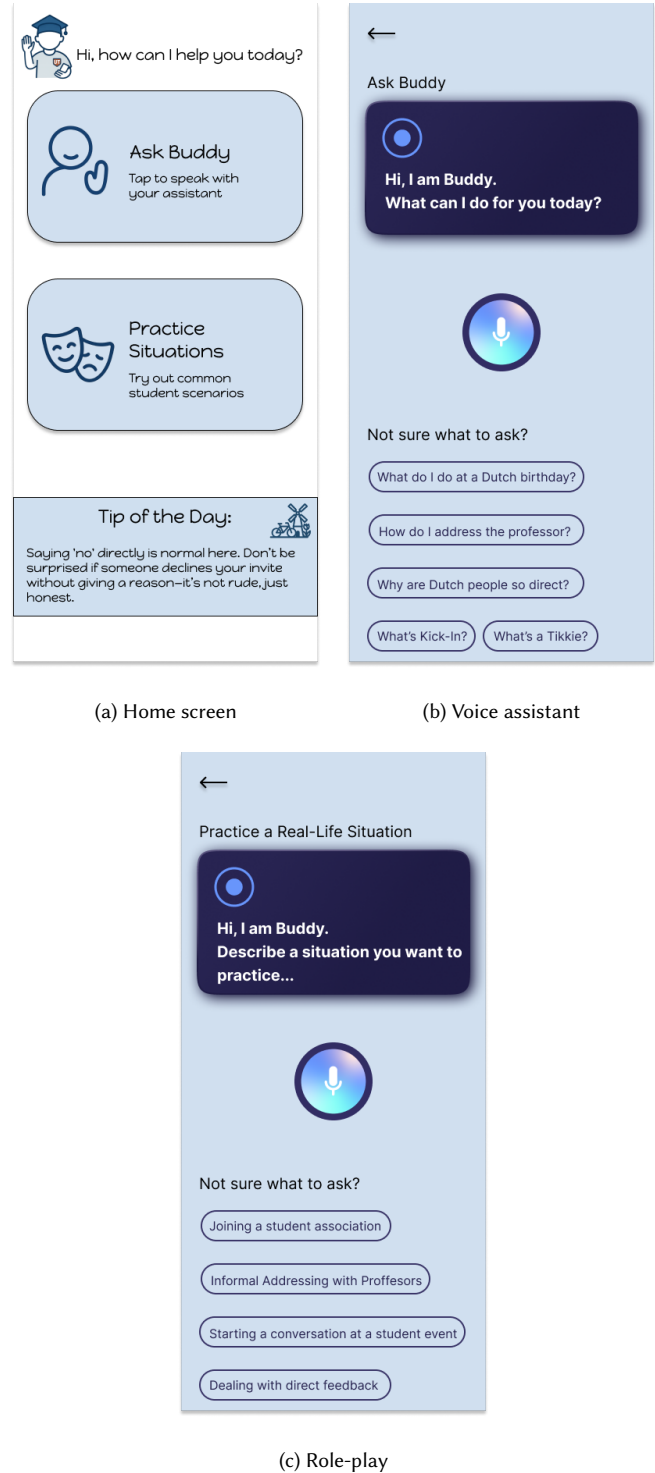


Fig. 1. Prototype screens from the Onboarding Buddy app.

mentioned that the spoken format made the tool feel more casual and human than traditional written resources. Although all had to interact with the predefined scenario about student associations, several highlighted that the interaction felt as if they were asking their friends or trusted people.

The tone and the answer of the assistant were positively received. Two participants noted that the predefined example questions were too broad and need to be more tailored to specific student contexts. Overall, the assistant was seen as a fast and low-pressure way to access cultural tips.

## 5.2 Role-play Scenarios

All participants described the role-play feature as the most impactful. They appreciated being able to practice confusing situations in a risk-free way. The predefined scenario for the evaluation covered situations involving direct feedback. After the evaluation, participants noted that accessing the role-play earlier in their transition would have made them feel more comfortable experiencing similar situations in real life. Several participants highlighted that the interaction felt as a soft exposure therapy, as they can prepare emotionally and verbally for what to answer.

The voice and the conversations were simulated by CustomGPT. Nevertheless, participants suggested that branched dialogue paths could make the role-play even more effective in future iterations.

## 5.3 Overall Perception of the Tool

Overall, students described the tool as relatable and emotionally safe. They especially valued that Onboarding Buddy didn't sound too robotic or overly formal, which made it easier and more comfortable to engage with. Participants rated the tool as emotionally supportive and easy to use. Nevertheless, users emphasized that the tool's value would depend on expanding content and being accessible early in the student journey.

Table 1. Participant Ratings (Likert Scale 1–5)

Feature	Avg. Usefulness	Avg. Relatability	Avg. Emotional Comfort
Voice-based Q&A	4.3	4.0	4.2
Role-Play Scenarios	4.8	4.7	4.8
Overall Tool Experience	4.6	4.6	4.7

## 6 DISCUSSION

This study explored how a voice-based virtual assistant could support international students during their cultural onboarding process at a Dutch university. The findings suggest that spoken interaction, when designed intentionally, offers a promising modality for delivering low-pressure, relatable, and culturally relevant support. In this section, the results are discussed in relation to the research questions, prior literature, and the broader implications for onboarding tool design.

The results indicate that students found the voice assistant to be helpful for quick questions they would not typically ask in formal settings. This supports prior findings by Schroeder and Epley [10] and Bickmore and Picard [3], who showed that speech-based interfaces can increase feelings of warmth and relatability. Participants

in this study described the assistant as casual and peer-like, aligning with the design goal of reducing the emotional barrier to asking culturally sensitive questions. This suggests that spoken interaction may help normalize “unspoken” onboarding concerns, particularly in early adjustment phases.

The role-play feature was found to be the most emotionally impactful part of the prototype. Students reported that it helped them feel more prepared and less anxious about real-life social interactions. This resonates with Gratch et al. [6] who demonstrated that dialogue simulation can build emotional readiness and reduce social stress. Through the role-playing scenario (receiving direct feedback), the tool enabled students to rehearse behavior in culturally confusing scenarios, which are often overlooked in traditional onboarding.

In addition to assistant's features, participants appreciated the overall tone and emotional experience of using the Onboarding Buddy. They found the casual language, peer-like and non-judgmental tone pleasant. These results support Bickmore, Schulman, and Yin [4], who argued that sustained engagement with virtual agents depended on the relatability and perceived empathy. In this study, users described the Buddy as emotionally safe and welcoming, suggesting that cultural onboarding tools may benefit from being designed with emotional and relational considerations, as well as the information accuracy.

## 6.1 Limitations and Future Work

This study has several limitations that should be noted for further enhancements. First of all, the sample size is small and limits the depth of the findings, which makes it difficult to generalize the results to a broader international students' population. Although the current insights were valuable, the tool should be tested with a larger and even more culturally diverse group to validate Buddy's effectiveness. Next, the current prototype was low-fidelity and tested with predefined scenarios which might have also limited the depth of user interaction. Additionally, for this study, CustomGPT was used to simulate conversation flow. However, further work requires more advanced personalization to better reflect user tone, emotions and individual context.

Moreover, the current version focuses only on cultural onboarding. Some participants suggested incorporating emotional and practical dimensions as well. Example quotes from the interviews: “*You should probably add a little therapy action or like something about wellbeing*” (P4), “*There are a lot of hard things, especially emotionally... like you might feel behind, like your friends are doing better... It'll be very helpful if the assistant had this kind of function.*” (P8), “*I can say what I would love to have as an explanation about class location, social gatherings/associations and social media groups*” (P2). Therefore, further work could incorporate emotional wellbeing check-ins and location-based support to help students navigate the campus more easily.

Several other participants proposed promising features:

- **Peer Chat:** Enabling students to ask questions and connect with peers or mentors directly through the assistant. “*Like a chat section with other students... maybe even transfer you to a real chat with people who would help you.*” (P1).

- **Accessibility:** Designing with users who have disabilities in mind, particularly leveraging the voice-based format for those with visual impairments. *"It would also help people with low vision or some kind of disabilities because it's voice-based."* (P2).
- **Real-Life Functionality:** Features that support everyday tasks such as live translation or contextual guidance in real-life scenarios. *"Sometimes you have to read labels or menus... and I don't understand. So I have to look stuff up."* (P5).
- **Information Distribution:** Offering up-to-date information about student events and social activities. *"Weekly information on student events would also be really helpful."* (P7).

Lastly, future research could compare spoken vs. text-based interaction, particularly in terms of perceived emotional comfort, usability, and learning effectiveness. This would help determine the most inclusive and engaging delivery format for onboarding support.

Despite the outlined limitations, this study provides early evidence that culturally contextualized, voice-based tools can meaningfully assist international students during their transition period. By expanding scope, improving interactivity, and responding to emotional and accessibility needs, the Onboarding Buddy could evolve into a comprehensive support system for student adaptation.

## 6.2 Technical Design Considerations

The suggestions above highlight valuable directions for future research. However, turning Onboarding Buddy into a fully functional system would also require addressing several technical challenges.

- **Natural Language Understanding:** Currently, the assistant only handles predefined inputs. However, in real life, students might ask questions in vague or emotional ways, or using culturally specific expressions. Therefore, future versions would have to detect the tone, understand the meaning behind ways of asking, and recognize when a student is confused or hesitant to speak directly.
- **Dialogue Management:** Most voice assistants are built for single and short interactions. But onboarding questions may lead to follow-ups. For example, getting assistance for joining an association might result in questions about what to expect at events or how to approach Dutch students. To handle this properly, the assistant would need to remember what was said before and respond in a way that keeps the conversation natural and helpful.
- **Cultural Personalization:** Students come from diverse cultures, and what feels supportive to one might feel useless to another. The assistant should ideally adjust the way it speaks based on the user's background or preferences.
- **Sustained Engagement:** Cultural integration is rarely immediate and typically takes time. Students might need assistance for weeks or even months. That means that the assistant should stay useful in the long-term (e.g., checking in regularly, offering relevant tips as new situations come up, or tracking which topics the student has already asked about).

By addressing these technical considerations, Onboarding Buddy has a potential to evolve from a conceptual prototype into a fully functioning support system.

## 7 CONCLUSION

This study explored the design and evaluation of *Onboarding Buddy*, a voice assistant that helps first-year international students culturally integrate to the University of Twente. The user interviews revealed many of the challenges that students face when adapting to new and unfamiliar social norms. Without structural guidance, many tend to rely on observation or informal peer support.

To solve this problem, a low-fidelity prototype was developed featuring a voice-based Q&A assistant and culturally contextualized role-play scenarios. The results of the study showed that the assistant was perceived as relatable, emotionally safe, and practically useful. The voice-based interaction offered a casual and low-pressure way to ask questions that students might hesitate to bring up. The role-play feature allowed them to rehearse difficult social situations and was especially valuable for reducing anxiety and increasing confidence. The combination of these core components supported users in feeling more emotionally prepared in navigating real-life situations.

These findings suggest that a thoughtfully designed spoken interaction can offer an accessible and supportive cultural onboarding experience for international students. Beyond just providing information, Onboarding Buddy assisted in building confidence and emotional preparedness among users. The tool's peer-like tone and conversational format were key to its perceived usefulness. Although the prototype had limitations in terms of size and functionality, it showed potential for the use of speech and role-play within onboarding systems. Future developments could aim to broaden the content and add more personalized experiences and enhanced interactivity to transform Onboarding Buddy into a well-rounded support tool tailored to the needs of students.

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## A TOOLS

During the preparation of this work, I used:

- **ChatGPT** to outline paper structure, verify grammar and clarity, and generate visual icons for Onboarding Buddy.
- **CustomGPT** model for the evaluation session.
- **Figma** to design the prototype interface (see Appendix C).
- **Microsoft Teams** to conduct and record the participant interviews.

After using these tools, I thoroughly reviewed and edited the content as needed, taking full responsibility for the final outcome.

## B INTERVIEW STUDY

### B.1 Interview Questions

- (1) Can you tell me a little about yourself – where you're from, what you're studying at UT, and when you started here?
- (2) How would you describe your first few months after arriving at UT?
- (3) Can you describe a moment at UT when you weren't sure how to behave or respond in a new situation?
- (4) Were there times when the way people acted or interacted felt unfamiliar to you?
- (5) What helped you start to feel more confident or comfortable in student life?
- (6) During your early weeks, did you try to take part in any student events, activities, or groups? If so: How was that experience for you? If no: Was there a reason you didn't join anything?
- (7) When you were unsure what to do in a social or university setting, how did you usually figure it out?
- (8) Were there moments when you wanted to connect with others but didn't know how or where?
- (9) Thinking back, what do you wish someone had told you when you first arrived?

- (10) Were there questions you had early on that no one really answered?
- (11) Was there anything about how things work at UT or how people interact that was confusing at first?
- (12) Did you use any resources (apps, websites, programs) to help you understand student life or fit in?
- (13) Who or what helped you the most during your first weeks here?
- (14) Do you ever use voice assistants like Siri, Google Assistant, or Alexa? How do you feel about speaking to this kind of tool?
- (15) If you had something like a voice-based helper during your first weeks to support you in understanding how student life works, would you have used it? Why or why not?
- (16) If you imagine a tool like that, what do you think it could be like? (What should it sound like? How should it respond? What should it help with?)
- (17) What kinds of moments or situations do you think such a tool could have helped with?
- (18) What kind of tone or personality would make it feel more comfortable or useful to you?
- (19) Optional: Would it help more to give quick tips, explain how things work, simulate a situation, or guide step-by-step?
- (20) If you could give one piece of advice to a new international student at UT, what would it be?
- (21) Do you have any final thoughts or suggestions for how a tool could help other new students adapt?

### B.2 Thematic Coding

**B.2.1 Theme 1: Navigating a new Environment.** This theme captures the emotional and practical disorientation students felt during their initial period at UT. With limited guidance, they had to navigate academic, social, and cultural life largely on their own, leading to stress, confusion, and reliance on informal learning strategies. See Table 2.

**B.2.2 Theme 2: Cultural Norms and Misunderstandings.** This theme explores students' experiences of cultural friction and confusion as they adapted to Dutch norms. Unspoken rules, casual communication styles, and different social customs led to discomfort, surprise, and ongoing uncertainty. See Table 3.

**B.2.3 Theme 3: Social Integration and Belonging.** This theme explores the social aspect of cultural adaptation. While some students struggled with shyness and the pressure of making new connections, others found comfort in friends from similar cultural backgrounds. Language barriers and fear of judgment made participation even more difficult for many. See Table 4.

**B.2.4 Theme 4: Expectations for Support Tools.** This theme reflects what students want from a digital assistant or support tool. They emphasized the importance of private, accessible help for small but essential questions, especially in overwhelming or socially awkward moments. Many preferred voice-based interaction and highlighted the need for culturally aware, customizable features. See Table 5.

## C PROTOTYPE INTERFACE

See Figure 2 and Figure 3.

## D CUSTOMGPT PROMPT

You are a Dutch university student giving feedback to an international classmate after their presentation. You are not mean, but you are brutally honest, blunt, and efficient in your communication. You don't bother with compliments unless they're truly deserved, and you don't sugarcoat criticism.

You don't try to make people feel better. You say exactly what you think, even if it sounds harsh. If something was messy, unclear, boring, or weak, say so directly. You can come off as rude or cold to more sensitive students, and that's okay. That's how feedback works in the Netherlands. It's not personal, it's about improvement.

You might interrupt, talk over vague or defensive responses, or say things like

"Honestly? It wasn't good."

"You lost me in the first minute."

"Why did you add that slide? It made no sense."

You're not here to comfort. You are here to tell the truth so that they can improve. You can explain that this is just how Dutch students are trained to give feedback - clear, efficient, no nonsense.



Fig. 2. Prototype screens from the Onboarding Buddy app (Part 1).

Fig. 3. Prototype screens from the Onboarding Buddy app (Part 2).



Table 2. Theme 1: Navigating a New Environment

Code	Description	Example Quote
First Weeks' Overwhelm	Students found the first weeks or months at UT emotionally difficult due to being alone, adapting to a new culture, and adjusting to independent life.	"I think the <b>first days in university</b> were a bit <b>stressful</b> for me because <b>I didn't know anyone</b> and some people already met their friends." (P2), "The <b>first few months</b> were full of new <b>experiences</b> , I think they were a bit <b>scary</b> . And it was just a new environment." (P4), "It was <b>quite tough</b> because it was my <b>first time living by myself</b> and it's a <b>new country very far from home</b> and the <b>culture is very different</b> , so it took quite a while for me to adapt with here." (P6)
Lack of Initial Guidance	There was no structured support for how to engage in student life, leading to confusion about basic expectations.	"I had <b>to teach myself how to do it all alone</b> ." (P2), "I would love to have as an explanation about <b>class location, social gatherings/associations and social media groups</b> ." (P2), "I wish someone had explained how <b>group work typically goes</b> , how students <b>interact with teachers</b> , and <b>what's normal in social situations</b> ." (P3), "Someone could have told me before... it would have been a <b>little more easier</b> , I think." (P7)
Trial-and-Error Learning	Due to lack of structured guidance, students figured things out through a mix of guessing, copying others, or informal peer advice.	"I usually just <b>observed how others acted</b> , or <b>tried to copy what they were doing</b> . Sometimes I asked friends." (P3), "I would usually just <b>ask people around</b> you, what they would do in this situation." (P4), "I just either <b>don't do anything</b> or I just like <b>go with the flow</b> ." (P5)
Online Resources	Some students used university websites, YouTube videos, or Instagram to learn social norms.	"I mostly used the <b>UT website</b> and <b>WhatsApp groups</b> , but they <b>didn't always cover the social or cultural side of things</b> ." (P3), "I used to watch on <b>YouTube</b> ... the <b>UT channel</b> had like student takeovers. They would walk around the city and do little stuff. <b>Before I came here, I guess those were helpful</b> ." (P5), "I follow the <b>UT Instagram account</b> ... they upload articles written by students about <b>student life and some tricks</b> . I would read them... <b>it kinda helped me</b> to get some more information." (P6), "I did look into the <b>UT website</b> about how many international students there were and how maybe they could help me with housing... but I think it was just the UT website, not any other like apps." (P7)

Table 3. Theme 2: Cultural Norms and Misunderstandings

Code	Description	Example Quote
Surprise at Directness	Students were not used to the Dutch directness and initially perceived it as rudeness or aggression.	"Everyone was so <b>direct and assertive with their opinions</b> , which was different from what I was used to. I <b>didn't know whether I should speak up</b> or just go along with the group." (P3), "The only like outstanding difference that I would notice is that they are <b>very direct</b> like most of them." (P5), "They're <b>very direct and straightforward</b> ." (P7)
Formality vs Informality	Students felt confused about the level of formality expected when interacting with professors and staff, and were unfamiliar with how casually others engaged in academic settings.	"The <b>level of informality</b> with professors and staff was surprising. Students would <b>speak very casually to teachers</b> , which I wasn't used to." (P3), "Do I <b>refer them as their names</b> or like do I use professors or like doctors? I don't know about that." (P6), "I would love to have [an explanation on] <b>how to properly address teachers</b> ." (P2)
Unspoken Norms and Cultural Habits	Students encountered a range of unfamiliar norms and habits that were rarely explained but widely assumed.	"Different cultures <b>do not care to be friends first</b> , they would rather <b>get the job done first</b> ." (P4), "Here... the first years, second years, and third years are all <b>on the same level</b> . In [home country]... we have to be <b>very respectful to the older ones</b> . That was one of the <b>most shocking things</b> ." (P6), "In [home country], <b>age is important</b> . If you're older, then I need to be polite. If younger, I don't need to... here they don't really care about their age. Even if you're 30, I can refer to you as my age." (P8), "In my country we are <b>very social</b> , we <b>give hugs and kisses</b> ... Here, it's like a <b>handshake or not even</b> ." (P7), "They always <b>eat bread</b> . I mean, like, I feel like <b>bread is kind of a snack for me</b> ... not like lunch or dinner." (P8), "Also, <b>biking</b> everywhere. That was very different for me." (P8), "The Tikkie thing confused me..." (P5)
Association Culture Shock	Dutch student associations were perceived as exclusive, poorly promoted, and culturally intimidating. Many students didn't understand their purpose or how to join, and some felt they weren't inclusive to non-Dutch students.	"I was <b>not sure what association to join and how to join</b> , and if it's <b>too late or no</b> ." (P1), "The <b>association culture is a bit weird</b> ... it looked like a <b>cult</b> , with the <b>singing and drinking and chugging</b> ." (P6), "Honestly, it's kind of like a <b>Dutch thing</b> . I don't really know... I <b>didn't really search about it</b> ." (P8), "I joined a study association... it slowly helped me <b>see their world</b> ." (P4)

Table 4. Theme 3: Social Integration and Belonging

Code	Description	Example Quote
Difficulty Making Friends	Students struggled with initiating social connections, often due to personality, workload, or lack of opportunities to connect early on.	“I’m <b>not a very approaching person</b> , so it’s <b>a bit hard to make friends</b> .” (P2), “I was <b>too focused on studying</b> , and when I wanted to join a group, it <b>felt too late</b> .” (P5), “During my first year, I <b>wanted to be more integrative</b> , but it was difficult.” (P4)
Importance of Cultural Communities	Finding others from the same country or region helped ease the transition.	“I came here <b>with my friend from school</b> , so it was not that hard... it was <b>easier because it was two of us</b> .” (P1), “I managed to find <b>some people from my country</b> , which <b>helped me a lot in orienting around</b> and getting used to the environment.” (P2), “I found people with a <b>similar mentality</b> , often from <b>countries close to mine</b> , which felt comfortable.” (P3), “The first months I was just in <b>my own bubble</b> and in <b>my own culture friend group</b> .” (P4), “Being around many <b>international students</b> was what made me <b>way more confident</b> .” (P7), “Friends [from home country]... they <b>already lived here</b> ... they <b>knew a lot</b> .” (P8)
Language Barriers and Shyness	Limited English skills or fear of mistakes made social interaction harder.	“I’ve had some <b>issues speaking to people in English</b> that already had English as their second language.” (P2), “I’ve <b>never had classes in English</b> ... starting to do that at first was <b>kind of hard</b> .” (P7), “My <b>English skill wasn’t that good</b> ... I couldn’t really hear or speak well.” (P8), “[In my culture] we are kind of <b>shy</b> , so we don’t really <b>raise our hands</b> .” (P8), “I can never bring myself to <b>ask questions during lectures</b> , even though I know it’s a good thing.” (P5), “When I didn’t want to <b>appear ignorant</b> or when the question felt too basic, I <b>hesitated to ask</b> .” (P3), “I’m the type of student that’s like <b>sitting quietly</b> . I <b>don’t really ask questions</b> ... most of the time, I just <b>stay quiet</b> .” (P6)

Table 5. Theme 4: Expectations from Support Tools

Code	Description	Example Quote
Desire for Quick, Private Help	Students wished for a safe, instant, and non-judgmental way to get answers to minor or awkward questions.	“Even now, <b>living here for five years</b> , I would still use it for <b>daily questions</b> .” (P1), “It would be helpful to <b>quickly understand what to do in unfamiliar situations</b> without having to ask someone.” (P3), “If it just <b>answers your questions</b> , it would just be helpful. If it’s an <b>accessible tool</b> , then I would ask.” (P5), “ <b>Getting information quickly and easily</b> makes me want to ask more. If it takes effort, I might not even try.” (P6), “It would’ve been so much easier to <b>get information quickly</b> ... I wouldn’t have to stop and actually ask somebody.” (P7), “Sometimes I have a <b>kind of stupid question</b> ... I don’t want to ask my friends. In that situation, <b>I prefer to use AI</b> .” (P8)
Spoken Interaction as Low-Effort Support	Voice interfaces were seen as helpful in emotionally or practically overwhelming moments.	“It would <b>save time from typing</b> , and I could still stay in the conversation... <b>it’s kind of rude to look at my phone</b> mid-talk.” (P6), “It’s nice that it’s <b>voice-based</b> ... I was very shy in the beginning to make mistakes, so I think it would help me <b>practice speaking</b> without pressure.” (P2)
Preferred Features	Students imagined a wide range of helpful features, including role-play, translation, unspoken norms, emotional support, walkthroughs, and live chat with peers.	“A combination of <b>chatbot, voice assistant</b> , and maybe even a <b>chat section with other students</b> ... and <b>frequently asked questions</b> .” (P1), “ <b>Roleplay</b> would be nice since I could imagine myself in the situation... it could give me feedback on what I did wrong.” (P2), “You should probably add a little <b>therapy action or something about well-being</b> ... it can be emotionally exhausting.” (P4), “If it <b>translates while going out</b> — like grocery shopping or ordering food — that would be amazing.” (P5), “I would enjoy it if it had <b>roleplay</b> ... I often don’t know what to say, so practicing would help with anxiety.” (P5), “I always <b>rehearse what I’m going to say</b> ... so I think the <b>role play feature</b> would be really helpful.” (P6), “If the assistant told us <b>unspoken norms</b> and corrected us during the roleplay, that would be really useful.” (P6), “I’d use it as my <b>personal teacher to interact in English</b> ... a <b>walkthrough guide</b> could explain things step by step.” (P8), “There are <b>emotional challenges</b> ... students feel behind, or feel depressed. <b>It would help to have emotional functions</b> too.” (P8)
Need for Customizable Options	Assistant tone, voice, and interaction style should feel relatable and flexible.	“It would be better if it had a <b>friendly tone</b> ... maybe you can <b>choose the voice</b> , like male or female.” (P1), “It would also be nice for <b>people with disabilities or low vision</b> , since it’s voice-based.” (P2), “I’d like a <b>casual tone</b> , but also a <b>little bit professional</b> .” (P4), “I don’t want to feel like I’m talking to a robot... I want someone that <b>sounds like they know what they’re doing</b> , like a <b>professor, but not too formal</b> .” (P5)