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Human-Centered Innovation in Language Learning: Overcoming Business Model Stagnation through Market Pull and Design Thinking

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Abstract
This study explores how a small language-learning business in Indonesia can overcome growth stagnation by implementing a human-centred approach to innovation. Adopting the Design Thinking framework as the primary methodological lens, the research explores learner expectations, challenges and preferred learning formats, with the objective of improving products and business models. Data were collected through focus group discussions (FGDs) involving six learner groups that were identified during the early exploratory phase. Braun and Clarke's thematic analysis was used to analyze the qualitative data and uncover recurrent needs related to motivation, confidence, learning structure, flexibility and the role of human support. These insights were then used to create two core personas representing the two main learner types. These personas then guided the development of five 'How Might We' (HMW) questions, which acted as drivers for the ideation process. The study resulted in three integrated low-fidelity prototypes: (1) modular learning pathways, (2) an adaptive weekly roadmap, and (3) a simple confidence progress tracker. These elements form a coherent learning ecosystem, designed to improve learner engagement and strengthen business sustainability by offering clearer value, better retention and more structured products. The findings indicate that designing products to align with learner expectations can support the long-term sustainability of small EdTech startups. The study recommends conducting future quantitative tests on the proposed prototypes to evaluate their expected usefulness and acceptance among a wider range of learners.

INTRODUCTION

Over the past decade, there has been a significant increase in demand for German language learning in Indonesia (Imran & Almusharraf, 2024; Lestari, 2024; Nugraheni & Hasan, 2026). This growth is linked to the growing number of Indonesians seeking education, vocational training or employment opportunities in Germany (Atthareq & Affandi, 2023; Isbah et al., 2026; Paramitasari et al., 2024; Wibowo et al., 2022). Recent data from institutions shows a real market for German language learning in Indonesia. As of 2025, the Goethe-Institut in Jakarta and Bandung reported that more than 5,000 and 1,300 learners enrolled in German courses each year, respectively. While its PASCH (partner school initiatives), supports the ongoing qualification of students and trainees, thereby expanding young people's skills for studying in Germany and for their future professional lives, with 29 partner schools across Indonesia (Goethe-Institut, 2025).

Meanwhile, data from DAAD on academic mobility shows that 5,730 students from Indonesia were enrolled in German higher education institutions during the winter semester of 2023/2024 (DAAD, 2024). These figures do not cover all the learners, but they show a group of learners who are actively learning German in Indonesia every year (Amiruddin et al., 2023;

Ferdiansyah et al., 2022; Krannich & Hunger, 2022; Muhammad et al., 2025; Rohmatuszahroh et al., 2025). In this context, German proficiency can serve as a valuable gateway to better employment or study opportunities abroad, hence the potential benefits of expanding German language education in Indonesia is substantial.

Germany remains a global leader in engineering, science, and education, offering numerous opportunities for international students and professionals. The country faces a shortage of skilled workers due to its aging population, leading the government to open opportunities for foreign skilled workers, including those from Indonesia (Deutsche Welle, 2024). Programs such as Ausbildung (vocational training), Aupair, and voluntary social year or Freiwilliges Soziales Jahr (FSJ) have become an attractive option for young adults seeking to improve their social status.

On the contrary, Indonesia is facing a pressing labor market challenge, a high unemployment rate among educated workers, hence a competitive job-market arised. Indonesia's open unemployment rate stood at 4.76 percent in February 2025, down from 4.82 percent in February 2024. Although the unemployment rate declined, the number of unemployed increased from 7.20 million to 7.28 million, or by around 80 thousand individuals. The numbers continue to climb due to more people entering the workforce than the economy can absorb (BPS 2025).

However, unlike English, which is often learned due to its functional necessity as a global language, German is generally learned for more specific academic, professional or cultural purposes. Learning German is also a challenge for most Indonesian learners, as it differs significantly from English in terms of grammar, structure and pronunciation, it requires a high level of cognitive effort, consistency and long-term motivation. Motivation is especially important for learning German as a foreign language in today's education system, international student mobility, the fast pace of digital transformation and the globalisation of higher education are becoming ever more important (Yaprak, 2025). Most adult learners in Indonesia learn German as a second foreign language, often while also working, studying or family responsibilities. These factors make it more challenging for learners to maintain their progress, often resulting in a decline in motivation before they reach the required proficiency level for their migration goals.

In this context, learners typically use one of three learning methods: (1) traditional, tutor-led instruction; (2) modern self-learning through digital platforms; and (3) community-based models that combine peer presence, self-study, and limited tutor interaction. Each method supports certain learner needs, yet none of them fully resolves the challenge of maintaining motivation, responsibility and progression over time. Lingoza, a language learning startup operates within this ecosystem by providing a blended learning model which combines structured materials, community support and scheduled interactions with tutor. While the model has successfully attracted interest, especially during its initial launch period, the current structure of tutor frequency, learning pace and engagement strategies does not fully align with the behavioural needs of Indonesian adult learners. This mismatch has led to a stagnation in performance at the business model level, especially with student retention and repeat membership renewals. Although there is strong market demand, the existing product experience is not yet leading to long-term learning behaviours or sustained value. The gap between market pull and learner engagement is the core business issue explored in this study,

which motivates the use of a human-centred design thinking approach to re-evaluate and improve Lingoza's learning model.

The research focuses on understanding Indonesian learners' expectations and needs in learning German, identifying factors that create engagement challenges within the current Lingoza learning model, and exploring how Lingoza can adapt its business model to better meet market demand while maintaining scalability and sustainability. It aims to analyze learner expectations, determine which aspects of Lingoza's model hinder engagement and why these issues occur, and investigate strategic business model adaptations aligned with market pull. The scope of the study is limited to six stakeholder groups current Lingoza students, former students, potential learners, users of AI-based tools such as Duolingo or Memrise, learners who use live tutors, and individuals who have never studied German focusing solely on the Indonesian market. Its limitations include the exclusion of learners outside Indonesia and reliance on self-reported focus group data, which may contain biases, making the findings context-specific and not fully generalizable to broader language learning markets or other countries.

METHOD

The study employed a qualitative exploratory research design using the Design Thinking framework to investigate the underlying causes of business stagnation and declining student retention at Lingoza, an Indonesian online German-learning startup. This approach was selected because Design Thinking emphasizes a user-centered perspective, enabling a deep understanding of learners' experiences, motivations, and expectations elements that cannot be fully captured through quantitative data alone. The framework consists of five iterative stages Empathize, Define, Ideate, Prototype, and Test yet this research is limited to the Prototype stage due to time constraints, with the Testing phase described as a future implementation plan. The research design aims to uncover root causes of stagnation, transform user insights into meaningful solution ideas, and develop an initial conceptual prototype that balances desirability, feasibility, and viability.

Data collection combines internal quantitative indicators with extensive qualitative inquiry. Quantitative patterns such as declining cohort progress, reduced learner engagement, and unstable enrollment trends reveal symptoms of underlying issues but do not explain why students disengage. To uncover these root causes, the Empathize stage involves focus group discussions with six stakeholder groups: current Lingoza students, alumni, prospective students, tutor-led learners, app-based learners, and individuals with no prior exposure to German. Qualitative data were collected through audio- and video-recorded FGDs conducted in hybrid formats, transcribed in Bahasa Indonesia, and prepared for analysis. Purposive sampling ensured diversity in age, occupation, learning background, goals, and willingness to pay. Additional secondary data reports, journals, and market insights were used to enrich the qualitative findings.

Data analysis follows Braun and Clarke's Thematic Analysis, a method suitable for identifying meaningful patterns within qualitative data. This approach supports the Define stage of Design Thinking by transforming raw insights into structured themes, empathy maps, and user personas. The empathy map, based on Dave Gray's model, organizes user insights into what learners think, feel, say, do, as well as their pains and gains. This segmentation across

six learner groups ensures a comprehensive understanding of the learner ecosystem and provides a strong foundation for specifying problem statements, redesigning Lingoza's business model, and developing actionable strategies for future testing.

RESULT AND DISCUSSION

Ideation Stage

As the study from Magistretti (2021) concludes, the Design Thinking, especially the Define stage also reframes problems with a forward-looking approach, projecting future scenarios to guide ideation. Once the ideas have been grouped and refined, the team can use multivoting again to select the most promising options. At this stage, it is helpful to evaluate each idea against a broad set of criteria. A simple framework includes the following: (a) Desirability: How well does the idea meet customer needs? (b) Feasibility: whether the team can realistically deliver it; (c) viabilitywhether it can generate sustainable business value, either financially or strategically (Luchs, 2021). Developed by the British Design Council, and now widely adopted across innovation and user-centred design processes, the Ideation stage represents a shift from problem synthesis to solution exploration by using the Double Diamond framework, which provides a deeper understanding of the problem. It is represented by two diamond shapes placed next to each other. The model consists of four key phases: Discover, Define, Develop and Deliver.

Figure 1 Double Diamond Framework by Design Council

The first diamond (Discover and Define) focuses on identifying and defining the problem while the second (Develop and Deliver) explores and refines potential solutions (Figure IV.9). This structured yet iterative approach supports creative problem-solving while ensuring that the final solutions are grounded in the real needs of users (Choudhary, 2019; Monga, 2023; Sobrinho, 2023) and evaluated through the lens of the Desirability Feasibility Viability (DFV) framework, which is a widely used method in innovation management for filtering early-stage ideas (Liedtka, 2021).

The Discover phase involved gathering rich qualitative data in order to gain an understanding of the experiences and challenges faced by Indonesian learners of German. This involved conducting focus group discussions (FGDs) with different learner groups and collecting narratives that identified common issues relating to motivation, confidence, structure, social interaction and technology. This is in line with the goal of divergence in this stage. The emphasis was on exploring a broad range of perspectives and were explored without imposing early assumptions (Choudhary, 2019).

In the Define phase, thematic analysis was used to synthesise the diverse insights from the Discover phase, resulting in five key themes that describe the core learning challenges. These themes were then translated into two representative personas: Dina, the Structured Achiever, and Rio, the Independent Explorer. These personas reflected the two types of learning pattern that were identified in the data. In order to translate the understanding of the problem into its solution, the findings were reformulated into five 'How Might We' (HMW) questions. Each question became the foundation for innovation, aligning with design literature, which highlights the role of HMW questions in bridging analysis and ideation (Romero & Rivera, 2025).

The first half diamond (as Problem) has already been developed, by using the Thematic Analysis. Hence, the next phase is about to find solution by using the divergent and convergent thinking in develop and deliver stage of the Double Diamond model.

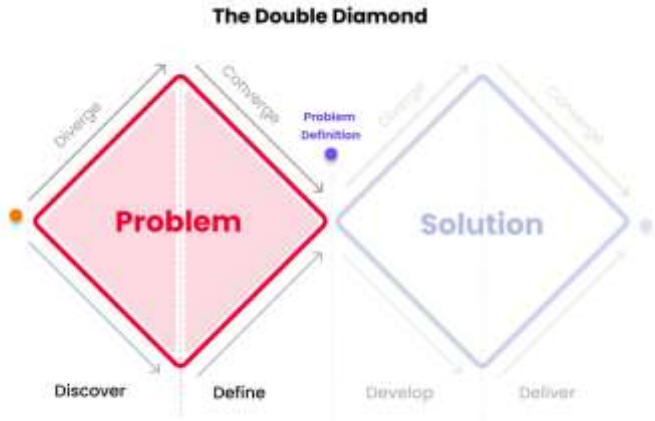

Figure 2 Half Double Diamond by Sobrinho

The Develop phase in the Double Diamond model is to generate a wide range of potential solutions stemming directly from the themes, personas and HMW questions identified earlier, as Monga (2023) wrote. It is important to do divergent thinking at this phase, to develop and explore possibilities that could meaningfully discuss the needs of both learner types. This approach is aligned with contemporary research in human-centred design, which highlights the importance of exploring ideas after clearly defining the problem and helps to avoid solution bias and ensure relevance (Romero & Rivera, 2025). Following this guidance, two to three initial solution concepts were generated for each HMW question in this study. These were based on user needs identified through thematic analysis, personas (Dina and Rio) and suggestions that emerged naturally from the FGDs.

1. Divergent Thinking: Expanding the Solution

The divergent phase involved generating as many ideas as possible based on the five 'How Might We' (HMW) questions developed earlier. The goal of this phase was to avoid judging ideas too soon, allowing creative possibilities to develop naturally from the insights revealed during the thematic analysis. Throughout this process, ideas were explored, covering skill-based-learning, human connection within the learning ecosystem, adaptive learning approaches, technology-hybrid support for instruction and flexible class formats. The ideas

were inspired not only by the participants' stated needs (e.g. confidence, learning pace, human interaction) but also relevant studies in user-centered innovation, mobile-assisted learning (MALL) and other theories in related fields.

1) HMW 1 - Pronunciation and Skill Gaps That Influence Confidence

How might we design learning experiences that build learners' confidence in pronunciation and specific language skills, especially for those who often feel behind in class?

Concept 1: Pronunciation Micro-Practice System

This concept introduces short daily pronunciation exercises that are integrated into the learning process. The idea resolves issues identified in the thematic analysis concerning learners' needs: Dina's low confidence and Rio's preference for short, engaging activities. Learners receive simple feedback on their performance. They may optionally request tutor support.

Concept 2: Skill-Focused Small-Group Clinics

This concept involves small-group practice sessions that focus on pronunciation, speaking fluency or grammar integration. This supports learners who need structured human guidance by addressing themes of Social & Human Connection Learning Ecosytem.

Concept 3: Confidence Progress Tracker

This idea involves creating a visual system to help learners track their progress in key language skill areas. The concept's focus on the fluctuating confidence theme that aligns with learner needs, identified through analysis.

2) HMW 2 - Social & Human Connection Learning Ecosystem

How might we create a sense of belonging and peer support in language learning, even for learners studying online or asynchronously?

Concept 1: Level-Based Practice Circles (Peer Pods)

A structured peer-group format in which learners of a similar level practise together. The concept strengthens belonging and offers low-pressure and giving supportive interactions for different learner types.

Concept 2: Asynchronous Voice-Lounge Spaces

This is an asynchronous community space where learners can share, practise speaking and exchange simple feedback. In the study of Lee (2025), significantly, more than 70% of students in all three groups reported that they had made an effort to improve their speaking and pronunciation by engaging in self-regulated learning. The peer interaction group believed that their progress was due to feedback and speaking practice, factors that differ from those of AI tools.

Concept 3: Monthly Community Challenge Events

Challenges that are designed to be completed by the whole community (for example, speaking, vocabulary or task-based challenges). This concept helps to maintain motivation and create a sense of collective progress.

3) HMW 3 - Flexible & Adaptive Learning Structure

How might we develop a flexible learning model that adapts to each learner's pace and availability, without compromising content depth or learning outcomes?

Concept 1: Adaptive Weekly Roadmaps

A weekly learning plan that can be adapted to the learner's pace and availability. It uses gamification by allowing learners to collect points, which they can "redeemed" for rewards after reaching certain milestones.

Concept 2: Modular Pathways (Choose-Your-Track Model)

This approach respects individual learning priorities, where learners follow short thematic learning tracks, such as pronunciation focus, grammar strengthening or functional communication.

4) HMW 4 - Technology as Enabler, not Replacement

How might we use technology to improve the learning experience while maintaining meaningful human interaction and feedback?

Concept 1: Hybrid Feedback Model

A system for providing automated feedback that is supported by regular monitoring from tutors using technology (internal current system). This balances efficiency with human perception.

Concept 2: Tutor Feedback Layers

Short guidance provided by the tutor and included within the learning content (e.g. tips, explanations and focus instructions). This concept can be brought to internal system that can bring a human element to digital learning.

Concept 3: AI-based Practice with Human Supervision

Learners practise interactive scenarios digitally, after which they receive a brief human feedback session. This approach uses technology as supportive preparation rather than a substitute.

5) HMW 5 - Learning Delivery Preferences

How might we design different class formats and delivery methods that meet the needs of learners with different preferences, attention spans and work-life schedules?

Concept 1: Dual-Format Class Delivery

Two session formats are offered: shorter, with intensive sessions and longer, more comprehensive ones. These formats address varying attention spans an scheduling needs.

Concept 2: Tiered-Blended Packages

There are multiple teaching methods (e.g. asynchronous, hybrid-light and hybrid-full) to allow learners to select the model that best fits their needs and routines. This approach supports learners who seek structure and those who seek flexibility.

Concept 3: Drop-In Tutor Hours

Scheduled open consultation slots where learners can join for clarifications or targeted support. This concept provides human support without rigid scheduled appointments.

2. Convergent Thinking: Refining and Integrating Ideas

Once a divergent set of ideas had been generated, the process moved into convergent thinking (Sobrinho, 2023). During this phase, the ideas were evaluated based on three key criteria: desirability from the learners' perspective, feasibility given the organisation's current and future capabilities, and viability as part of a sustainable business model. Ideas that did not meet these criteria were eliminated, combined, or redefined. As a result of the refinement process, the original set of ideas became three more refined concepts. Each concept integrates several earlier ideas into a more realistic and strategic form that directly responds to user needs.

The first concept is the Adaptive and Personalised Learning System. It focuses on creating personalised learning structures that support consistency, reduce learners' cognitive load and enable them to progress at a pace that suits their needs. This system combines the key principles of micro-practice activities, such as adaptive weekly planning, and flexible learning programmes. Although each part has a different function, together they provide structure, visibility of progress and flexibility - three elements that were strongly identified in the thematic analysis.

The second concept is the Human-Connected Learning Ecosystem, which emphasises the importance of human and social interaction in the learning process.

This concept is based on earlier ideas, such as skill-focused small-group clinics, peer-based practice circles and flexible drop-in tutor sessions. Together, these elements form an ecosystem in which learners feel supported, connected and mentally safe, whether they are learning synchronously or asynchronously. The idea is based on the findings about how being around others can make people feel more confident, more motivated, and more likely to keep going.

The third concept is the Hybrid Human-AI Feedback Model, which combines automated feedback's efficiency with tutor intervention. It brings together ideas like AI-supported pronunciation or speaking feedback, tutor-checked feedback loops, and a mix of short and longer class formats. All of this helps learners get quick, practical feedback while still keeping the authenticity and teaching quality they expect from real human tutors.

The three concepts represent the end of the convergent stage and form the basis for the next prototyping phase. However, it is important to keep focusing on the customer insights that have been identified. At this stage, ideas should not be filtered too much based on other criteria, since the idea is still very early and can be improved upon during the next activity, which is prototyping (Luchs, 2021). Rather than being seen as alternatives, these concepts work together to meet the complex learning needs identified in the research.

Prototype Stage

The prototyping stage represents the transition from conceptual thinking to the initial realization of ideas. One of the unique features of design thinking is the use of prototyping as a way of exploring ideas, which accelerates and improves the generation of ideas by considering different forms of the concept (Luchs, 2021). In line with the Design Thinking and Double Diamond frameworks, the aim of this stage is not to produce fully functional solutions or perfect operations. In this research, the purpose of prototyping is to create simple, low-fidelity models that bring the ideas from the ideation stage to life and make them easy to explore. These early prototypes enable us to test, discuss and evaluate concept for the iterative process.

Since this study is using a qualitative and exploratory method, the prototypes were kept simple and not technical. They do not include internal algorithms, operational processes or sensitive business functionalities. Instead, they serve as conceptual models that demonstrate how users might interact with each solution and how the proposed concepts would impact the learning experience from a user journey perspective.

1. Desirability-Feasibility-Viability (DFV) Analysis

The three concepts that came out of the ideation stage needed to be systematically prioritized to decide which ones to take into the prototyping stage. To ensure an evidence-based selection process, this research used a Desirability-Feasibility- Viability (DFV) approach. This method is commonly used in the second stage of the Double Diamond framework to develop implementable solutions that balance user value, operational capability and long-term business sustainability (Romero & Rivera, 2025).

The analysis showed that the Adaptive and Personalised Learning System was the most closely related to the DFV approach overall. From a desirability perspective, this concept directly targets the most key learner needs that were identified in the thematic analysis. These include the demand for clearer direction on progress, flexible but structured learning, and methods to deal with learning confidence inconsistency. These findings were observed in both personas: Dina required more structured guidance to reduce anxiety, while Rio preferred adaptable, short-format activities to maintain engagement. Therefore, this concept did not only respond to functional needs, but also to emotional factors that influence learner's motivation.

From a feasibility standpoint, this concept could be implemented without the need for much technological development due to the organisation's existing digital system and modular curriculum structure. Meanwhile, concepts that need large-scale community involvement or hybrid AI-human operations would require major changes to operations and coordinating staff, making them less feasible in the short term.

Finally, the viability assessment showed that the Adaptive and Personalised Learning System had the greatest long-term potential, especially in terms of overcoming business stagnation. In this context, stagnation resulted from a pattern of disengagement during the middle stages of the program. This led to lower retention and limited revenue growth. Hence, this concept supports learners' motivation and reduces mid-program drop-off by enabling personalised pacing, clear milestones and visible progress indicators. These factors are strongly correlated with improved retention in digital learning environments (Li & Wang, 2022). The model is also financially viable, as improvements can be made without increasing operating costs or tuition prices.

Based on the DFV analysis, the Adaptive and Personalized Learning System was chosen as the main concept to be created as a prototype. The prototype will represent the core features of the concept. However, it should be noted that user testing will be conducted in a future phase, as this is beyond the scope of this research due to time constraints.

2. Prototyping of Concept: Adaptive and Personalized Learning System

The prototyping stage of this study focused on developing a low-fidelity version of the Adaptive and Personalized Learning System. In accordance with human-centred design processes, low-fidelity prototypes emphasise conceptual clarity and functional logic over aesthetic detail. This makes them ideal for early-stage evaluation and future user testing (Choudhary, 2019). In the context of this study, the prototype is a conceptual model designed to translate abstract ideas into a real-world application that can be tested in future research. The prototype consists of three main components: the Modular Pathways interface, the Adaptive Weekly Roadmap and the Confidence Progress Tracker. Together, these elements represent the essential design features intended to address the problem of low engagement learning that leads to business stagnation identified during the study. For the purposes of clarity and academic

focus, however, the three main components present one representative section of the prototype. This section ‘Pronunctiation Focus’ was chosen as the representative pathway, because it is the current program that has already been ongoing and focuses directly on the core user needs identified during the research (the Dina and Rio personas). It also clearly shows how user insights were translated into design ideas.

1) Modular Pathways: Personalizing the Learning Focus

The first component, Modular Pathways, serves as the essential "decision maker" of the system. It allows learners to choose a learning path that matches their personal goals, needs and areas for improvement. Based on the insights gained from the thematic analysis and the personas of Dina and Rio, three primary pathways have been defined: 1) Pronunciation 2) Grammar and 3) Speaking Fluency. Each pathway offers a structured yet flexible approach to priorities in learning. The Pronunciation Pathway, for instance, emphasises sessions on pronunciation, targeted micro-practice and relevant asynchronous modules. The Grammar Pathway focuses on a 40-session grammar programme, which can be taken in a group or private format. The Speaking Pathway, meanwhile, is centred on continuous participation in the LJ Weekly Club. This feature addresses the issue of irrelevance and misalignment between learners' needs and what the current learning system provides. The program becomes more meaningful, practical and personally motivating when learners are allowed to select a focus area by themselves. Furthermore, the pathways provide the basis for the next stage: the Adaptive Weekly Roadmap, which turns these focus choices into practical actions. The interface can be visualised as a simple sign-up screen or dashboard section in which learners review three pathway descriptions and select one. Each pathway unlocks a list of recommended tasks.

2) Adaptive Weekly Roadmap: Structuring Weekly Action and Consistency

The second component is the Adaptive Weekly Roadmap. This acts as the "planning element" of the system. This roadmap helps learners to turn their chosen pathway into a series of weekly, achievable learning goals. Rather than assigning fixed day-to-day tasks, the roadmap provides structured weekly options, each of which is marked with an estimated study duration and personalized suggested actions. For instance, learners who select the Pronunciation Pathway receive weekly prompts such as the following: (1) Content Exposure (1-2 micro lessons) (2) Pronunciation Practice (10 mins) (3) Partner Practice (20-30 mins) (4) Weekly Submission (short recording) (5) Practice Task (short recording15-20 mins). The total time commitment is ~1.5-2 hours per week, which is fully realistic for working adults. Similarly, learners on the Grammar Pathway are guided through the relevant grammar program, while those on the Speaking Pathway are encouraged to maintain their streak in the LJ Weekly Club. This system offers two key advantages. First, it gives learners clarity and direction, which reduces decision fatigue, as one of the main reasons for mid-program stagnation. Second, since the roadmap is adaptive, it can be adjusted based on the learner’s availability and behaviour, offering a more personalized and practical structure. The prototype can present this information in the form of a weekly dashboard card, which shows the focus area, a detailed list of tasks and the estimated total assignments. There is also a checklist for tracking completion.

3) Confidence Progress Tracker: Making Progress Clear and Achievable

The third component is the Confidence Progress Tracker, which serves as the main motivational feature of the system. The purpose of this feature is to make learners' progress visible and meaningful. This helps to solve the issue of fluctuating confidence, as analyzed in the thematic analysis. This is especially important for learners like Dina, who often compares herself to others, and Rio, who loses motivation when progress feels stagnant. The tracker visualises improvements in specific skill areas, such as pronunciation, grammar mastery and speaking fluency, and displays them together with consistency metrics, such as streaks and completed weekly goals. This feature helps learners to understand what they have completed and how their confidence and competence grow over time. By making growth visible, the tracker reduces feelings of stagnation and strengthens the sense that their learning progress is meaningful, which is an important psychological factor in retention strategies. The tracker visualises improvements in specific skill areas, such as pronunciation, grammar mastery and speaking fluency, and displays them together with consistency metrics, such as streaks and completed weekly goals.

a. Appendix A. The Modular Pathways (How It Works)

The Modular Pathways prototype shows how learners can browse and choose structured learning programmes that match their goals, such as improving pronunciation, building grammar foundations or increasing speaking fluency. This mock-up begins with a header titled 'Choose Your Learning Pathway', followed by three modules arranged horizontally and represented by cards. Each module card contains a short title for the pathway, a short description and a small icon showing thematic relevance (e.g. a speech bubble for speaking or mouth for pronunciation). When a learner selects a module, a second screen representing the expanded view of the chosen track is shown, displays the sequence of sub-topics or micro-goals within a given section. The 'Continue to Weekly Roadmap' button appears at the bottom of the interface, directing to the Adaptive Weekly Roadmap prototype. This appendix illustrates the relationship between personalisation, learner autonomy and programmes of study. Modular pathways allow learners to focus on the topics that matter most to them, while ensuring that the programme's structure remains consistent.

b. Appendix B. The Adaptive Weekly Roadmap (How It Works)

The low-fidelity prototype of the Adaptive Weekly Roadmap illustrates the core structure of the learner-facing board. The purpose of this prototype is to visualise how learners will have to check weekly guidance in a simplified and non-distracting format. This mock-up represents the Pronunciation Pathway, which the screen begins with a header labelled 'Your Weekly Roadmap', containing the chosen pathway labelled 'Pronunciation Focus' in the top right-hand corner. Below this part is the subheader "Task for the Week", which shows students what they have to do to fulfil their weekly goals. The central section of the interface shows the five recommended tasks for the learner's chosen weekly focus area. Each task is represented by a short title and an estimated completion time (e.g. '20 minutes'), to illustrates students that the task can still be completed within the limited time available. A checkbox is also placed at the front of each task to allow learners to confirm completion, tracking consistency. A simplified progress bar showing how much of the weekly workload has been completed appears next to the task list. Above this, there is also an indicator showing the total number of hours required to complete the tasks. Overall, the prototype illustrates the conceptual logic of the roadmap,

offering weekly flexibility, personalized focus areas and a simple self-monitoring system that does not overwhelm the learner. The 'Mark All as Completed' button appears at the bottom of the interface and allows students to select all completed tasks. The link next to it takes them to the Confidence Progress Tracker, to measure students' confidence progress each week, which lead to the next prototype.

c. Appendix C. The Confidence Progress Tracker (How It Works)

The third prototype is a model showing learners how they can track their progress in developing confidence in key skill competencies over time. Still with the ‘Pronunciation Pathway’, this mock-up begins with a header labelled 'Your Confidence Tracker', followed by four main categories displayed as vertical segments, such as Core Pronunciation Skills, Speaking Fluency Skills, Confidence & Communication Skills, Output Quality Skills each with a detailed description of the skills. For Core Pronunctiation Skills category, the specific skills to be tracked are: (1) Sound Accuracy; How confident am I in pronouncing target sounds, such as vowels, consonants and Umlaut, correctly? (2) Word clarity; Am I pronouncing the correct syllables in important words? (3) Intonation control; Does the way I raise and lower my voice suit for questions, statements or emphasizing? For Speaking Fluency Skills category, however this one should be assessed by the student: (1) Speed Comfort; Does my speaking pace sound natural? (2) Clarity; How clearly can people understand what I say without me repeating myself? For Confidence & Communication Skills category, the specific skills to be assessed are: (1) Confidence when speaking alone (monologue); How confident am I when recording speaking tasks alone? (2) Confidence Speaking with Partner; How comfortable am I with roleplay and partner practice conversations? (3) Confidence in Real-Life Scenarios; How confident am I that I will use this week's expressions in real-life situations? For the last category, Output Quality Skills, these skills are important: (1) Consistency in Using Target Structure; Am I using the structures, tenses and phrases taught this week? (2) Self-Monitoring Ability; Can I listen to my recordings to identify areas for improvement? (3) Improvement Awareness; Have I noticed an improvement compared to last week? Each category uses a simple bar-style indicator showing the learner's self-rated confidence score on a scale from 1 to 5. The bottom section of the tracker includes an optional reflection box titled 'What improved this week?', in which learners can type short notes to help improve their self-awareness. The tracker therefore integrates quantitative self-assessment and qualitative reflection to support motivation and help learners understand their progress, which was identified as critical in the thematic analysis.

3. Integrated Interpretation

The findings from the Discovery and Define stages revealed that learners faced five key challenges: difficulties with pronunciation and specific skills, the need for human connection, the desire for flexible learning structures, how technology should be used for learning, and different preferences for class delivery. These themes revealed themselves through the two personas, Dina and Rio, which represent two common types of Lingoza learner. The HMW questions translated these needs into clear objectives that could be explored during the ideation process. During the ideation process, it became clear that many of the concepts were related and could be combined rather than presented as individual features. After convergent thinking, the ideas came together into three connected components: the Modular Pathways, the Adaptive Weekly Roadmap and the Confidence Progress Tracker. These components work together as a

single system, rather than as three separate solutions as follows: The Pathways give them options to choose a specific learning focus that matches their goals, the 'Roadmap' helps learners understand what they need to do each week, while the Tracker helps them see their progress and stay motivated. Together, these components provide solutions to the three main issues identified earlier: unclear learning direction, inconsistent routines and fluctuating confidence.

From a business perspective, this combined solution solves LJ's problems of low enrollment, engagement and renewal. By providing a clearer and more personalized structure for LJ's existing products, such as the pathways and roadmap make it easier for learners to understand which programmes match their needs. When learners have a clear understanding of their path, they are more likely to purchase additional programmes to support it. This predictable demand helps to stabilize revenue and strengthen business sustainability. The confidence tracker feature also supports retention because learners who can see their progress are more likely to continue learning. In this way, the prototype helps both learners and the sustainability of the business. The long-term version is presented by the prototype, which is shown in a digital, website-style format. However, for the early implementation of this study will be using in a Minimum Viable Product (MVP) format, to test how learners respond to the system while ensuring the process remains feasible and can be evaluated early. In summary, the combined interpretation indicates that the solution is based on user needs and is also aligned with the company's stability and growth goals.

CONCLUSION

This research was conducted to understand the expectations and needs of Indonesian learners of the German language and to explore how Lingoza can adapt its business model to better align with market demands while ensuring scalability and sustainability. By using the Design Thinking as the main framework, this study shifted from broad exploration, to focused problem definition and with an adaptive solution based on the learners needs. The findings show that learners do not necessarily need more course material; instead, they need guidance, structure and consistent interaction. When the learning experience relied too heavily on asynchronous coursework with minimal human guidance, learners felt lost, disengaged, and unsure whether they were progressing. This gap between what learners needed and what the business offered became a key source of disengagement and low renewal rates, which had a negative impact on motivation as well and led to business stagnation. Based on these needs, the Design Thinking process helped transform insights into concrete solution concepts. The study produced three interconnected components: Modular Learning Pathways; provide learners with the option of selecting a specific learning focus that aligns with their goals. An Adaptive Weekly Roadmap that offers weekly clarity and sets realistic targets; and a Confidence Progress Tracker that makes progress visible in a simple, motivating way. These components work together to form a coherent system that responds directly to learner confusion and a lack of guidance. At the same time, they are strengthening the business model by encouraging learners to stay engaged, complete the course materials and perceive the value of upgrading or renewing their membership.

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