

Online training development in low-income countries

Creating a guide for inclusive online training development through a case study which empowers young Nigerian women to launch their agent banking business

Master thesis

Thomas Nieuwendijk

Design for Interaction
Delft University of Technology





“Education is the most powerful
weapon which you can use to
change the world.”

Nelson Mandela

Online training development in low-income countries

Creating a guide for inclusive online training development through a case study which empowers young Nigerian women to launch their agent banking business

In collaboration with
BoP Innovation Centre

Graduation committee
Chair
Dr. ir. J. C. Diehl (Jan Carel)

Mentor
Dr. ir. S. C. Mooij (Sylvia)

External mentors
Ir. N. van der Velde (Nick)
MSc. R. J. Klumpenaar (Roald)

Master thesis
Thomas Nieuwendijk
4444868

March 2022

Design for Interaction
Faculty of Industrial Design Engineering
Delft University of Technology

Executive summary

The amount of online training programmes is booming worldwide, especially as the demand has grown during the COVID-19 pandemic. During this growth, the relevance and convenience of online training programmes have been noticed by Bopinc, an innovation agency based in Utrecht which focuses on innovation in low-income countries. Firstly, Bopinc wants to keep up with the rising need for online training in low-income countries by providing online training programmes and the tools so clients can develop it independently by themselves as well. Here the problem is that Bopinc misses the in-house knowledge and tools to provide that. Secondly, Bopinc needs to design an online training programme for a client, Innovectives, in Nigeria. This training programme tackles the lack of vocational skills in agent banking among young Nigerian women.

The thesis uses the design case in Nigeria as design research input for a development guide for online training in low-income countries. From that development guide, a part of the online training programme for the client in Nigeria is designed. The main design approaches to design these deliverables are remote design

research and iterative creative problem-solving. Literature research is done from home, succeeded by remote empirical design research with a local partner in Nigeria. This empirical design research consists of collecting observations from practice, formulating design opportunities, creating digital prototyping and testing these by pilot experiments. Concluding from that a selection of promising training methods for the development guide and the training programme in agent banking is made. Figure 1 shows the contribution of the different design phases to the two different deliverables.

Since the training methods are tested with positive outcomes in the context of Nigeria, which is a low-income country, these are defined as promising. This leads to a basis for the development guide which can be used in future projects by Bopinc's employees and clients. That means that Bopinc now can design more qualitative online training programmes in less time, with the result that they can help more clients and so impact more low-income consumers' lives positively, like the design case in Nigeria illustrates.

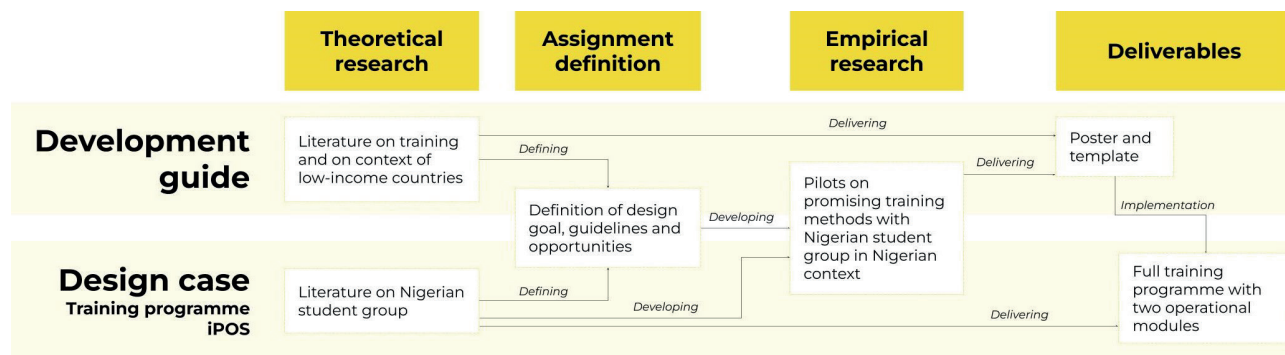


Figure 1: Overview of the design phases and its contribution to the deliverables

Reading guide

The reading guide assists the reader of this thesis to understand the structure of the report. It explains the way the reader should read the report based on their interests and available time and gives definitions of commonly used words and abbreviations.

Report structure and reading advice

The report is composed of four elements. It starts by introducing the project Chapter 1. Hereafter, the research is presented by the theoretical foundation in Chapter 2 and the empirical design research in Chapter 3. Hereafter the designed deliverables are discussed: the development guide in Chapter 4 and the training programme on agent banking in Chapter 5. In the end, the value of the designs is discussed in Chapter 6.

To gain a full understanding of the whole project, the report can be read chronologically from Chapters 1 to 6. If it is desired to read the report rapidly, but still to have a sufficient understanding of the project, the report can be read by solely only checking out the yellow coloured blocks in the (sub)chapters (Figure 2). The coloured blocks sketch the pages with rough summaries and conclusions, which creates the possibility to scan the report at speed.

Glossary

- **Digital financial services:** services that contain transactions with digital money via bank accounts.
- **Low-income countries:** a country that has a less developed industrial base and a low Human Development Index. Obsolete synonyms for this are 'developing countries' and 'third-world countries'. For this project, middle-low income countries are also included in the term of low-income countries, since Bopinc is also operating in those.
- **POS (point-of-sale) machine:** a device that can transfer digital money from account to account or from digital money to cash.
- **Training content:** information in the training programme.
- **Training materials:** materials in the training programme, like videos, images, handouts, etc.
- **Training programme:** a synonym for courses, classes or workshops, etc., where students learn a certain vocational skill.
- **Vocational skills/training:** skills/training that apply to a technical and/or practical profession.

Sketch

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer faucibus porttitor sagittis. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Sed egestas, tortor vel elementum

Figure 2: Example of the sketch

Preface

Dear reader,

I am going to tell you a short story. A story about how a young boy got confronted with the inequalities in the world. He saw people struggle with hunger. He saw people buried as a result of small infections. He saw children begging for education. He saw all that and thought: why? Why is that happening to them, and does it not happen to me? He couldn't find a clear answer, but he did find a way to make a difference for these people who need it the most: design. He realised that studying Industrial Design Engineering could give him the tools to make a positive impact on the lives of these people. He tried to involve cultural sensitivity, human well-being and social interaction in all his study projects and always dreamt of finishing his study time by a graduation project with this ambition. And that dream became reality.

In the end, it is the classic story of a Western privileged boy that has turned into a Western privileged man with an ambition to help people who are living in low-income countries. Although this ambition is meant with the best intentions, the perception of 'making a difference' can result in something that goes beyond best intentions; results like cultural imperialism or neo-colonialism. These are sensitive topics everyone would like to avoid but became inevitable due to the increasing globalisation and influence of multinationals. When something becomes inevitable from the outside, the most impactful action someone can do is change the system from the inside. And that is where I hope to end in the future: stimulate inclusive and independent innovation and business empowerment that creates an equal quality of life for everyone.

During this thesis project, I tried to take a step in that direction by designing a development guide for online training in low-income countries and a training programme for young Nigerian women that start their business in agent banking. During the project, I had a lot of freedom to research online training methods from home and remotely in Nigeria. The result of this project, my study time and my ambitions is the thesis project in front of you. Without some people, I would not be able to deliver this project and the impact it makes, so I would like to say a big thanks to all these people.

First I would love to thank Jan Carel Diehl and Sylvia Mooij for all their support and critical but inspiring and constructive feedback on my design plans, progress, results and reporting. They have been a perfect supervisory team as my chair and mentor.

Another great thanks go to my supervisors from Bopinc: Nick van der Velde and Roald Klumpenaar. They have, just like my supervisory team from the TU Delft, helped me along the way to get the best out of myself. In the end, they have taught me the most important lesson: how you can make yourself most valuable for the people you are doing this for. Besides them, I would also like to thank Tessa Fij, Johan van der Schaaf, John Akoji and Abuchi Okaro, who helped me with collecting a lot of useful insights, reviewing content and facilitating the research in Nigeria. I also want to thank Bopinc as an organisation and community to give me the opportunity to start this graduation project and to kick off my professional career as a designer.

The research would not have been possible without all the twenty-six women who participated in the pilot experiments. Thank you for that.

To conclude I would like to thank my friends and family, who supported me big time by participating in the creative session, by reviewing my report, by always cheering me up and by just being there when I needed them: Xiao-Mei, Koen, Avelien, Fay, Eva, Aniek, Luna, Esmee, Corrie and Paul.

Enjoy reading!

Thomas Nieuwendijk



Figure 3: A digital version of Thomas wishing you joy while reading

Table of contents

Executive summary	4	3. Empirical design research	32
Reading guide	5	3.1 Contextualising	34
Preface	6	3.1.1 Examples from practice	34
Table of contents	8	3.1.2 Case study	35
1. Project introduction	10	3.2 Selected methods	38
1.1 Initial assignment	12	4. Development guide for online training in low-income countries	40
1.1.1 Problem statements	12	4.1 Online training outlines	42
1.1.2 Scope and focus of the assignment	13	4.1.1 The basis	42
1.2 Project approach	14	4.1.2 Engaging students	43
1.2.1 Design elements	14	4.1.3 Development of training materials	44
1.2.2 Research questions	14	4.2 Template for online training design	45
1.2.3 Design process	15	4.3 Poster of the online training design process	46
2. Theoretical foundation of developing online training in low-income countries	18	5. Design case: iPOS training programme	48
2.1 Developing online training	20	5.1 Agent banking in Nigeria	50
2.1.1 Constructive alignment in (online) training	20	5.1.1 Digital financial services	50
2.1.2 Engagement of students in (online) training	24	5.1.2 Nigerian context	50
2.1.3 Development of online training	26	5.1.3 The young female banking agent	52
2.2 The intended context for the online training: low-income countries	28	5.2 Modules and value descriptions	57
2.2.1 Cultural differences based on income level	28	5.3 Embodiment and development	58
2.2.2 Technological standards compared between countries	30	5.3.1 Teaching and learning activities in the training programme	58
2.2.3 Training needs	31	5.3.2 Assessment and feedback in the training programme	62
		5.3.3 Engaging the young Nigerian women	62
		5.3.4 Development of the materials	64
		5.3.5 Design decisions of the training programme	65

6. Value of the designs	68
6.1 Impact	70
6.2 Conclusion	70
6.3 Discussion	71
6.4 Recommendations	72
6.5 Future implementation	72
6.6 Personal reflection	73
References	74
Appendices	79
Appedix A: Design proposal	80
Appendix B: Intended learning outcomes of the iPOS training programme	84
Appendix C: Focus group discussion questions	87



I.

Project introduction

This chapter introduces the assignment and the approach of the project. It tells what the project is about, where it originated and how the process has taken place.

Overview of chapter

1.1 Initial assignment

1.2 Project approach



I.I Initial assignment

The following subchapters explain the design challenge this project tackles by dissecting the problem statements and concretizing the assignment provided by Bopinc, an innovation centre in Utrecht that focuses on low-income consumers (Bopinc, n.d.), which is the main stakeholder in this thesis. The initial design proposal that was written before the start of the project is shown in Appendix A.

I.I.I Problem statements

In the thesis, there are two problems provided by Bopinc. These problems are converted into two different problem statements and are discussed in the upcoming paragraphs.

Problem 1: The need of keeping up with the rising need for online training in low-income countries

All over the world, the rise of online training is trending. In many sectors, there is a shift from physical 'outdated' classroom training and education to online training accessible via a smartphone app or laptop (Hess, 2021). The employees of Bopinc notice this shift as well during their projects. The employees have faced more often the need of the consumers to follow a training and recognize the ease of online training in both accessibility and responsiveness. The same goes for Bopinc's clients. Although some of Bopinc's employees already have experience in developing online training in low-income countries, the majority of Bopinc's employees and clients have not. These employees would like to develop a training programme with ease and speed. Therefore, there is a need to deliver a design that helps the employees and clients to develop online training in low-income countries.

Problem 2: The lack of vocational skills in agent banking among young Nigerian women

Nigeria is one of the most booming countries in the world with population growth from 36 million people in 1950 to 206 million people in 2020, and economic growth in GDP from 4,2 billion USD in 1960 to 432 billion USD in 2020 (Worldometer, 2022). This created many opportunities for the people living in Nigeria, like wealth, an enlarged service society and family expansion, but has also a great side effect: youth unemployment (Onyeiwu, 2021).

This side effect is stated as a major problem for young Nigerian people, especially among women (Akoji & Fij, 2021). The problem arises from an expanding population combined with an economic system with a limited employment generation (Onyeiwu, 2021). Agent banking, which is providing digital financial services locally, can be a solution (Akoji & Van der Schaaf, 2021). From earlier projects at Bopinc, it is known that agent banking is upcoming in Nigeria. The first reason is the increasing demand of the population for a more local offer in digital financial services (services that contain transactions with digital money via bank accounts). The second reason is the increasing availability of point-of-sale (POS) machines and more qualitative internet connection. Besides that, women experience harder times than men do when looking for a job, due to traditional family structures (Salami, Jegede, & Oshiname, 2017) (Akoji & Fij, 2021). These trends lead to a resolution for the unemployment of this group in need: the young female banking agent.

Innovectives, a financial technology company, tries to translate this resolution into a business opportunity by recruiting and onboarding young Nigerian women through online training in agent banking. Bopinc is assisting in project management and online training development. Currently, Nigerian women often have limited financial and digital literacy and capacity, so they may not be skilled enough to run their agent banking business with profit

and safety (Akoji & Van der Schaaf, 2021). By providing constructive and qualitative training, the young female banking agent can make money from her business. Therefore, there is a need to deliver a design that meets the needs of potential young female banking agents in online training the vocational skills they need to run their agent banking business.

1.1.2 Scope and focus of the assignment

The assignment, proposed by Bopinc, is to design a solution for these two problems: deliver a development guide for online training in low-income countries and a training programme in agent banking in Nigeria. To illustrate the similarities and differences between these two deliverables, the full assignment is divided into a scope and a focus. The scope describes the framework of the assignment, while the focus marks out the most important point of attention.

The scope of the development guide is set on people in low-income countries that need vocational skills and the scope of the training programme is set on young Nigerian women that need agent banking skills. According to this definition, they are separate deliverables with a different scope, while they share their focus: online training in low-income countries. The design of the development guide uses the design of the training programme in Nigeria as a case in online training. This means that the deliverables are designed parallel to each other during the whole research and design process and reinforce each other.

The design goal below is made to define and clarify the target group, the intention, the deliverables and its quality (Figure 3). It shows the purpose of the project and guides the design process towards a clear finish.

“The design goal is to construct a development guide that helps Bopinc’s employees and clients to create online training programmes for low-income countries. The development guide will be used by applying it to a case in which online training should be designed to increase skills in agent banking for young Nigerian women.”

Figure 4: Design goal

Sketch

Two problems statements are the source of this thesis: the need of keeping up with the rising need for online training in low-income countries and the lack of vocational skills in agent banking among young Nigerian women. The assignment of the thesis is to deliver a development guide for online training in low-income countries and a training programme for young Nigerian women to start their agent banking business.

1.2 Project approach

The project approach uses creative problem solving and research processes to guarantee productivity and structure during the design process. This approach is discussed in this subchapter by introducing the design elements, the research questions, the LEAN startup approach and several methods and tools.

1.2.1 Design elements

To ensure a successful design, certain design elements should be considered throughout the whole design process. This project uses design elements from Bopinc's design thinking strategy (n.d.) to match the needs of the assignment. The design elements are further explained below. For this project, the success is determined by the amount of positive impact that the design potentially delivers. The positive impact is measured by four different criteria: desirability, viability, feasibility and suitability. These criteria are, just as the impact, design elements and are used to conclude and define the impact.

Impact

The design should improve the lives of underserved consumers and communities, without jeopardising their environment.

Desirability

The design should make consumers willing to use it and/or pay for it.

Viability

The design should have a chance to succeed in the context, while the stakeholders can make money from the design and it is sufficient for growing the business.

Feasibility

The design should be technologically and organisationally feasible to deploy and to deliver the quality promised to the consumers.

Suitability

The design should be feasible and improvable by a team of invested stakeholders, and expectations align with what is needed to make the design successful in the market.

1.2.2 Research questions

For the project, two research questions are set to give a research direction to achieve the design goal, divided by the deliverables.

Development guide for low-income countries

What are promising online training methods that are viable, desirable, feasible, suitable and impactful in low-income countries?

Training programme in agent banking business for Nigerian women

What are promising online training methods that enable young women to commence their agent banking businesses in the Nigerian context?

The first research question focuses on the research foundation of the development guide and the second research question focuses on the research foundation of the specific case in Nigeria. Although there is overlap in between, both research questions differ in approach and variables. The variables for the research question for the development guide are promising 'online training methods' and 'low-income countries'. The variable of online training methods is specified by viability, desirability, feasibility, suitability and impact. The variables for the research question for the case in Nigeria are 'promising online training methods', 'young women', 'agent banking

	Development guide for online training	Training programme in agent banking
Undefined	Viable, desirable, feasible, suitable and impactful training methods	Promising training methods
Defined	Low-income countries	Female youth
		Agent banking business
		Nigerian context

Figure 5: Variables of research questions

business' and 'the Nigerian context'. To make sure the research is achievable, most variables are defined during the research by testing with an applicable research group. This research group is identified as living in a low-income country, young Nigerian women, and recruitable for an agent banking business. That leaves in both research questions the 'promising training methods' as the only variable (Figure 5), which means that is where the research will focus on.

1.2.3 Design process

The design process is derived from the LEAN start-up approach (Ries, 2011). Besides this main approach, there are several design methods used throughout the design process. This approach and these methods are explained in the upcoming paragraphs.

LEAN start-up approach

This process approach focuses on fast innovation and iterative validation, and consists of three phases that will be executed in 'unlimited' cycles: learn, build and measure (Figure 6). This method

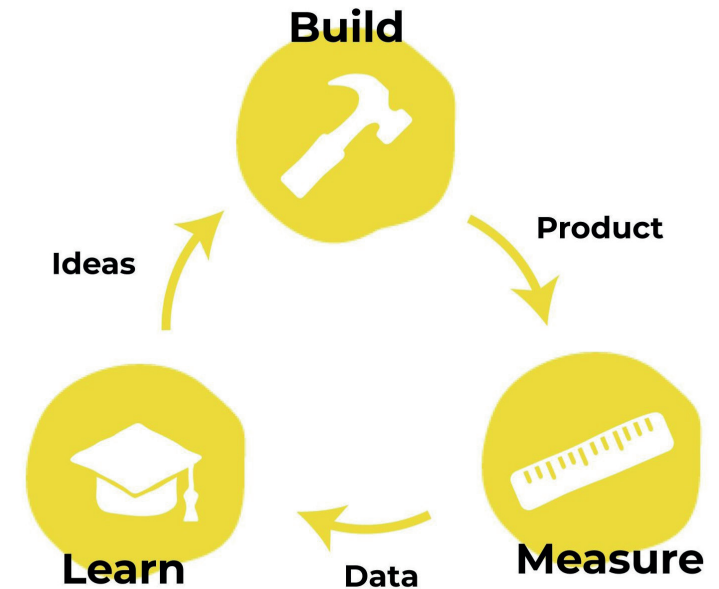


Figure 6: Cycles in LEAN startup approach

is chosen because it fits the unpredictable situations in the collaboration between the Nigerian and Dutch stakeholders, which need a flexible attitude and project planning.

The eventual design process compared to the report structure is shown in Figure 7. There have been multiple cycles that explored elements of the design. You will first get acquainted with the theoretical foundation of the project based on literature, whereafter these theories are tested by empirical design research in the context of the case in Nigeria. From this literature and empirical design research, the development guide for online training in low-income countries is designed. Hereafter, the development guide is used for the design case of the project in Nigeria: the iPOS training programme where young Nigerian women train how to provide digital financial services. To conclude, the value, contribution and relevance of the designs are discussed.

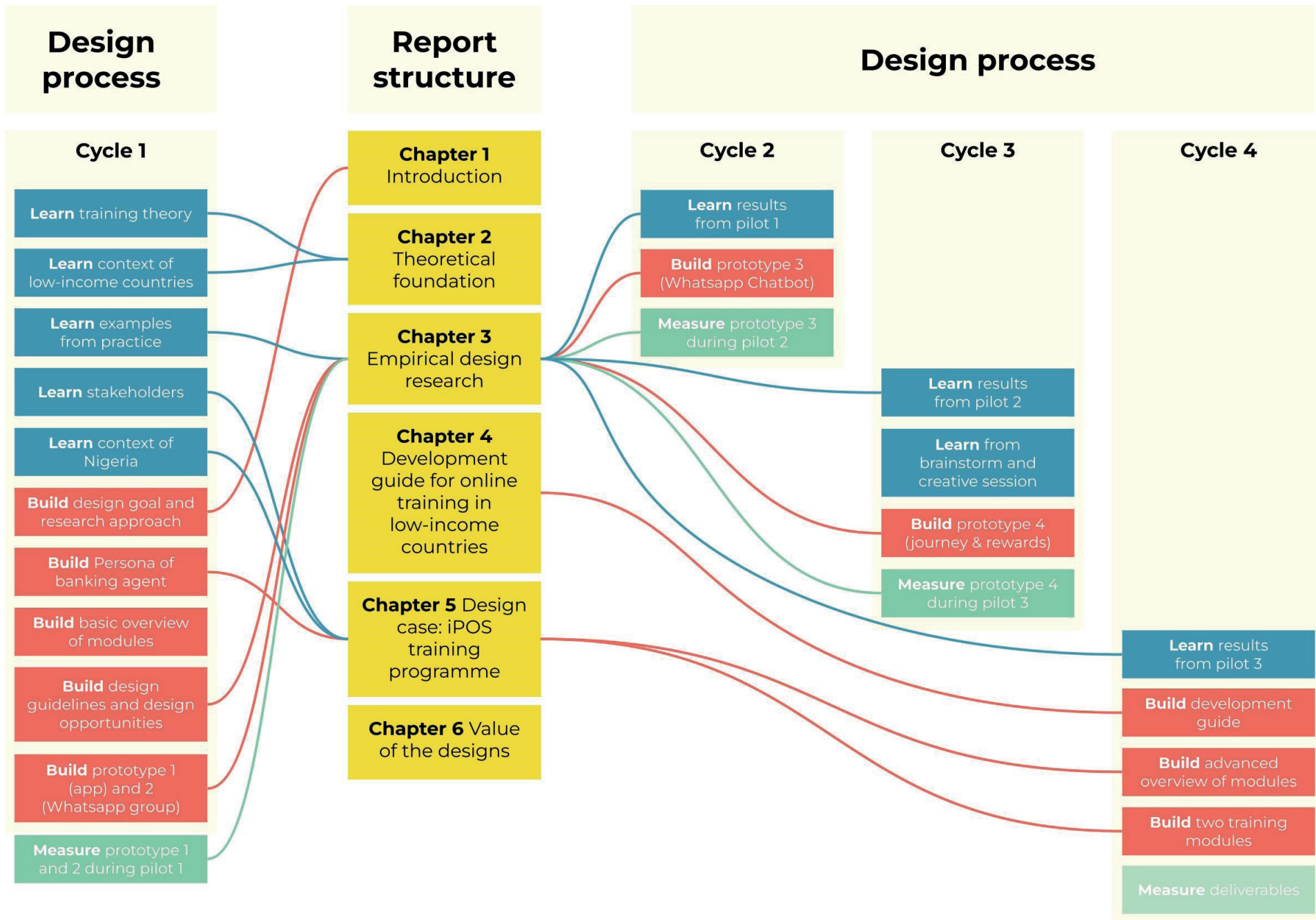


Figure 7: The contribution of the design process (activities and methods) to the report

Design methods

To learn, build and measure, several design methods are used throughout the design process. These methods are used while constantly keeping the design goal in mind. The design and research activities for the development guide and the training programme in Nigeria support each other constantly. Figure 7 shows the methods and design activities and labels them by 'learn', 'build' or 'measure'. The upcoming paragraphs explain the reasoning behind these methods.

The project starts chronologically with the first cycle of literature research on the topics of training specification, training development and contextual elements of low-income countries, specifically Nigeria. The literature consists of online databases, online articles and webpages, and research documents from Bopinc. From collecting this literature, the data is analysed and used for the first build phase. In this build phase a representation of the Nigerian target group (the female banking agent), the design goal, the design guidelines and the design opportunities are created. The representation of the Nigerian target group (persona) is the output of the contextual analysis and defines the student group for the design case. The design goal, guidelines and opportunities define the design direction and help the designer to create valuable deliverables successfully. These are all based on literature.

By using the design goal, guidelines and opportunities, a second build phase is done to design two prototypes. Prototyping is used as a method to simulate and experience the qualities of the design with real users (Van Boeijen, Daalhuizen & Zijlstra, 2020). In the measure phase, these prototypes are exposed to the women from the Nigerian context, to test out the design. This is done by a focus group discussion, an interactive conversation with people that are within the target group of the design case. These took place in real life by the hosting of a local partner in Nigeria. He recruited the participants, organised the location and facilitated the discussion.

He is instructed well thorough to make sure he asks the correct questions and dig deep to find qualitative insights about the design. In that way, the results and eventual insights are retrieved by remote research.

From the results of this focus group discussion the second cycle started by learning from the design elements that did and did not work out as planned. This is done by analysing it together with the local partner remotely. These insights are taken into account for the next build phase where a new prototype is made. This procedure is applied to the second and third cycle as well. For the third cycle, a creative session is used as an ideation method to find creative solutions for a specific problem. During the prototype phases, there have been constantly remote Whatsapp contact with the local partner to use his suggestions during designing the content. To conclude, most of the design methods are based on remote research with the help of the local partner in Nigeria.

Sketch

The design process is done by using various design methods and the LEAN startup approach. For the eventual design, promising training methods are researched, while taking the impact, desirability, viability, feasibility and suitability of the design constantly into account.

2.

Theoretical foundation of developing online training in low-income countries

This chapter provides a theoretical foundation on different types of training methods in the context of low-income countries. A training programme for every context can be made by dissecting online training into specifications, that can be used to configure a training programme. Although, when designing an online training program for

low-income countries, a context conscious and sensitive design approach is needed (Van Boeijen & Zijlstra, 2020). A generalised context identification of low-income countries makes that design approach more transparent, by presenting the details of the culture, technological standards and the needs in training.

Overview of chapter

2.1 Developing online training

2.2 The intended context for the online training: low-income countries



2.1 Developing online training

The Cambridge Dictionary (n.d.) definition of training is “the process of learning the skills you need to do a particular job or activity”.

This job or activity can be anything, which is why the outlines are presented in a pluriform manner so most projects in low-income countries can use it. To conclude from the literature research, three key elements are important to keep in mind when developing a successful training programme. These elements are:

- Constructive alignment, to create a viable cohesive training structure.
- Engagement of students, to increase the desirability to start and finish a training programme by the students.
- Development, to use feasible approaches to develop training content and materials.

To understand what online training means in detail and how one can develop an online training programme, the results of the research on this topic are discussed in this subchapter.

2.1.1 Constructive alignment in (online) training

The principle of constructive alignment in training is that the assessment and feedback, and the teaching and learning activities should focus on the intended learning outcomes (Biggs, 1996). All three elements are at the end intertwined and aligned with each other constructively (Figure 8). These will be explained separately in the upcoming paragraphs.

Intended learning outcomes

The first aspect of constructive alignment is the intended learning outcomes. The learning outcomes describe what a student is expected to know, understand and be able to demonstrate after completion of a process of learning (Vlasceanu, Grunberg & Parlea, 2007). The eventual aim is to create a type of change for the students. This type of change is settled by developing learning objectives (Meyers, 2014), which make the intention of the training designer more specific and measurable. These learning objectives make use of an action verb that states the type of change: obtaining skills, knowledge or an attitude (Meyers, 2014). Besides the action verb, an audience, a condition and a degree of mastery are part of the learning objectives as well. The audience addresses the students who have to follow the training. The condition explains in which situation and after how far in time the audience should be to be able to achieve the objective. The degree of mastery is the predefined amount of skills, knowledge or attitude the audience should have to finish the training. Below the format of the learning objective is shown.

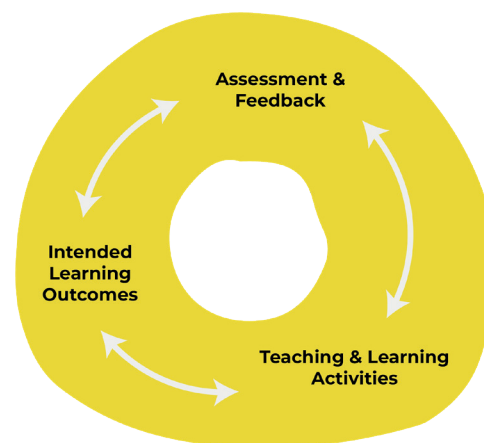


Figure 8: Constructive alignment

Sketch

Promising training methods are researched by literature. An online training programme can be developed by using constructive alignment. That method is the start of the training design process, resulting in the intended learning outcomes, the teaching and learning activities, and the assessment and feedback. The intended learning outcomes are defined by learning objectives (skill, knowledge or attitude) and modules or topics. The teaching and learning activities are specified by various methods in setting, teaching structure, method of delivery, channel and media.

In this example, *the audience will be italicised*, the knowledge/skill/attitude will be underlined, the condition will be in regular type, **and the level of mastery will be bolded.**

When the learning objectives are phrased, the training can be more specified in the training outlines. It depends on the size of the training format (programme, module, class or course), but chunking it down into topics makes it manageable to absorb the information (Miller, 1956). Based on the phenomenon of chunking, five and nine modules at maximum makes sure the student is always able to remember the complete programme and its purpose. The same counts for the number of topics in the modules.

Teaching and learning activities

The second aspect of constructive alignment is the teaching and learning activities. These are the ways to achieve the learning objectives and so the intended learning outcomes. These are based on five specifications that are used to specify the various activities. The setting defines how and with whom the student attends the training (Fordham University, 2020). This can be set by online/offline and asynchronous/synchronous with other students. The teaching structure defines how the intended learning outcomes nest in the student's cognitive (knowledge), psychomotor (skills) or affective (attitude) understanding (Markovic, 2021) (Meyers, 2014), while the method of delivery defines how the intended learning outcomes are conveyed to the student's

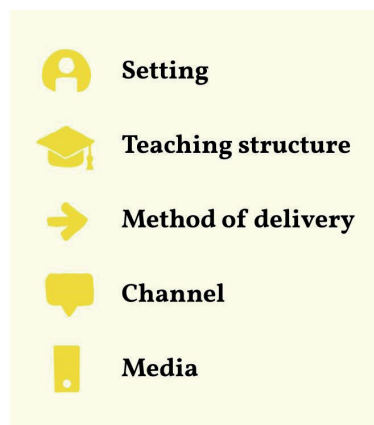


Figure 9: Specifications of teaching and learning activities

understanding (Dixit, 2020). The channel defines how the training content reaches the student and the media defines what ways of media can be used (Team Leverage Edu, 2021).

In Figure 9 the specifications are listed and in Figures 10 to 14 the promising methods, approaches and possibilities are shown.



Figure 10: Setting possibilities as training methods



Storytelling

Storytelling makes dry and tedious subjects more engaging and attractive, by being able to empathise with the protagonist and his/her problems and experiences in the story.



Branching scenario

Branching scenario creates a 'choose your own experience' style which immerses the students in a story and allow them to actively participate in decisions that control the outcome. By trial and error the students learn through experiencing consequences the intended learning outcomes.



Reflective learning

By reflective learning the student reflect on their created exercises or interactions with others. The students will challenge their existing perceptions and allow them to reach their own conclusions about a topic.



Step-by-step process breakdown

By step-by-step process breakdowns , a balance is made between the necessary level of detail while making sure it's as simple to digest the content as possible.



'What, why, how' page

By creating a page that focuses on what the students need to do, why they need it to do and how to do it, a simple and practical process can be trained. It is often used for explaining a linear process.



Digestible ebooks

Digestible ebooks are used as an alternative for text heavy PDF documents or handbooks. These ebook can be accessed in various formats, depending on the needs of the students.



Video-driven stories

By a powerful storyline and relatable characters a video-driven story can bring information to life. Well-placed interactions can increase the educational impact while entertaining the student.



Audio-based scenario with game elements

For this method audio snippets simulate a realistic work conversation or tell a story. By including some game-like elements brings a competitive feel to the exercises.



Gamified quizzes

Framing the educational content as game by involving competition, timers and rewards to collect motivates students to draw out their knowledge.

Figure 11: Teaching structure possibilities as training methods



Web-based learning

Web-based learning makes the training content accessible for the students on their own pace and time. The compatibility with every kind of media makes it user-friendly.



(Virtual) classrooms

A classroom is the most common way of education. There is one trainer explaining the information and a group of students are watching and listening to the trainer at the same place and time. For virtual classrooms it is the same, but everyone is at various locations and connected via an internet connection.



Video-based learning

By video-based learning the students can get access to the training information at every time. The video content can be animations, documented case-studies, interviews or presentation recordings.



Collaborative learning

This method focuses on encouraging building collaborations and interaction with peers, trainers or experts. In this way everyone shares and discusses ideas and opinions, resulting in that they learn from each other.



Custom eLearning

This method is an umbrella term for courses that are tailor made for the target audience. They are not one-size-fits-all and are fully developed from scratch.



Mobile learning

Since mobile devices became the most common tool in daily life, the accessibility of any information at any time makes this an effective method to learn training content.



Micro learning

This method divides the information in small digestible parts. It allows the student to focus on specific information and eases knowledge reinforcement.

Figure 12: Method of delivery possibilities as training methods



App

The amount of mobile phones are increasing and so are the opportunities for apps. Apps are extremely accessible for many people and are useful for sharing any kind of digital content.



Website

When apps take too much memory, websites and web-based apps can provide accessibility to any kind of digital content. The disadvantage is that a stable internet connection is always required to access the content.



Brochure

Brochures are often used for small amounts of information and are provided easily physically directly to people. Only analog text and images can be shared.



Poster

Posters are used for small amounts of information and are visible at busy places. Only analog text and images can be shared.



Podcast

A podcast is an audio broadcast where lessons are shared by explainers or discussions between persons, like the podcast host and an expert.



Whatsapp

Whatsapp is the most common text message service in the most countries. With the features of direct messages, group messages, mailing lists and automatic chatbots it shows many possibilities.



Social media platforms

Many social media platforms, like Facebook and Instagram, have various possibilities to share digital media content in many different ways. There are sometimes some limitations on the spread of the content and an account is needed to access these platforms.

Figure 13: Channel possibilities as training methods



Video

Video is a combination of moving images and audio and is booming as media format. It is most common on social media, television, virtual reality and video games



Text

Text is the most traditional media format and is used in everything, but especially in text messaging, posters, brochures, email, apps, websites and many more.



Audio

Audio is used for podcasting, radio broadcasting, telephone services, voice messaging and songs.



Image

Images are commonly used to show photography, illustrations, interfaces, augmented reality and symbols.



Visual story

Visual stories focus on storytelling in art style. Some examples are theatre (role-playing), drama and puppetry.

Figure 14: Media possibilities as training methods

Assessment and feedback

The third aspect of constructive alignment is assessment and feedback. This is the process of gathering and discussing the results of the teaching and learning activities from the students. In that manner, it is possible to measure the performance progress towards the achievement of the learning objectives (Charles Sturt University, n.d.). Assessment can have various interpretations which allow students to demonstrate their learnings. In Figure 15 the promising methods of assessment are shown, categorised by the assessment of skills, knowledge or attitude.

2.1.2 Engagement of students in (online) training


Online training presents unique possibilities in reaching students but incurs also some challenges. The main challenge is engaging the students (Khan, Egbue, Palkie, & Madden, 2017). This challenge can be tackled by approaches that motivate the students in both starting training and finishing it. Three approaches are derived from brainstorming, creative sessions and literature.


The approaches are summed up below and discussed in the upcoming paragraphs:

- Presenting the training as a journey.
- Creating unity between all aspects of the training.
- Providing extrinsic motivation structurally or in streaks.


Journey


Presenting a training programme as a journey provides the student with a clear goal, manageable steps and current progress information. Besides, it stimulates motivation to finish the programme, brings rhythm to the progress and gives the programme creator thematic freedom. This is derived from the creative session.


 **Problem scenario**
Provide the student an extensive scenario and the tools to solve the problem.


 **Work-based problem**
Make the student solve a problem from its own reality and provide the tools to solve the problem.


 **Portfolio**
Make the student create an overview of its activities including a reflection.

 **Analyse a case**
Provide the student a case and guide by decomposing the important elements.

 **Demonstration**
Make the student demonstrate a certain activity by reproduction.

 **Role play**
Create an environment where the students can create a role play together to digest and present the learnings in a fun way.

 **Learning contract**
Keep up the progress of the student.

 **Practise observations**
Let the student observe a process in practice and make him/her describe it.




Skill





Knowledge





Attitude

 **Oral presentation**
Make the student present the results or progress in front of a group.


 **Questions**
Ask open questions to the student.


 **Short answer questions**
Ask closed questions to the student with false/true or multiple-choice answers.

 **Written examination**
Provide the student with an exam that includes all lessons that need to be learned.

 **Essay**
Provide a subject to the student about the learnings and make him/her develop own insights which are concluded in a written text.

 **Comment on a set of records**
Provide a set of discussed records and make the student react on it.

 **Applied task**
Provide the student with an applied task to execute.

 **Applied problem**
Provide the student with an applied problem to experiences.


 **Debate**
Provide the students with a statement about the learnings, divide them in teams that are in favour and against the statement and let them discuss.

Figure 15: Assessment possibilities as training methods, labelled by action verb

Unity

Giving unity through consistency to the training programme makes the content easier to understand for the student (Mager-Lightfoot, 2019). It provides guidance and makes the student feel more comfortable due to the recognizable elements. In a standard situation, a physical trainer teaches the students. Since it is an online training, a digital trainer as a mentor can cause that unity. Character-based comic media has a recognised function in every cognitive development by guiding the learning process (Rina, Suminar, Damayani & Hafiar, 2020). Besides, cognitive development in early adulthood consists of relativistic thinking, pragmatic thinking, problem-solving skills and the capacity of creativity.

All psychological developments are needed or useful in the context of being a banking agent (Piaget, 1971). So, the value of a character-based comic media mentor is that it involves an interpersonal relationship while the mentor is concerned with supporting the less-experienced and guides towards performance. Another way to create unity is by a theme, which is a main element in the journey.

Extrinsic motivation

There are two ways to motivate people as is explained in Figure 16: intrinsic and extrinsic motivation (Sennett, 2021). Rewards and incentives stimulate the attendance of the target group since the brain interprets them as positive and desirable (Schultz, 2015), which are a form of extrinsic motivation. By giving them money or refreshment incentives and appreciation, people are more willing to leave their current business activities.

To make sure the students finish the training programme a variety of non-monetary rewards can be given systematically along the training journey. This can be done structurally or by completing a streak, as long as it does not lose its value (Rochaun, 2018). In addition, Bopinc learned from earlier projects that reward programmes have a positive effect on student engagement. So, extrinsic motivation is useful to engage students in high-quality continuous work.



Intrinsic motivation

Doing an activity for its inherent satisfaction rather than for some separable consequence.



Extrinsic motivation

Doing an activity because of outside causes such as avoiding punishment or receiving a reward.

Figure 16: Intrinsic and extrinsic motivation

2.1.3 Development of online training

The final stage of developing a training programme in low-income countries is the development of the training content and materials. Based on the literature research, four factors influence the feasibility of the online training content and materials: the student group, the key players, the use of new media software and the performance measurement. These factors and their meaning for the training development are described in the upcoming paragraphs.

Student group

Since a training programme is designed for a student group as a user, the student group has to be centre staged during designing and developing the online training ((Van Boeijen, Daalhuizen & Zijlstra, 2020)). The specific cultural background, demographic characteristics and personal interests are essential to understand as a training developer, to make fitting and accessible activities,

engaging media and understandable exercises. Because of that, the developer should first analyse the context of where the training programme takes place and take the insights constantly into account during the development of the training. This is further explained in Chapter 2.2.

Key players

When one is developing a training programme some key players should be involved, especially when the development is done remotely. Based on insights of Bopinc, the inclusion of a local partner in the project leads to a better understanding of the needs in training, accessibility to the potential student group and collection of recorded or created media materials from practice. Besides this main key player, other people may be more skilled in materials creation than the training developer itself. The outsourcing for specific activities of the training materials development adds convenience and effective time management for the developer.

New media software

The creation of new media materials in the year 2022 is easy and accessible for everyone when having a computer, internet accessibility and financial possibilities to buy the software. By online and offline tools and software, the skills needed to program or edit any visual materials are not needed anymore. These tools and software are often based on artificial intelligence (AI) that removes the technological challenges between the user and the intended deliverable. In other words, there are many opportunities to find and use certain software for the creation of training materials without the need for high-developed skills.

Performance measurement

While a training programme is based on tested assumptions, the performance of the training programme can only be tested in reality among a large number of students. The process of collecting, analysing and reporting information about the performance and learning curve of the student is the starting point of improving the training programme (Behn, 2003). The following action is to find ways to improve the occurring problems and eventually improve them by the available means in an iterative manner.

Sketch

The method of assessment define the assessment and feedback based on skill, knowledge or attitude. The students can be engaged in the programme by a journey, unity and extrinsic motivation. The student group, key players, new media software and performance measurement are things to take into account during the development of a training programme.

2.2 The intended context for the online training: low-income countries

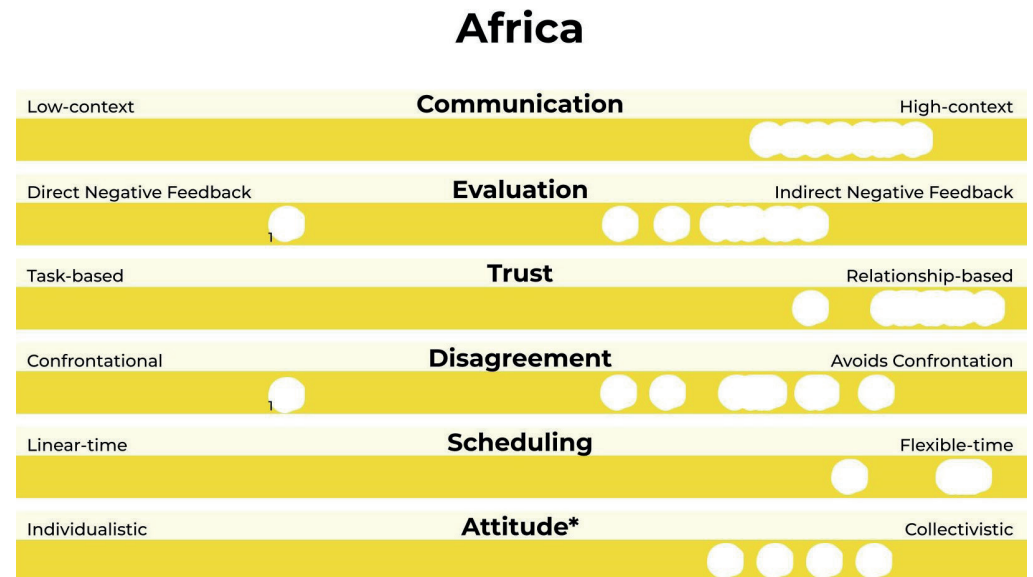
After setting the theoretical foundation of an online training programme, knowledge on the context where the training takes place is essential in order to design suitable training. It is essential because the desirability, viability, feasibility and suitability needs to be measurable, which are all related to contextual influences. During this project, the focus will lie on the generalised context of low-income countries. Low-income or middle-low-income countries have a less developed industrial base and low Human Development Index (source) compared to other countries. These countries often have common characteristics in health risks, poverty, low education levels and inequality (United Nations, n.d.). Another main characteristic that is linked to all these topics is their emerging markets. In this subchapter, the three key contextual factors that influence training are explained. These factors elaborate on how one copes with the culture, the technological standards and the needs in training.

2.2.1 Cultural differences based on income level

Hofstede stated in 1980: “a culture is the collective programming of the mind distinguishing the members of one group or category of people from others.” This collective programming of the mind means that there are important differences and similarities between the cultures in low-income countries and high-income countries. Since Bopinc intends to change current socio-cultural behaviour in low-income countries, a culture-conscious design approach is needed (Van Boeijen, 2015). To use a culture-conscious design

approach a generalised analysis of culture is done based on the most significant low-income countries in the world where Bopinc operates.

Although cultures of different countries can never be generalised, it is possible to see a tendency in similarities between the cultures of low-income countries. Based on the Country Mapping Tool (Meyer, 2018) and the Country Comparison tool (Hofstede Insights, 2022), there is a clear indication that low-income countries can be generalised based on themes that are related to training. These themes are communication, evaluation, trust, disagreement, scheduling and attitude. Figures 17, 18 and 19 show how several low-income countries in Africa, Asia and South America score on these six themes (Meyer, 2018) (Hofstede Insights, 2022).



*Only data from Kenya, Nigeria, Ethiopia & Ghana
1: Nigeria as exception

Figure 17: Cultural comparison between low-income countries in Africa (Botswana, Cameroon, Ethiopia, Ghana, Kenya, Nigeria, South-Africa, Tanzania, Uganda and Zimbabwe)

Asia



1: India as exception

Figure 18: Cultural comparison between low-income countries in Asia (China, India, Indonesia, Pakistan, Philippines, Thailand and Vietnam)

South-America

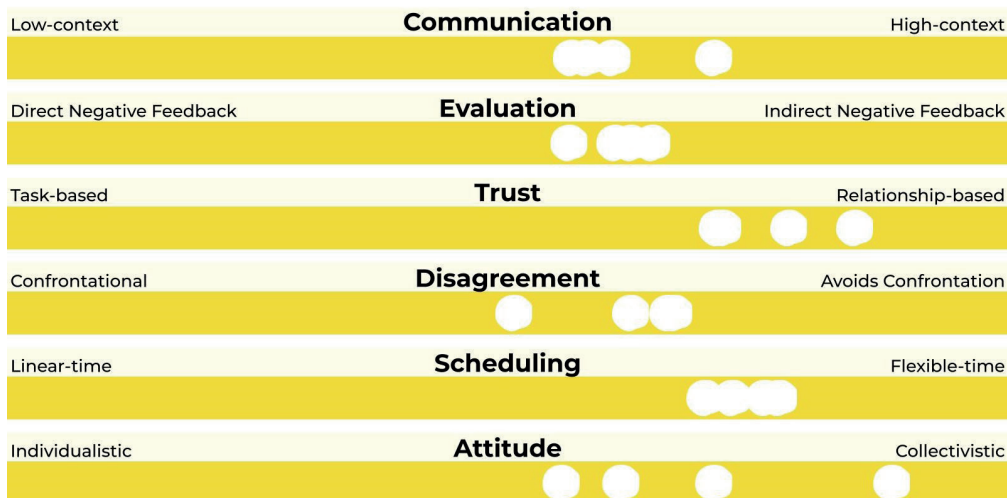


Figure 19: Cultural comparison between low-income countries in South-America (Brazil, Argentina, Colombia and Mexico)

To illustrate how the similarities between these countries are significant, an overview of some high-income countries as a comparison is shown as well (Figure 20). It seems that high-income countries vary a lot and lean to the left side of the overview, while the low-income countries all lean towards the right side. Although the South-American countries lean to the right side, it is not as strong as the African and Asian do. Besides. The division is relatively larger. That means that South-American countries are excluded from the culture generalisation of low-income countries that are made in this chapter. How low-income countries score on each theme and what this means for the design is explained in the following paragraphs.

High-income countries

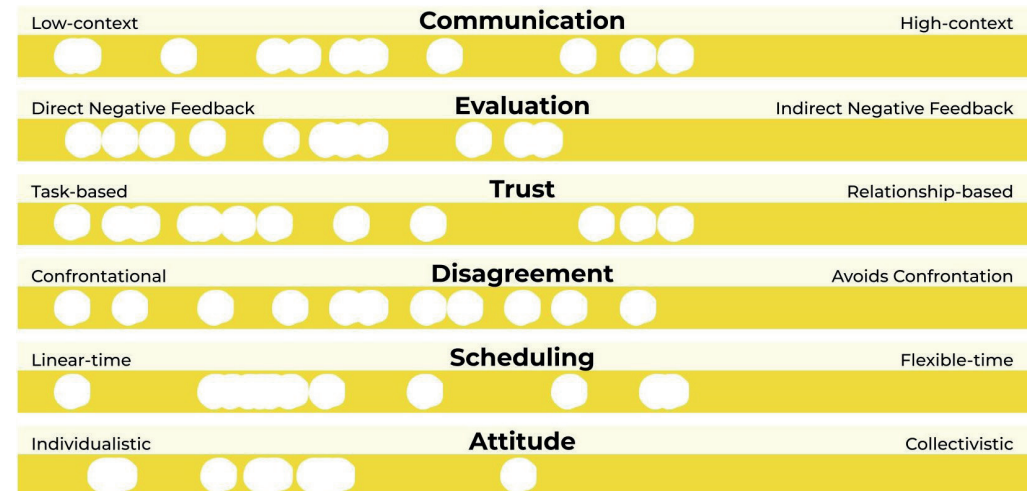


Figure 20: Cultural comparison between high-income countries from all over the world (Australia, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, UK and USA)

Cultural similarities in communication

The communication between low-income consumers is sophisticated, nuanced and layered (Meyer, 2018). The messages are often implied and vague, which means that one needs more context, like body language or supporting sentences, to understand what the other means. In training, communication is in every element. So common used language and supporting contextual information need to be part of it.

Cultural similarities in evaluation

The way of evaluating another is by indirect negative feedback (Meyer, 2018). Since evaluation is common for training purposes in (self-)assessment, one has to cope with the feedback. This feedback is provided softly, subtly and diplomatically. Normally the positive feedback overflows the negative feedback. The feedback is given with references to the reasoning. Real criticism is only given in private situations.

Cultural similarities in trust

Trust in the trainer and fellow students is needed to create a safe and comfortable space where you can learn (Meyer, 2018). This trust is often relationship-based, which means that the trust is built up slowly over the long term by activities, visits and drinks. It costs a lot of time and is often impractical, but is most valuable when achieved.

Cultural similarities in disagreement

A confrontation between the students and the trainer harms the teaching and learning activities (Meyer, 2018). Open confrontation is inappropriate and breaks the group harmony. This results that most students will agree relatively quickly with what the trainer is telling them to do.

Cultural similarities in scheduling

The training needs the possibility of adaptability and flexibility while following (Meyer, 2018). Activities are often planned fluidly and when one is changing tasks, the previous activity needs to be postponed.

Attitude

Low-income countries are often considered collectivist societies (Hofstede Insights, 2022). Meaning that loyalty in these cultures is a long-term commitment, often given to (extended) family members and relationships. This often also overrides most other societal rules and regulations. In training, this group feeling contributes to taking responsibility when collaborating.

2.2.2 Technological standards compared between countries

Technological innovations shape the future, while the penetration of some is delayed for low-income countries compared to other countries. That makes the standard in technology relevant for the development of the training.

First, the smartphone penetration in sub-Saharan Africa will go from 287 million users in 2012 to 623 million users in 2025, which will be 50% of the population (GSM Association, 2019). That means that the availability of smartphones to use for online training will rise drastically. One thing that has to be taken into consideration is that not all smartphones that are in use are high-end due to poverty. On the other hand, social media use is upcoming as well. As Nigeria is the case in this thesis, the social media use of that country is analysed. Whatsapp is in 2020 used the most by smartphone users (93%), while Facebook (86%) and YouTube (82%) are running up behind (Sasu, 2022). In general, it can be said that for Nigerian smartphone users social media is common to use, especially Whatsapp.

Although a more stable mobile internet connectivity is established in low-income countries, this innovation is still far behind compared to Europe and North America. In sub-Saharan Africa, only 28% of the area is covered and in South Asia 34%, while Europe, central Asia and North America cover about 75% of the area with stable internet connectivity in 2020 (GSM Association, 2021). Besides the coverage, the quality of the connection in low-income countries is also behind, since it is mainly based on 2G and 3G instead of 4G or 5G. The accessibility of training content should always be considered during the training development.

Another thing to consider is the lack of general digital literacy, skills and adaptability to new technologies. The literacy and skills that current smartphone users have are self-learned at a later age, while they are not specifically raised with it (Coiro, 2017). Especially among women and older generations as a student group, this should be taken into account while developing a training programme.

To conclude, the current technological innovations will lead to a context that can make online training possible, but there will be issues to be faced due to limited technological standards compared to high-income countries.

2.2.3 Training needs

The student groups have certain basic needs in training. The most basic need is to contribute to a certain vocational skill set on certain topics that are related to the concerning profession. Based on earlier Bopinc projects, vocational skill training seems to have more impact than knowledge education has because the student group has limited time and is promised to make money in the short term. These training programmes are often entrepreneurial focused, which leads to small-medium enterprise opportunities. Another need is that the training has to be in the language of the most common spoken level. This means that the training should be formulated, (locally) translated or referred to local recognitions. When all training needs are collected, a basis for content development can be made.

Sketch

Low-income countries in Africa and Asia can be culturally generalised in communication, evaluation, trust, disagreement, scheduling and attitude. The technological standards are also similar with a rise in smartphone and social media users, although the coverage and quality of internet connections are still limited. Soon online training will be more possible in low-income countries with a focus on vocational and entrepreneurial training.

3.

Empirical design research

This chapter presents how the theoretical foundation confronts reality by implementing the methods in the design case in Nigeria. Empirical research is a research procedure where observations from practice are converted into a law, whereafter a hypothesis of this law is made and tested in an experiment. For this project, training methods from literature and observations become contextualised and tested with low-income consumers. In the end, the methods are filtered by several pilots. The selected methods are presented as promising to use when developing online training for low-income countries.

Overview of chapter

3.1 Contextualising

3.2 Selected methods



3.1 Contextualising

Contextualising means that the theoretical methods are exposed to a real context with real people and real problems, where insights are derived from. To make this design research empirical, training examples from practice in low-income countries are collected to make observations on what does work and what does not. These observations are translated into the law of design opportunities. From the design opportunities and theoretical foundation, a hypothesis is made by prototypes. This hypothesis is tested by pilot experiments with Nigerian women.

3.1.1 Examples from practice

There are already many good examples of training content in the field, made by Bopinc, random local YouTubers and many companies. To get an understanding of what is out there, a collection is made of sixteen examples from practice in low-income countries, focusing both on agent banking and other topics. These will function as observation, which results in a law of design opportunities.

Observations from practice

The sixteen examples are shown in Figure 21, including where the project was situated. The examples are found via the internet or suggested by Bopinc. From this overview, various opportunities are observed, clustered into guidebooks, toolkits, video tutorials, gatherings, communities, challenges and social media.

Law of design opportunities

From the observations, a law of design opportunities is established by eight statements. These are shown in Figure 22. In the end, this law activates, challenges and unites the student. This can lead to good training activities in low-income countries.



Figure 21: Observation from practice

Activate
the student

Challenge
the student

Unites
the student

Cooperating videos and guidebooks with **activating doing-together exercises**

Toolkits/assistance that generate **personalized solutions** for the student

Guidance and trust by a character that guides the student through the training

Allure students by **structural incentives** to follow the training

Communicate the training as **a challenge**

A **collective social situation** where the students can discuss their acquired knowledge and skills

Persuasion of the relatives to sympathise with the student's learning activities

Figure 22: Design opportunities

3.1.2 Case study

The case study involved the creation of training modules in the context of Nigeria with the topic of agent banking, based on a selection of the methods that are shown in Chapter 2.1. The goal of this case study is to test the law of design opportunities and to answer the research questions that are presented in Chapter 1.2.2. This training tests built prototypes as hypotheses and exposes them to young Nigerian women. Prototypes are a versatile way of realising concept ideas to test the hypotheses of the research question (Van Boeijen, Daalhuizen & Zijlstra, 2020). The hypotheses are the most promising training specifications and are tested in a systematic variation. The pilot experiments are done in three cycles.

Cycle 1 proposes a mobile app and a Whatsapp group with training exercises, cycle 2 proposes a Whatsapp chatbot with training exercises and cycle 3 proposes a Whatsapp chatbot with a training journey and reward programme. Every cycle is separately discussed in the upcoming paragraphs.

Prototype hypotheses

Cycle 1 presents two prototypes: a mobile app and a Whatsapp group. The mobile app consists of various pages with textual information, video lessons with an animated character and quiz & analyse exercises. The student does the training individually. The used methods for the teaching and learning activities are shown in the prototype in Figure 23. The Whatsapp group consists of textual information, audio explainers and collaborative exercises. The student performs this training in small groups (Figure 24).

Cycle 2 presents one prototype: a Whatsapp chatbot. It is built as a revamped version of the best elements of the previous prototypes, to rectify the earlier chosen promising methods. The used methods for the teaching and learning activities are shown in the prototype in Figure 25.

The final cycle includes a prototype to test the engagement of the students. This prototype presents a journey, engaging video style and several rewards, which can be earned while progressing through the training programme. In Figure 26 some examples of the prototype are shown.

Sketch

The design case in Nigeria is used to empirically research the training methods. Design opportunities are derived from examples from practice in low-income countries. These are used together with the literature research to test out in the case study, by pilot experimenting with several prototype hypotheses.

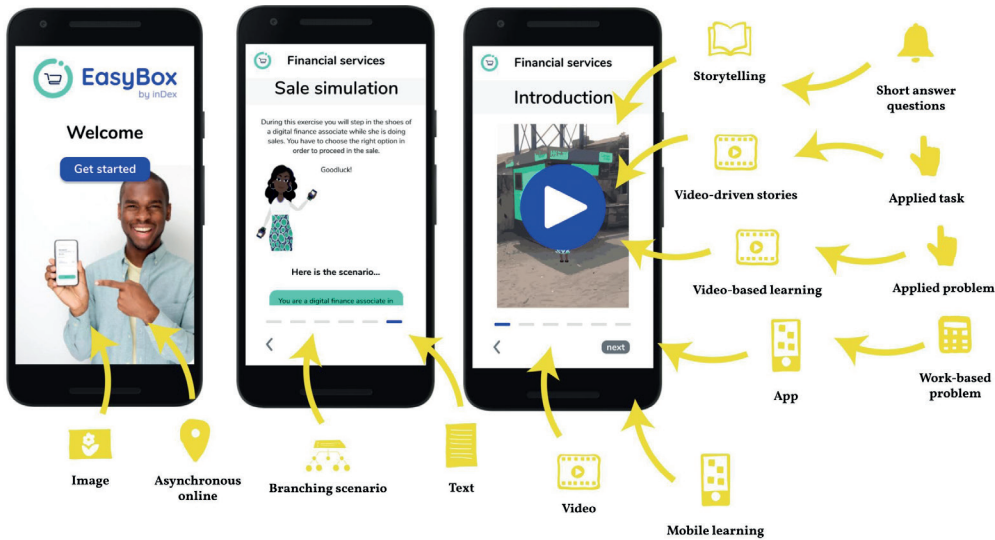


Figure 23: Prototype 1 (app) with the used training methods

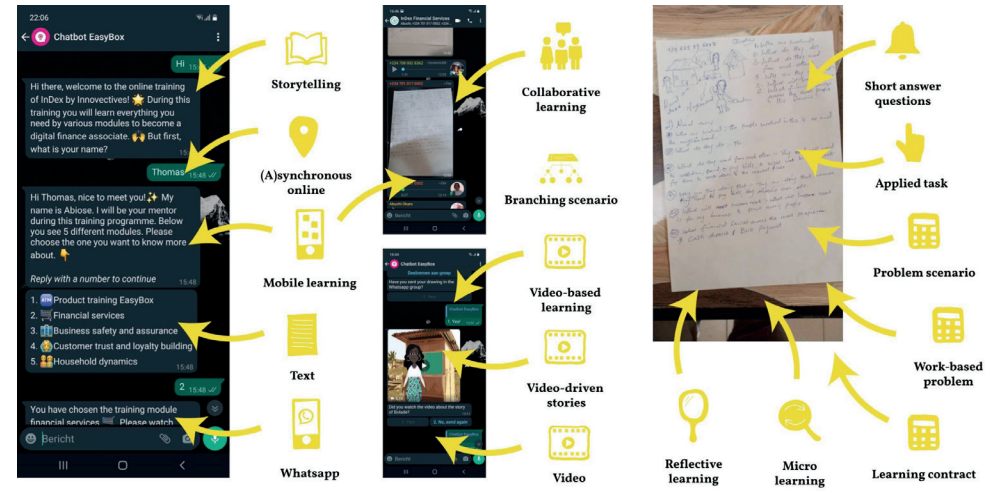


Figure 25: Prototype 3 (Whatsapp chatbot) with the used training methods

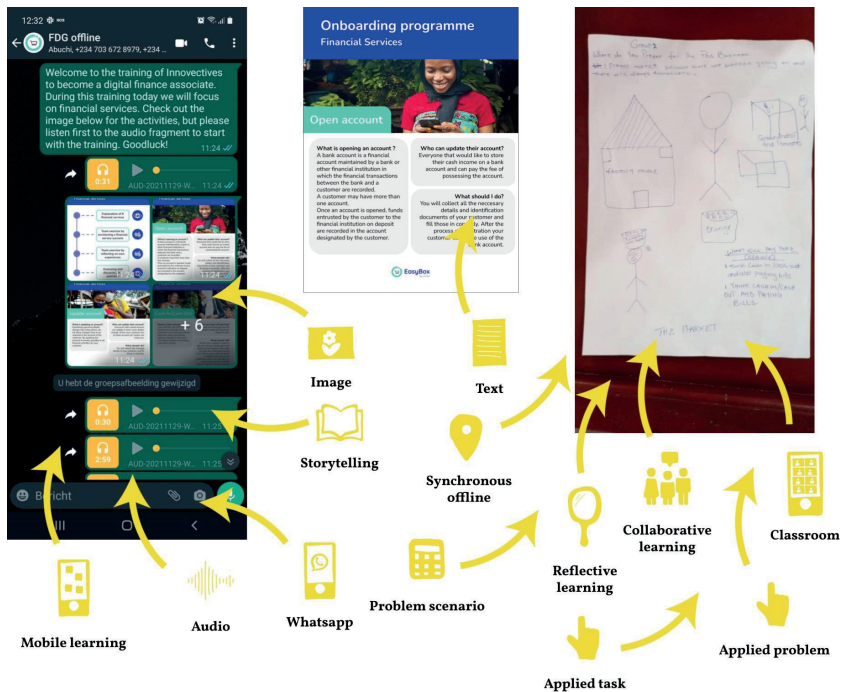


Figure 24: Prototype 2 (Whatsapp group) with the used training methods



Figure 26: Prototype 4 (journey, motivation and video style) with the used training methods

Pilot experiments

The pilot experiments are conducted in three cycles as well. The results during the first two cycles are retrieved by focus group discussions. As explained in Chapter 1.2.3, it is an interactive conversation with people that are within the target group of the design case to retrieve qualitative insights about a certain topic. Abuchi Okaro, a consultant that was hired by Bopinc, assisted the thesis by being the local partner situated in Nigeria. He assisted in the content and materials creation, identified and recruited all participants for the pilots and facilitated the discussions. He was instructed to follow certain guidelines in presenting the training content and to feed the discussion by asking targeted questions towards an in-depth conversation. The questions of all cycles are shown in Appendix C.

During the first pilot, the research group consisted of thirteen female Nigerian participants, aged 18-35 years old and employed as shopkeepers, fashion designers, teachers, nurses or students. During the second pilot, the research group consisted of ten female

Nigerian participants, aged 18-35 years old and employed as banking agents, stylists, pharmacists, bartenders, printing officers, tailors or shopkeepers. The locations were a hall where all participants attended the session together. Some impressions of the ambience are shown in Figure 27. The third pilot was conducted by sharing the prototype via Whatsapp with three female Nigerian participants, aged 18-35 years old and employed as shopkeepers or pharmacists. They experienced the prototype and shared their thoughts over Whatsapp.

The data that results from the pilot experiments are analysed to see relevant and insightful connections between the results and hypotheses. In this regard, there are learnings from the pilot experiments. The observable variables, like attitude, motivation, preference and skill-set, are observed and concluded by Abuchi. He has identified the themes that emerged since he was the only one to observe body language and what is (not) said during the discussion.



Figure 27: Ambiance of the focus group discussions

3.2 Selected methods

From the creation of the prototypes and testing those by the pilots in the context, various insights are derived. These insights functioned as filters to contain a selected number of methods that can be promising to use during online training in low-income countries. The main insights are summed up in the upcoming paragraphs and the promising training methods are shown in Figure 28, 29 and 30. Explanation for all the selected methods can be found in Chapter 2.1.1 and 2.1.2.

Setting

All the focus group discussions show that the participants lacked the digital skills to start the training modules without any help from a real-life trainer. After some guidance in the way of a tutorial on how the training should be followed, they can follow the other modules without any help. That means that the introduction of the training should be physically together with some other students guided by a real-life trainer (synchronous offline), whereafter the remainder of the training programme can be followed on their own ((a)synchronous online).

Teaching structure

The first and second pilots prove that storytelling in video-driven stories in teaching the theory and the exercises were promising. The participants were hooked and were able to immerse themselves in the stories. From that, a combination of gamified quizzes and branching scenarios resulted in high involvement and imaginable business situations. Reflective learning works out pretty well, due to the similar business situations many participants already have experienced in their past. This results in qualitative exercise results.

Method of delivery

Firstly, since the setting requires an offline introduction, it needs a classroom as a method of delivery. This introduction is also possible online via video calling but has a much lower success rate due to disturbing internet connectivity. Secondly, video-based learning is promising since the language barriers and attention span limit textual communication. By adding body language to the delivery, the students can easily consume the training content. Thirdly, most low-income countries have a collectivistic attitude, which makes collaborative learning promising in training. Lastly, all students make a lot of use of their mobile phones and have a lot of in-between moments during their day. Mobile learning in combination with microlearning responds to that behaviour.

Channel

Laptops are not commonly used, but mobile phones are. This makes an app promising channels to use to deliver the training materials to the students. Whatsapp and social media platforms are part of daily life, which makes them the most recommended channels to use. Although, many students possess a feature phone. A feature phone is a basic smartphone with only the specific necessary features, like calling, SMS, internet browser, camera and Whatsapp. These phones run on an outdated Android version, which means that some apps or functionalities will not work for everyone. That is why mobile websites and offline brochures and posters are promising as well, since these work for everyone, although they have a limited reach.

Media

There is an unlimited number of specified media that are useful in training. Because the number is that high, the selected media is limited to the five labels. In the end, these are often intertwined with each other. What resulted from the pilots is that the variation and combination of different media make the training attractive, immersive and eventually instructive.

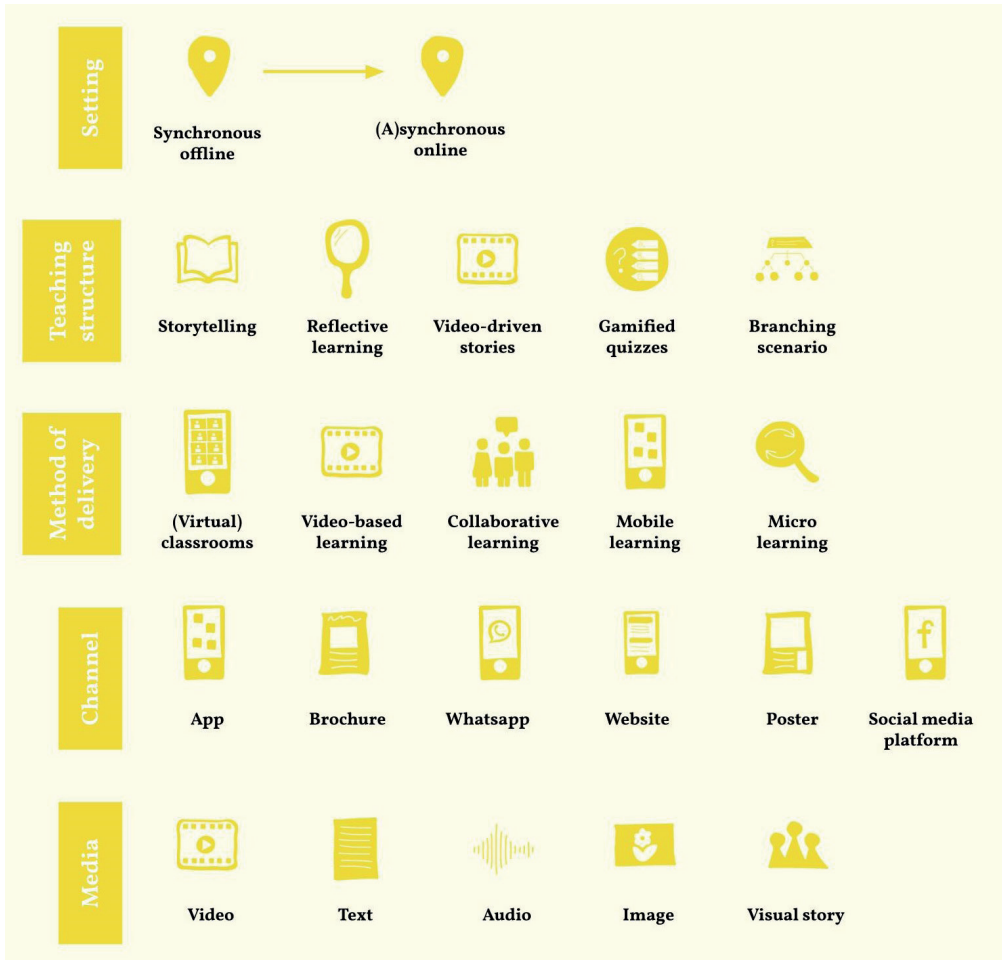


Figure 28: Selected promising training methods for the teaching and learning activities

Assessment

To assess the students the promising methods of assessments are divided into skill, knowledge and attitude. To assess a skill, problem case based and progress based assessments are promising, since the student can demonstrate a skill via those methods. To assess knowledge, questions and comments are promising. These can show if someone can reply directly on a topic from their knowledge. To assess the attitude of someone, applied methods of assessment are promising, due to its practical situational origin.

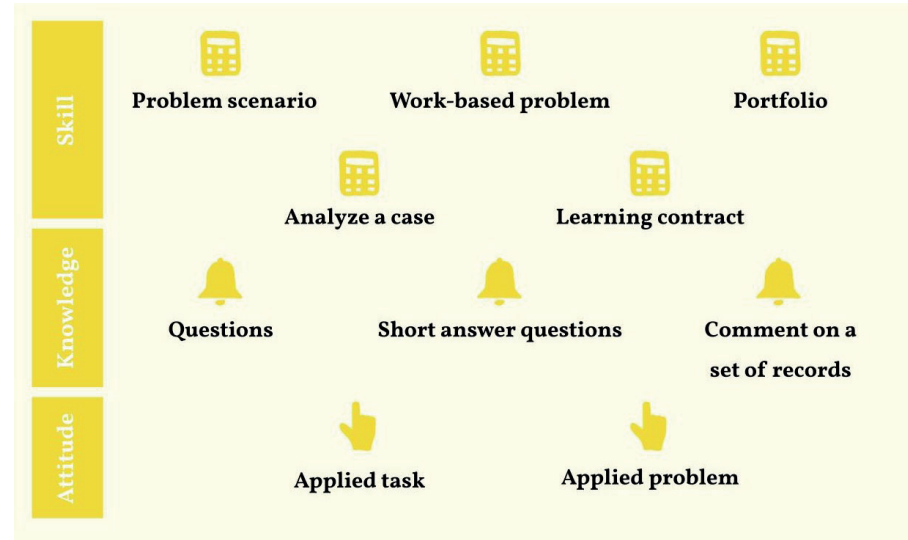


Figure 29: Selected promising training methods on assessment

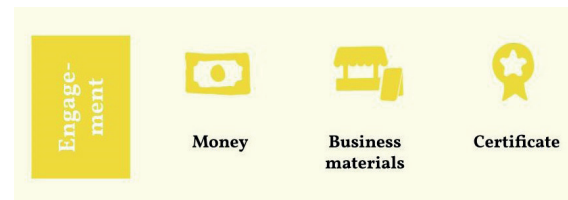


Figure 30: Selected promising training methods on engagement

Engagement

All pilots demonstrated that unity in a training programme is promising. The digital trainer during the videos makes the student recognise themselves, which made them more motivated to follow the training. The third pilot proves that monetary appreciation and business-related rewards are most promising to engage the students. The journey in a certain theme gives the feeling of an adventure, which reminds them of their youth in a positive way.

Sketch

From the empirical, the most promising training methods are selected. These consist of the methods for the setting, the teaching structure, the method of delivery, the channel, the media, the assessment and the engagement of the students.

4.

Development guide for online training in low-income countries

This chapter presents the approach of designing online training in low-income countries and is made for the employees and clients of Bopinc that have to design online training for their projects. This so-called development guide leads the training designer in the initial phase of the process. To ensure the training designer understands the methods, all outlines of the methodology are collected in an A2 poster and a template that can be filled out. This creates a starting point for the creation of

Overview of chapter

4.1 Online training outlines

4.2 Template for online training design

4.3 Poster of the online training design process

online training. The whole development guide is created from literature research filtered by the empirical design research to promising methods which are discussed in Chapter 3.2, where the project in Nigeria is used as a case study to derive the design choices from. In that way, the development guide is useful for low-income countries. In the end, this deliverable achieves the first part of the design goal 'to construct a development guide that helps Bopinc's employees and clients to create online training programmes for low-income countries'.



4.1 Online training outlines

The training outlines of this development guide consists of three parts: the basis, engagement and development. The basis is formed by constructive alignment. The principle of constructive alignment can be found in Chapter 2.1.1. The engagement deals with methods to convince, persuade and motivate the students to start and finish the training, and is discussed in Chapter 2.1.2. The development of the training takes up the approaches of how to create extrinsic motivation, which is discussed in Chapter 2.1.3.

4.1.1 The basis

Constructive alignment is the basis of the development guide. It is the starting point for choosing the applicable training methods and sets the goals of the training programme. In the upcoming paragraphs the elements, which are elaborated in Chapter 2.1.1, are discussed. The descriptions of the methods are given in that chapter as well.

Intended learning outcomes

The intended learning outcomes are based on the literature that is discussed in Chapter 2.1.1. The creation of the learning objectives is essential to start with since it determines the meaning of the training programme and its outline. This meaning is determined by following the structure of the learning objectives, deciding on if the student needs to learn a skill, knowledge or attitude, and choosing the most appropriate action verb. This already contributes to the decision making on which methods are useful for the teaching and learning activities, and the assessment and feedback.

Teaching and learning activities

For the teaching and learning activities, several teaching methods are selected by the empirical design research that is explained in Chapter 3. The outcomes of the promising methods and their description are listed in Figure 31 till 35.

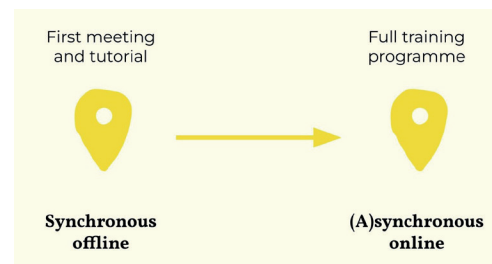


Figure 31: Settings as promising training methods in the development guide

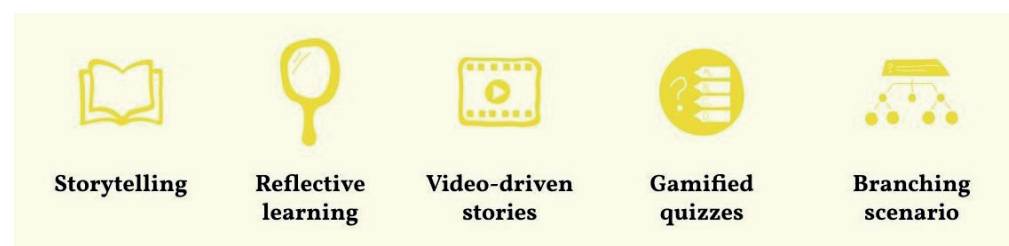


Figure 32: Teaching structures as promising training methods in the development guide



Figure 33: Methods of delivery as promising training methods in the development guide



Figure 34: Channels as promising training methods in the development guide

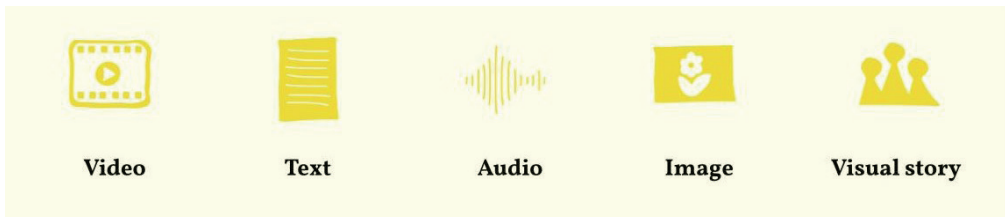


Figure 35: Media as promising training methods in the development guide

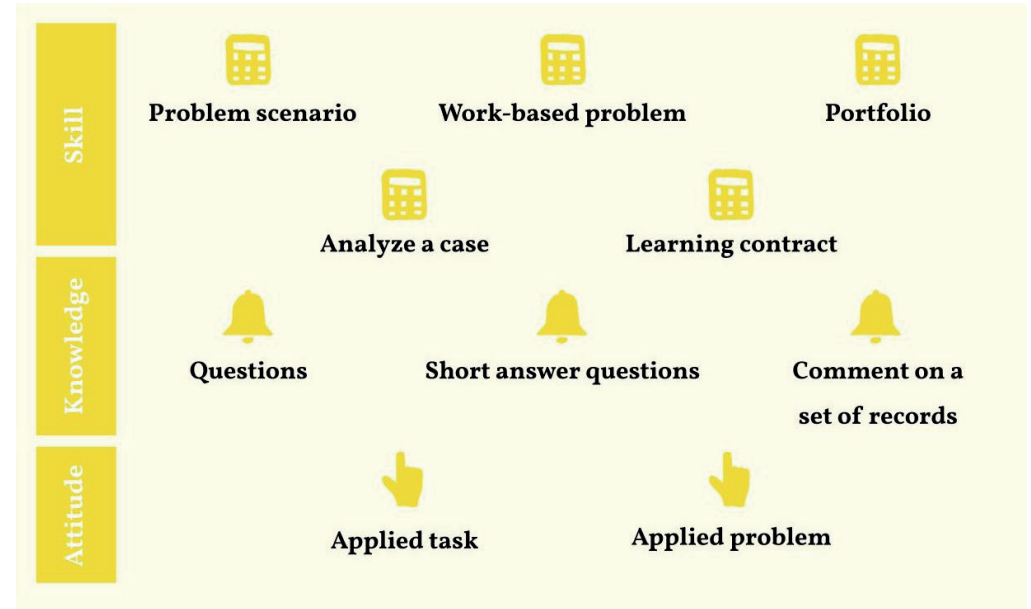


Figure 36: Methods of assessment as promising training methods in the development guide

Assessment and feedback

The empirical design research selected several methods for the assessment and feedback, just as for the teaching and learning activities. This is explained in chapter 3. The promising methods and their descriptions are listed in Figure 36.

4.1.2 Engaging students

The engagement of the students is determined by the inclusion of a training journey, unity and reward programmes (Chapter 2.1.2). The journey provides the students with a clear goal, manageable steps and current progress information. Unity provides guidance and makes the student feel more comfortable due to recognisable elements. The reward programmes stimulate the attendance of the target group. Examples of this are shown in Figure 37.

Sketch

A development guide is made to guide Bopinc's employees and clients through the process of designing fast online training in low-income countries. It consists of a basis (constructive alignment), methods to engage students in the training programme and it suggests ways to develop the online training content and materials.



Money

Money is the most common incentive and works best in low-income countries. Local people know best what amount of money is appropriate and expected. The disadvantage is that money is impersonal.



Refreshments

Drinks and food are obligatory when a session takes longer than 1 hour. When the time covers lunch or dinner time, lunch or dinner should be provided.



Goody bags

Goody bags can be every non-monetary incentive and is most of the time a collection of several small gifts. Goody bags work best when the gifts are related to the business sector.



Recharge cards

The mobile phone is the standard communication device and recharge cards are needed to recharge it. Since the students are using mobile data to download and access the training content, a recharge card as reward can motivate the student to start the training.



Business materials

Business materials as reward are most useful for the students, since they are going to use it in any way when they start their business. When the students already have some of the materials, they are more willing to start the business and finish the training.



Compliments and motivational quotes

Compliments and motivational quotes are the most easy to give away as reward. It motivates the students by the idea that they are doing a good job.



Certificate

A certificate can be made to acknowledge the completion of the training programme and is seen as a prominent achievement.



Mini games

Mini games are pretty entertaining, especially when they are provided as a something that they have earned after studying the training content.

Figure 37: Methods of engaging as promising training methods in the development guide

4.1.3 Development of training materials

As explained in Chapter 2.1.3, four factors influence the development of the training content and materials: the student group, the key players, the use of new media development tools, and the performance measurement. The start is to identify the student group, which leads to understanding the context by culture, technological standards and needs in training. Identifying and involving key players, like a local partner and freelancers, leads to

aiding in the development of the training materials, while software based on artificial intelligence aids in the fast development of training materials. In Figure 38 some examples of useful AI-based software are shown. In the end, the performance should always be measured and monitored, to find and adjust training content to the training needs of the students in an iterative manner. In that manner, the learning curve of the students has the most potential to flourish.



Landbot - Whatsapp chatbot

Landbot is a extreme user friendly service that can create Whatsapp chatbots by flowchart designs. The student will be able to gain content via sending messages to a certain Whatsapp number (HELLO UMI S.L., 2022).



Adobe Character Animator - comic animator

Adobe Character Animator can create animation videos based on a pre-made puppet and recorded face language and voice sound. In a short amount of time a true to life animation can be created (Adobe, 2022).



Grammarly - writing assistant

Grammarly checks texts on grammar, spelling and word choice. It suggests the correctness, clarity and engagement of a text. By setting the audience, formality, domain and tone, the assistant's suggestions makes a messy text perfect (Grammarly Inc., 2022).



Monday - content planning

Monday is a managing tool that provides to option to plan, design, develop and manage all the content that needs to reach the students (monday.com, 2022).



Articoolo - textual content creator

By choosing a topic and a length, Articoolo creates unique, quality and proofread content from scratch (Articoolo Inc., 2017).



Synthesia - Face animator

Based on a written text and an photograph of a real face, Synthesia animates professional videos in any scene (Synthesia Ltd, 2022).

Figure 38: Examples of AI-based software in the development guide

4.2 Template for online training design

The template has the function to provide handles when the training designer starts with designing training from scratch. Because the target group of the template is Bopinc's employees and clients, the template is made in a Google Slides document, which is in line with the work style of Bopinc. To be more specific, the template is made for employees who need to quickly develop a training programme and have few experiences. It provides a structured overview of the main features of online training in low-income countries, a starting point for designing online training in low-income countries and a template to fill out for developing the training structure and content. In other words, all structures, methods and approaches that are discussed in Chapter 3.2 and fill-out possibilities are aligned in this document. Some slides of the template are shown in Figure 39 to give an impression.

Sketch

The development guide is embodied by a template and a foldable poster. The template guides the employee or client along with the theory and lets them fill in the start of their training programme in a Google Slides document. The foldable poster shows the most important aspects of training visually.



The template

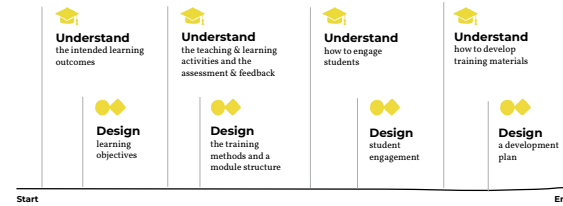
What can you expect?

- A **unique training programme** in low-income countries that is developed with **more ease and speed**
- A **structured overview of the main features** of online training in low-income countries.
- A **template to fill-out** for developing the training structure and content.



The template

What are you going to do?



The basis

Constructive alignment

The principle of constructive alignment in training is that the **assessment & feedback** and the **teaching & learning** should focus on the **intended learning outcomes**. All three elements are in the end **intertwined** and can result in the development of skills, knowledge or attitude.

- The intended learning outcomes present what they should be **able to know, can do or behave**.
- The assessment & feedback measures the **degree of mastery** a student should have of the intended outcomes.
- The teaching & learning activities are the **methodological procedures** the student get to intended learning outcomes.

Figure 39: Some slides of development guide template

4.3 Poster of the online training design process

The foldable A2 poster presents the same information as the template does, except for the fill-out possibilities (Figure 40). It shows the most important aspect of the training visually and guides Bopinc's employees and clients along the development process (Figure 41). The function of the poster is to give a quick look at what is most important and teach the employees and clients the topics they need to know at a glance.

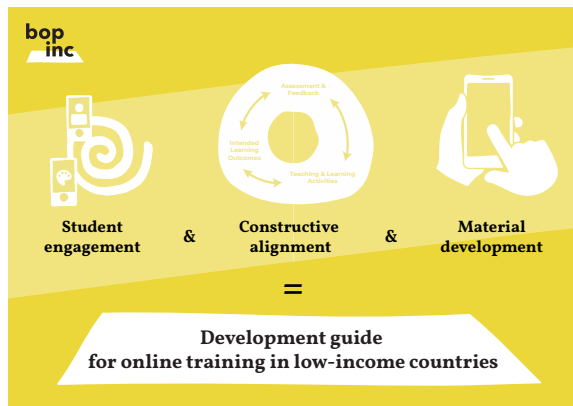


Figure 40: Front page of development guide poster

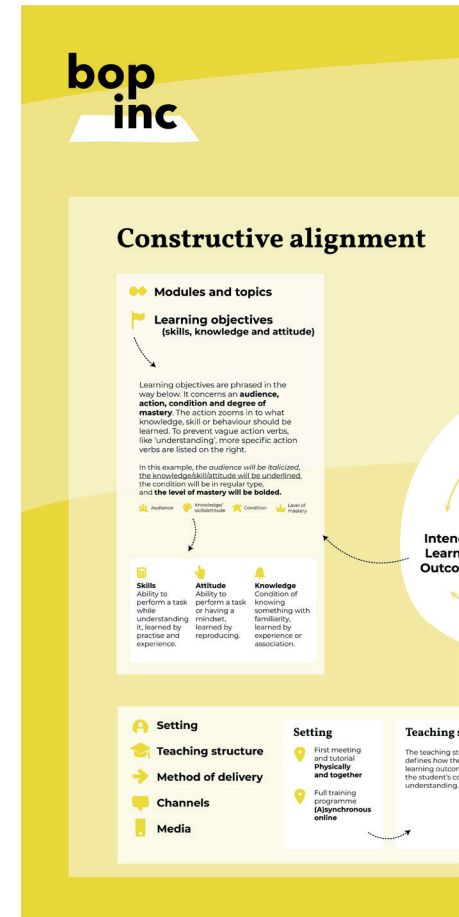


Figure 41: Inside of the development guide poster

at the
activities
three
the
ne students
nd degree
d learning
ds and
outcomes.

Intended Learning Outcomes



Learning objectives

Learning objectives are phrased in the way below. It concerns an **audience**, **action**, **condition** and **degree of mastery**. The action zooms in to what knowledge, skill or behaviour should be learned. To prevent vague action verbs, like 'understanding', more **specific action verbs** are listed on the right. In this example, *the audience will be italicised, the knowledge/skill/attitude will be underlined, the condition will be in regular type, and the level of mastery will be bolded.*

- 👤 Audience
- 🧠 Knowledge/skill/attitude
- ★ Condition
- 👑 Level of mastery

Skills

Actuate - Adjust - Administer - Align - Alter - Assemble - Build - Calibrate - Change - Copy - Demonstrate - Design - Develop - Draft - Execute - Form - Handle - Manipulate - Measure - Mend - Perform - Prepare - Process - Record - Regulate - Remove - Repair - Replace - Set - Service

Knowledge

Compare - Define - Describe - Designate - Discover - Distinguish - Explain - Identify - Itemize - Label - List - Name - Rectify - Recognize - Record - Relate - Retail - Specify - Spell Out - State - Tell - Term - Write

Attitude

Advocate - Accept - Agree - Allow - Analyze - Approve - Assess - Believe - Choose - Collaborate - Comply - Conform - Convince - Cooperate - Decide - To - Defend - Endorse - Evaluate - Pick - Recommend - Select - Support - Tolerate - Volunteer

Designing learning objectives

Intended Learning Outcomes

Learning objectives

Write the learning objectives of your training programme/module/class/course below.

Example (discard when not needed): After following this module, the banking agent administers her business activities and transactions with accuracy, integrity and self-assurance.

- Learning objective 1
- Learning objective 2
- Learning objective ...

- 👤 Audience
- 🧠 Knowledge/skill/attitude
- ★ Condition
- 👑 Level of mastery

Development guide for online training in low-income countries

ded
ing
mes

structure
nclude
intended
near next in
gnitive

de poster

Method of assessment (skills, knowledge and attitude)

The method of assessment measures the degree of mastery which the student should have after finishing the training. It assesses the knowledge, skills or attitude obtained.

Skills

Problem scenario
Provide the student an extensive scenario and the tools to solve the problem.

Portfolio
Make the student create an overview of its activities including a reflection.

Learning contract
Keep up the progress of the student.

Attitude

Applied task
Provide the student with an applied task to execute.

Knowledge

Questions
Ask open questions to the student.

Short answer questions
Ask closed questions to the student with multiple-choice answers.

Comment on a set of records
Provide a set of discussed records and make the student react on it.

Method of delivery

The method of delivery defines how the intended learning outcomes are conveyed to the student's cognitive understanding.

A classroom is the most common way of education. There is one trainer explaining the information and a group of students are watching and listening to the trainer at the same place and time.

For **virtual classrooms** it is the same, but everyone is at various locations and connected via an internet connection.

By **video-based learning** the students can get access to the training information at every time. The video content can be animations, documented case-studies, interviews or presentation recordings.

Collaborative learning focuses on encouraging building collaborations and interaction with peers, trainers or experts. In this way everyone shares and discusses ideas and opinions, resulting in that they learn from each other.

Since mobile devices became the most common tool in daily life, the accessibility of any information at any time makes **mobile learning** an effective method to learn training content.

Microlearning divides the information in small digestible parts. It allows the student to focus on specific information and eases knowledge reinforcement.

Channels

The channel defines how the training content reaches the student.

The amount of mobile phones are increasing and so are the opportunities for **apps**. Apps are extremely accessible for many people and are useful for sharing any kind of digital content.

When apps take too much memory, **mobile websites** and web-based apps can provide accessibility to any kind of digital content. The disadvantage is that a stable internet connection is always required to access the content.

Brochures are often used for small amounts of information and are provided easily physically directly to people. Only analog text and images can be shared.

Posters are used for small amounts of information and are visible at busy places.

WhatsApp is the most common text message service in the most countries. With the features of direct messages, group messages, mailing lists and automatic chatbots it shows many possibilities.

Many **social media platforms**, like Facebook and Instagram, have various possibilities to share digital media content in many different ways. There are sometimes some limitations on the spread of the content and an account is needed to access these platforms.

Media

The media determines the materialisation of the content.

Video is a combination of moving images and audio and is booming as media format. It is most common on social media television, virtual reality and video games.

Audio is used for podcasting, radio broadcasting, telephone services, voice messaging and songs.

Images are commonly used to show photography, illustrations, interfaces, augmented reality and symbols.

Visual stories focus on storytelling in art style. Some examples are theatre (role-playing), drama and puppetry.

Text is the most traditional media format and is used in everything, but especially in text messaging, posters, brochures, email, apps, websites and many more.

Storytelling makes dry and tedious subjects more engaging and attractive, by being able to empathise with the protagonists and their problems and experiences in the story.

By **reflective learning** the student reflect on their created exercises or interactions with others. The students will challenge their existing perceptions and allow them to reach their own conclusions about a topic.

By a powerful storyline and relatable characters a **video-driven story** can bring information to life. Well placed interactions rewards motivates students to draw out their knowledge.

Farming quizzes as a game through involving competition, timers and collectable rewards motivates students to draw out their knowledge.

Branching scenario creates a choice your own experience style which immerses the students in a story and allow them to actively participate in decisions that control the outcome. By trial and error the students learn through experiencing consequences the intended learning outcomes.

Student engagement

Journey

Presenting a training programme as a journey provides the student with a **clear goal**, **manageable steps** and current **progress information**. Besides, it stimulates **motivation to finish** the programme, brings **rhythm in the progress** and gives the programme creator **thematic freedom**.

Unity

Theme

Giving unity to the training programme makes the content easier to understand for the students. It provides guiding and makes the student feeling more comfortable due to the **recognisable elements**. A digital mentor or theme can cause that unity.

Rewards and incentives

Rewards and incentives stimulate the attendance of the target group. By giving them a **monetary or refreshment incentives and appreciation**, people are more willing to leave their current business activities. To motivate and to make sure the students finish the training programme a **variety of non-monetary rewards** can be given systematically along the training journey.

- 👛 Money
- 👛 Goody bags
- 👛 Refreshments
- 👛 Business materials
- 👛 Mini games
- 👛 Certificates
- 👛 Congratulatory and motivational quotes

Material development

Student group

Although all groups of students live in low-income countries, the **cultural, training need and technological differences** still have a major influence on the performance of the training. The approaches and tips in this development guide have to be used during the development of the training programme as starting point.

Key player involvement

During the development of the programme, especially when doing remotely, some keyplayers should be involved. The intended learning outcomes have to be defined by someone in the context, a **local partner**, based on the needs of the potential student group. The content can be made in-house with the right tools, but some need some more media skills. These media skills can be bought cheaply at **freelancers**, like found on fiverr.com.

New media software

The production of qualitative new media content is getting more and more easy by tools based on **artificial intelligence technology**. These **online tools** provide scale solutions in both the creation of the content as the distribution of it. With relatively low effort, a large group can be reached.

📄 Landbot Website builder	🗣️ Adobe Character Animator Cartoon animator	📝 Grammarly Grammar checker	📅 Mondly Content planning	🎵 Articoles Content creator	📺 Synthesia Face animator
-------------------------------------	--	---------------------------------------	-------------------------------------	---------------------------------------	-------------------------------------

Measure performance

To make sure the training programme achieves the set learning objectives, the performance of the students and the content have to be measured. If the performance is substantial, some elements have to be redone while based on **feedback of the students**.



5.

Design case: iPOS training programme

This chapter dives into the training programme designed for training young Nigerian women to provide digital financial services by the iPOS service that is provided by Innovectives. The training content shown in this chapter is the implementation of the development guide that is shown in Chapter 4, in combination with the literature research. This chapter presents the background of the case and elaborates on the various modules and their value descriptions. The subchapter of Embodiment and development demonstrates two complete developed training modules that are ready to use by young Nigerian women.

Overview of chapter

5.1 Process timeline

5.2 Insights

5.3 Design decisions



5.1 Agent banking in Nigeria

Agent banking is a business operation where one provides digital financial services to customers. Examples are cash withdrawal, money depositing, sending money, paying for bills, opening a bank account, requesting credit, etc. To give an illustration, these digital financial services are nowadays provided in low-income countries via digital environments, like a mobile app or website. Since digital money is upcoming in Nigeria (Degenhard, 2021) (Varrella, 2021), these services are physically provided in banks, small shops and kiosks. The owners of the shops and kiosks are called 'banking agents' and are the ones who personally provide digital financial services. Innovectives, a financial technology company in Nigeria, provides the service to run these businesses by Nigerian women. In this subchapter, the various digital financial services that Innovectives provides, the Nigerian context, the young female banking agent and the role of Innovectives and Bopinc are explained.

5.1.1 Digital financial services

Innovectives provides eight different services. The services provide a complete offer to the customers and are comparable with the services that are common in high-income countries. These services are based on the conversations with Innovectives and are listed in Figure 43.

5.1.2 Nigerian context

The Nigerian context is analysed in three ways: culture, technological standards and training needs. The upcoming paragraphs discuss the elements that are necessary for the development of the training are discussed.

The cultural context of Nigeria

The analysis of the Nigerian culture is shown in Figure 42 by using the Country Mapping Tool (Meyer, 2018) and the Country Comparison Tool (Hofstede Insights, 2022). Bopinc portrays Nigeria as a low-income country, so it should fit the generalisation. Compared to the generalisation of low-income countries in Africa (transparent spaces in Figure 42), Nigeria corresponds with high-contextual communication, relationship-based trust, flexible-time scheduling and collectivistic attitude. It differs from the generalisation in evaluation and disagreement. Nigeria uses more direct negative feedback and confrontation than other African low-income countries. These cultural dimensions are taken into account when developing the training content.

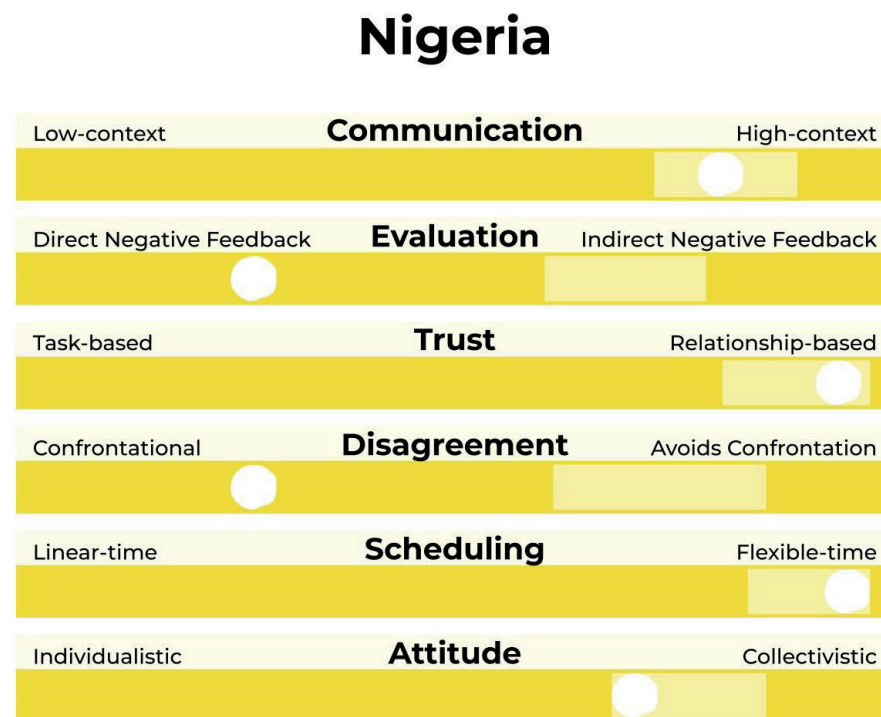


Figure 42: Cultural context of Nigeria compared to African low-income countries



Open and update account

A bank account is a financial account maintained by a bank or other financial institution in which the financial transactions between the bank and a customer are recorded. Sometimes personal details change, like the living address. All these changes can be updated in the account of the customer.



Cash-in/cash-out

Cash-In/cash-Out are the mechanisms through which customers can exchange cash for electronic value, sometimes called e-money, or vice versa. This allows people to exchange cash and e-money.



Send money

Sending money is the electronic transfer of money from one bank account to another.



Pay bills

Bill payment is a feature allowing a customer to transfer money from their debit or credit card account to a creditor or vendor such as a public utility, department store or an individual to be credited against a specific account, like electricity bills.



Airtime and data

Airtime and data is a product a customer can buy to increase their mobile credit in order to make phone calls or use the internet.



Save up

Saving is income not spent, or postponed consumption. Methods of saving include putting money aside in a deposit account. Saving also involves reducing expenditures, such as recurring costs. Some savings can include interest as well.



Loans

A loan is the lending of money by the bank. The borrower incurs a debt and is usually liable to pay interest on that debt until it is repaid as well as to repay the principal amount borrowed.



Fixed deposit

A fixed deposit is an investment instrument that banks and non-banking financial companies offer their customers. Through a fixed deposit, people invest a certain sum of money for a fixed period at a predetermined rate of interest.

Figure 43: Digital financial services that are included by Innovectives

Technological standards in Nigeria

In Nigeria, 48% of the population possesses a smartphone in 2021. It is expected that that percentage will be 60% in 2026 (Ceci, 2021). During the case study, it was found that many people make no use of general smartphones or laptops, but use low-end smartphones with limited functionalities (feature phones). Besides, internet connectivity is still pretty limited in some rural areas. Altogether,

the technological standard creates some limitations for the training programme, including the non-technical saviness that is subsequent to the current standards. Although, Whatsapp as a message service is extremely well established in Nigeria with 93% of all smartphone users (Statista, 2020).

Training needs of young Nigerian women

The training needs for young Nigerian women are similar to the generalised needs for low-income countries: vocational skills. These vocational skills will be focused on providing digital financial services. A more in-depth need in training is described in Chapter 5.1.3 under activities. The most common languages that are spoken in Nigeria are English and pidgin English. Pidgin English is a mixture of English and local languages, so local people who do not speak the same language can still communicate with each other. Besides these languages, Hausa, Yoruba and Igbo are the most spoken ethnical local languages (Blench, 2020). The training should be translated into these languages to reach a larger audience.

5.1.3 The young female banking agent

The definition of an agent is a person who acts for or represents another (Cambridge Dictionary, n.d.). In this situation, the agent represents Innovectives by offering digital financial services provided by the Central Bank of Nigeria (CBN). The banking agent will include the financial services in their shop offer and will use the provided POS machine and support of Innovectives.

The working environment of the banking agent

The female banking agent can be situated in various ways, depending on the demand of the customers. Two situations of an agent banking business are the small kiosk (Figure 44) in a suburban area and some displayed products under a parasol (Figure 46). Another option is to have a shop with iron bars, which ensures more safety in the busy urban shopping streets (Figure 45). These three situations are the most common and give an impression of how the banking agent runs her business. This is based on the information provided by Innovectives.



Figure 44: Young banking agents in small kiosk



Figure 45: Young banking agents in shopping street



Figure 46: Banking agents under a parasol

Persona and lifestyle of the potential banking agent

To get a better insight into the personality and representation of the female banking agent a persona and a collage of her interests are made. By the use of a persona the target group, where is designed for, is better targetable (Van Boeijen, Daalhuizen & Zijlstra, 2020). The persona (Figure 48) introduces Hope Salisu, a 26th-year-old woman from the rural town Iboro. The lifestyle collage (Figure 47) shows the interests of young Nigerian women, which are mainly social

media, family and making money. The persona and lifestyle collage are based on the cultural context (Chapter 5.1.2), the background of Nigeria (Ade Ajayi, Kirk-Greene, Udo, Falola & Obotetukudo, 2020) (BNNVARA, 2019), the Insights Studies (Akoji & Van der Schaaf, 2021) and analysis reports on Social Norms Diagnostics (Akoji & Fij, 2021), Gender Norms (Akoji & Fij, 2021) in Nigeria and the Family Lifestyle in Nigeria (Oluwapo, 2005).



Figure 47: Collage of the banking agent's lifestyle

Sketch

The design case takes place in Nigeria and focuses on increasing the agent banking skills of young Nigerian women. The technological standards, training needs and culture are similar to other low-income countries but only differ culturally in evaluation and disagreement. The banking agent can sell services in different locations and has a specific lifestyle, mainly influenced by her childcare and household duties.

Hope Salisu

Lifestyle

She is 26 years old, married 6 years ago, and likes to do dancing, cooking and catwalking with friends on the streets. She's born and raised in the small Nigerian town Iboro as Yoruba, where she met her husband. After she has been married, she **moved to the territory of her parents-in-law.**

Life goals

She has right now 3 young children, but would like **getting to work beside of the childcare duties.** She would like to earn some extra money to make sure her family will do well in the future.

Personal values

She believes that making her own money would contribute to her **status and lifestyle** of the whole family, although she would always **love to cook for her husband** and take care of her children.

Household setting

She lives together with her husband and children in a small house on the territory of her parents-in-law. **Her mother-in-law is dominant** and doesn't like the fact that her daughter-in-law wants to work, due to negative image it would have in the community.

Finances

She earns now no money, but her husband does by 6 different jobs in physical labour and earns about 120.000 Naira per month. They have a small loan from a family member, which they intend to use for her own store in their town. She **expects to earn 45.000 Naira per month** with her agent banking business. It doesn't matter for her if she earns that by being an agent for Innovectives or another POS company.

Capital

They have not been able to save money yet and are dependent on the loan they could get soon to start their shop. Beside of that they are both undereducated, although **she can read, has a smartphone and has some digital knowledge.**

Concerns

She worries if her job as agent banker will satisfy her expectation in both earning enough money and her **occupations of being a mother and keeping up the household.**

Expense behaviour

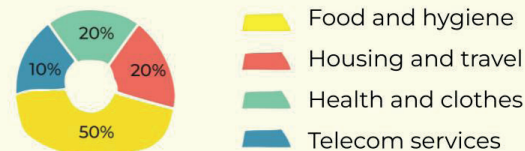


Figure 48: Persona of the potential young Nigerian banking agent

Activities of the banking agent

The banking agent goes through two phases: onboarding to and running an agent banking business. In these phases, several activities take place and involve various stakeholders. These stakeholders influence the banking agent's life. In Figure 49 the stakeholders are introduced and the relation between them and the banking agent is illustrated. Below the activity phases and the relations between the banking agent and the stakeholders are elaborated.

The first phase, onboarding to a banking agent, consists of being recruited and following the training. The district manager, who is an Innovectives employee responsible for the contact with the (potential) banking agents, recruits them. The district manager makes the banking agent aware of the POS business by promoting materials and selecting qualified applicants.

Following the training provides the basic and advanced skills and knowledge every banking agent needs. The training focuses on acquiring financial knowledge, acquiring business skills, self-assessing the viability of the potential business and convincing family members of the value of being a banking agent. The first two are focussing on the knowledge and skills needed during running the agent banking business, while the last two are focussing on the survival of and support in the business.

In the second phase, running an agent banking business, the banking agent experiences the most activities.

First of all, the banking agent provides digital financial services to her customers. This is done by making money while taking customer support and business safety into account. When there is an issue while providing a financial service, both the customer and the agent get in contact with the customer support of Innovectives. The agent's priority is to handle every situation safely, due to the large amount of cash she possesses every day.

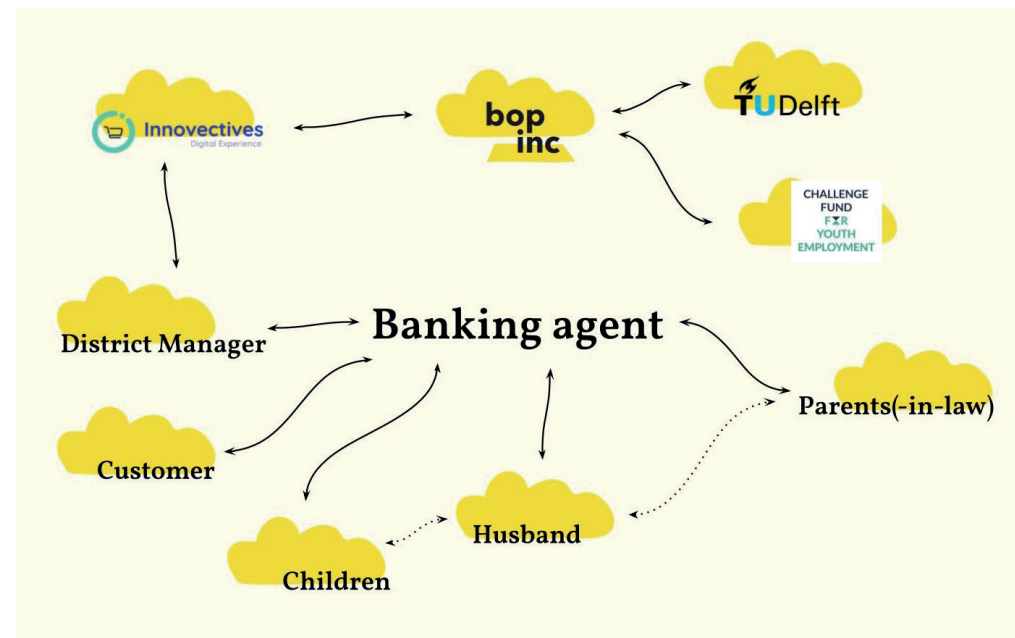


Figure 49: The stakeholders and relations to the banking agent

Secondly, the agent needs to keep her record always secure and up-to-date, to prevent any mistakes and log the business activities. Thirdly, the agent always needs to improve her business to fulfil the needs of the customers. This is an iterative process, which results in more money for the agent. She is still often in contact with the district manager of Innovectives on the progress of the business. Besides these activities, she is often also a mother of about five children (Worldometer, 2022). This means that childcare and household duties are also part of her daily life.

To conclude, the banking agent needs to run an agent banking business while she has the responsibility of raising the children (Fij & Akoji, 2021). Combining both demands a lot from her, so she needs to find a way to function both as a mother and banking agent. These business activities are all related directly to the banking agent, but the whole process is kickstarted by several organisations (Figure 50) that influence the banking agent via the district manager.

Innovectives develops all technological, organisational and training needs to be able to provide digital financial services. Bopinc advises Innovectives in the organisational and training part, while this thesis assists Bopinc in the training development. The funding that is needed to pay this system is provided by the Challenge Fund for Youth Employment, an organisation that aims to create a prosperous future for 200.000 young women and men in the Middle East and Africa.

In the end, this thesis will focus on the online training programme that is part of the onboarding phase. The training programme will prepare the banking agent for every activity that happens during the time as a banking agent.

Sketch

Many activities come up to the banking agent during the onboarding and running her agent banking business. In both phases, several organisational and personal stakeholders influence her business activities. In the end, she has to balance running her business and taking care of her children.



Innovectives

Innovectives is a financial technology company based in Lagos, Nigeria. Their business focus is designing, developing and distributing point-of-sale (POS) systems and service programmes throughout Nigeria. With their new product called 'iPOS', they try to provide banking agents with an easy to use POS machine and web app with reliable connectivity, wide financial service offer and a helpful onboarding process, so they can start their small-medium enterprise.



Bopinc

Bopinc is an innovation centre based in Utrecht focussing on projects connecting people in low-income markets with the dignified choices of tomorrow. They help startups to multinationals with designing and delivering commercially and socially viable business models. They have a total of 60 employees and are located all over the world. The main office in the Netherlands consists of 30 employees.



Challenge Fund for Youth Employment (CFYE)

The CFYE is a 6-year programme funded by the Netherlands Ministry of Foreign Affairs. They aim to create a prosperous future for 200.000 young women and men in the Middle East, North Africa, Sahel & West Africa and the Horn of Africa. Both the private sector, civil sector, and knowledge institutions were able to submit a proposal. The proposal Bopinc and Innovectives sent in, was to create 3.000 agent banking jobs for youth, where at least 2.000 of them have to be female. Because CFYE finances this proposal, Innovectives has to meet the restriction of onboarding the banking agents. Bopinc has the responsibility to make sure that both parties will work out together and so functions as a consultant between both.

Figure 50: Organisational stakeholder descriptions

5.2 Modules and value descriptions

The online training programme for the iPOS consists of six modules. All the modules contribute to the skills, knowledge and attitude that the banking agent needs to flourish in the agent banking business. The six modules are listed below and are derived from the conversations with Innovectives, Abuchi Okaro and the Insight Study done by Bopinc (Akoji & Van der Schaaf, 2021). This subchapter describes per module how it adds value to the programme. The related intended learning outcomes per module are shown in Appendix B.

1. Basic POS and web app functionalities
2. Advanced POS and web app functionalities
3. Financial record-keeping
4. Customer service
5. Business safety
6. Growing sales

Based on the performance of the young Nigerian women in the pilots, it is estimated that the banking agent students need about 2 full working days to finish all the modules.

1. Basic POS and web app functionalities

The POS machine and web app Innovectives provides are developed by the company itself. In that sense, the user interface flows are new for the banking agent and so it is essential to get familiar with both the POS machine and the web app. This is done as a banking agent by navigating through both systems and experiencing the usage perspective of the customer as well. The financial services that are offered by the banking agent provide value to the customer. This module makes sure the financial services are offered correctly to

ensure that they provide value. Some services are more advanced and uncommon than others, therefore this module only focuses on the basic ones that every banking agent should be able to offer by the POS machine or the web app. The common basic financial services are creating and updating an account, cash-in/cash-out, sending money, bill payment, airtime and data, and saving up. The POS machine is in charge to facilitate transaction services where money gets collected digitally, while the web app mainly facilitates processes, requests and insights in transactions.

2. Advanced POS and web app functionalities

This module is the same as the previous one but differs in the provided value to the customer. While the basic services satisfy only the most common needs of the customers, some advanced financial services are desired as well. These financial services are loans, fixed deposits and insurances. Since these services involve advice, requests and examinations, the banking agent needs a high amount of financial capabilities and knowledge among these topics. That is why this module will be the most challenging to follow by the banking agent students. The web app is mainly used to facilitate processes and requests.

3. Financial record-keeping

This module trains the banking agent to keep the financial records up-to-date and correctly documented. It shows the importance of record-keeping: to have evidence of business activities done in the past and use it to make decisions for the business activities of tomorrow. When being able to manage money and the related information in an accurate, honest and self-assured manner, the business will not fail instantly. Many local businesses are founded with money from a loan or savings. This is discussed in the module to account for the needed investments and the predicted turn-out over time, so the application for the loan or the saved money will be spent well-considered.

4. Customer service

Customer experience improves sales when a banking agent's financial services are provided somewhere close by as well. In such a case the experience, in the shop and the interaction between the banking agent and the customer, can create customer loyalty to sustainably use the services of the banking agent. Other influences on customer loyalty are the use of customer support provided by Innovectives and the set-up of the banking agent's reward programmes. The customer support provides help in situations of malfunctioning, occurring by the POS machine or web app. Since money is always involved, customers get panicked rather easily, so the banking agent should be able to retrieve the solutions provided by the customer support. Setting up reward programmes provides better customer service by giving more than they need and persuades customers to become loyal to your services.

5. Business safety

The reality is that agent banking is vulnerable to robbery, burglary and fraud due to the huge amount of money that is being handled daily. It is for that reason that being able to recognise these risks becomes important and how the banking agent manages them. Hence, safety while doing business is the main priority and is essential to learn during the training programme.

6. Growing your business

Every banking agent aims to earn as much money as possible, which is possible by growing sales. Sales can grow in three ways: by understanding the success rate and profitability for certain business decisions, by retrieving customer feedback and converting it to a response and by using advertisements of the banking agent's services. An understanding of the success rate and profitability is needed to create potential scenarios which can lead to sales growth and choose the most promising one. This can be determined by collecting feedback, diving into customer needs and converting them to sales improvements. In the end, the services have to be

brought under a large audience to make them aware of the financial service possibilities, which is why advertising contributes to sales growth. Many of these topics are already semi-discussed in earlier modules, which makes this module a summarising module of all the relevant skills the banking agent needs to grow her business.

5.3 Embodiment and development

This subchapter shows all methods that are used during the embodiment of the two training modules and the development of the materials. Since all presented materials are based on certain research activities executed during the thesis, all decisions and methods are documented related to that research.

5.3.1 Teaching and learning activities in the training programme

The most promising implementations of the five specifications of the teaching and learning activities (setting, teaching structure, method of delivery, channels and media) are discussed in this chapter. Since only two modules (financial record-keeping and business safety) are worked out to showcase, the implementations of the used methods represent those modules. The choices made during designing this training programme are derived from the literature and pilot research, which are described in Chapter 5.3.5.

Setting of training

All modules will be provided online, considering the intention of Innovectives to provide the training content at any place and any time. Although this intention is reasoned, the empirical research

proves that the students will not start with the training programme when it is not well introduced until they are familiar with it. This is due to the lack of tech-savviness that they have. That lack of tech-savviness is why at the start of the programme the setting is synchronous online. The students will be together at the same place at the same time and will follow a tutorial module of the programme together. In that sense, they get familiar with the flow of the training and get to know each other, what will be of use later during the training programme. After this assembly, the banking agents will follow all the modules and do the exercises asynchronous on their own.

Teaching structure of training

Every advised teaching structure that is described in Chapter 4.1.1 can be used for the modules. Most of the time not one, but more teaching structure methods are used, due to the reinforcement on itself. Another reason to combine the methods is that the modules consist of multiple topics. The teaching structures of the modules 'financial record-keeping' and 'business safety' are shown, since these are the ones that are worked out.

Financial record-keeping

The teaching structures that are used in this module are video-driven stories and reflective learning. The flow of this module is shown in figure 51. An animated character explains in a video what financial record-keeping is, why it is important to learn and shows how to use a financial record-keeping booklet. The character tells a story in skit (short comedy sketch) style about a banking agent that is keeping her financial records and faces some problems. The video ends with the first exercise where the banking agent student is provided with a set of records and needs to fill in an example page in the record-keeping booklet.

The second exercise is introduced by telling a story about two different banking agents with different attitudes in integrity and accuracy. The exercise asks to reflect on business activities from your



Figure 51: Flow, theory and exercises of the module 'financial record-keeping'

past where the banking agent student had to do financial record-keeping. This reflection needs to be converted to a story to share, concluding in a realisation at the banking agent student of the relevance of financial record-keeping.

Business safety

The teaching structure that is used in the module on business safety is branching scenario, storytelling and gamified quizzes. The flow of this module is shown in figure 52. The first video starts with the introduction of the three most common risks: fraud, robbery and burglary. A separate exercise is committed to each of the three risks.

The first exercise asks the banking agent student to reflect on a situation where she, a family member or a friend is been defrauded. The second exercise asks the student to follow a storyline where she becomes robbed. Based on the actions she chooses to do in an imaginable situation she will end with one of certain results: robbed, safe, hurt and/or severely injured. The third exercise is the same as the first exercise, but the reflection will be on an experience of a burglary. The final exercise is introduced by a video on the topic of

a risk management plan. It explains how to prevent risky situations and to cope with them if they happen. In the exercise, a story is told about how a banking agent prevents any risky situations from happening: the risk management plan. Hereafter, the banking agent student is asked to create her risk management plan.

Method of delivering training content

All methods of delivery are used for this training programme. As it is for the teaching structure, the reinforcement is created by combining the various methods. The classroom is used at the first training assembly when the tutorial is done by the banking agent students and they meet each other. Video-based learning is used in both modules as the provision of information and stories. Collaborative learning is used when the banking agents need to share their exercises, outcomes or reflections with peers to obtain insights from their perspective and share theirs with their peers (Figure 53). Mobile learning is chosen because it is the most efficient way to reach the banking agents students in Nigeria since most possess a phone but no laptop. Microlearning is also part of the modules, so they can consume the training content and do the exercises between other activities. The disadvantage of using that many methods of delivery, is that the trainer developer should pay more attention to sustaining coherence between the modules.

Channel to reach the student

The channel that is used is Whatsapp since it is the most common channel that is used in Nigeria (Sasu, 2022). Whatsapp has the possibility to link chatbots to commercial phone numbers. A chatbot



Figure 52: Flow, theory and exercises of the module 'business safety'

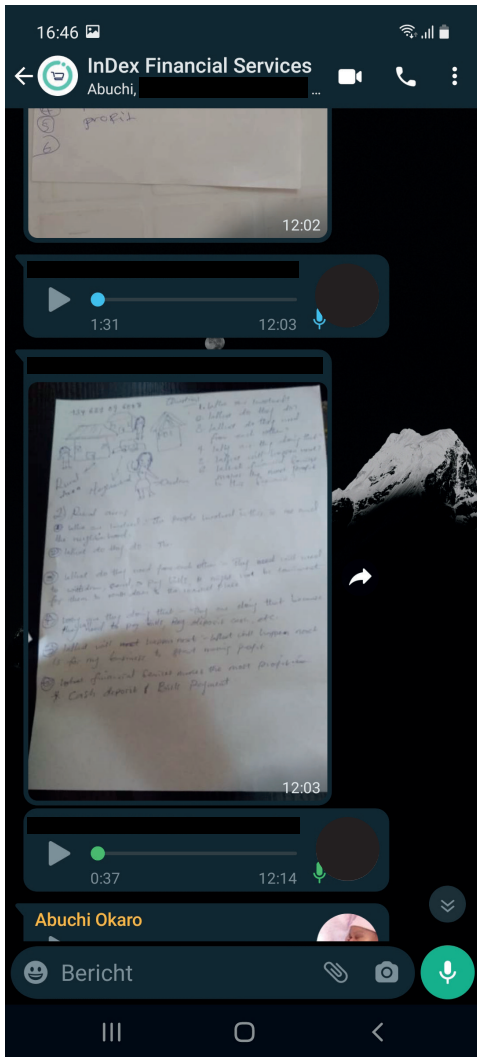


Figure 53: Whatsapp group

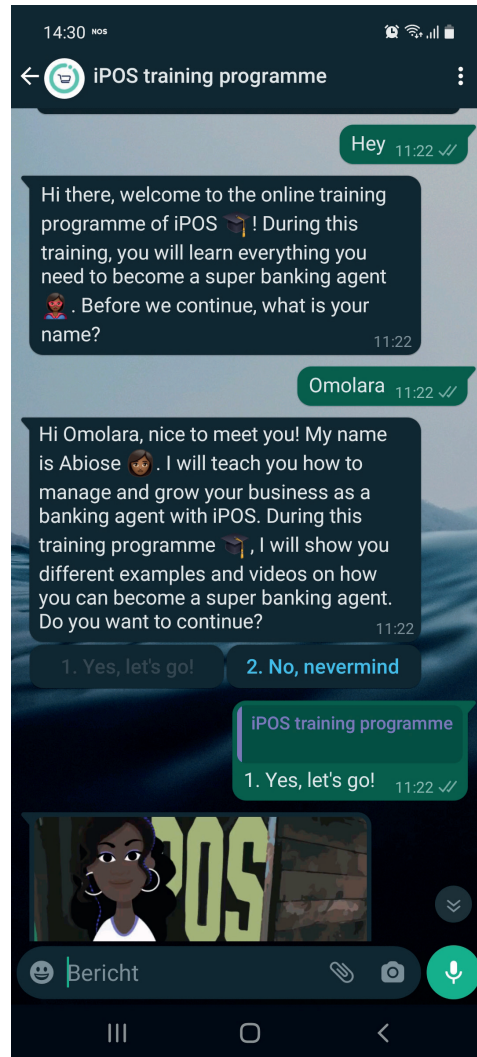


Figure 54: Whatsapp chatbot

is an artificially intelligent computer programme that simulates conversations with people. The value of the chatbot is that it automatically shares the training material based on the responses of the banking agent student. Concerning certain methods, like the branching scenario and gamified quizzes, responsive communication software is needed to establish those methods. In Figure 54 the chatbot and some responses are shown. There are many possibilities to make it interactive, besides the standard messaging of text, emojis, images and videos. Some examples are using the name as a variable, creating reply buttons, lead scoring, progress monitoring, human takeovers and integration with other online software. Besides, progress and exercise data about the training modules can be collected from the chatbot. This can be used for learning performance analyses to improve the training content.

Unfortunately, there is a percentage of potential banking agents that have a feature phone, which is not compatible with the Whatsapp version that is needed to make use of the chatbot services. A solution for this problem is the use of a web chatbot. The chatbot works the same way as Whatsapp but differs in the interface. The chatbot can be linked to the website of Innovectives and the training materials can be retrieved from there. In that way, it is accessible by the browser on the feature phone. The only disadvantage is that it doesn't save any progress and the training materials are not saved on the phone to access it at a later moment.

Sketch

The young Nigerian women train the needed skills by following a training programme that is designed from the development guide. It consists of six modules and various training methods for the teaching and learning activities, and assessment and feedback, which are derived from the development guide. The training reaches the students by a Whatsapp chatbot, which sends all the storytelling video content and exercises to the students.

Media in training materials

Eventually, four kinds of media are used based on the case study. Videos are used for video-driven stories and video-based learning, while audio is used as a voice message to share outcomes of certain exercises. Text is commonly used for every form of communication since it is a textual chatbot and images are used to show the progress. Only visual stories are not used, because these are more useful for emotional expressions and these are not needed for this training programme.

5.3.2 Assessment and feedback in the training programme

The methods of assessment for this training programme are chosen based on the learning objectives described in Chapter 5.2 and the selected methods in Chapter 3.2. Since the major part of the learning objectives is skill-focused, the skill-based methods of assessment are mostly used. Along with this chapter, the methods of assessment are shown for every module, since every module has different action verbs.

Financial record-keeping

Since the module of financial record keeping has one learning objective aiming at developing a skill and one learning objective aiming at developing an attitude, the methods of providing a work-based problem and applied task are used. The applied task is integrated with the first exercise, where the banking agent student needs to fill in certain data from example transactions. The work-based problem is applied in the second exercise by relating an example from experience to the work activities of a banking agent. The trainer and peers will assess the student by reviewing the sent exercise results.

Business safety

Business safety has one knowledge-based and one attitude-based method of assessment: short answer questions and applied problem. The first and third exercises need an applied problem from an experience. This applied problem will be analysed to realise how this problem could be prevented or solved. The second exercise makes use of short-answer questions and is collected by the chatbot. The trainer can check the progress via a learning contract in this exercise. The last exercise asks to create a plan from some example content and the banking agent student's situation, so it is an applied task.

General closure of all modules

Since the Challenge Fund for Youth Employment needs regularly an update on the onboarding process of the recruited banking agent, the training progress has to be monitored as well. The fund is satisfied with some knowledge assessments after every module. Because of that reason, four to six short-answer questions are asked to check if the banking agent's knowledge is sufficient to include her in the funding programme. This is for every module and closes it off.

5.3.3 Engaging the young Nigerian women

One of the most challenging things about online training is to create a programme that engages the students. The engagement can be increased by framing the training as a journey, providing unity along with the various activities and the addition of motivational elements. These are better explained in Chapter 2.1.2.



Figure 55: Overview of treasure map



Figure 56: Module in treasure map



Figure 57: Abiose as digital trainer

Journey during the training programme

The journey is thematically framed as an adventurous treasure hunt (Figure 55 and 56). The banking agent students travel by boat alongside the islands. Every island is a module of the training programme. The end goal is to reach the final destination with the treasure, which represents the 50.000 ₦ monthly. The style is based on the brand style of iPOS and has illustrated elements that contribute to the narrative (adventurous journey), decoration (seafarer style) and information (end goal and the metaphors). By showing an overview and the position of the boat, the progress is shown. Besides, it is mapped out in manageable steps which encourages the banking agent students to finish the programme.

Unity in the training programme

As elaborated in Chapter 4.4.1, the theme of seafarers is chosen to create a coherent visual style between all modules. Another element that creates unity is by using a digital trainer that mentors the students. By constantly showing up, the digital trainer is concerned with supporting the less-experienced banking agents and can build

an interpersonal relationship with the students to motivate the students to finish the training. The digital trainer is called Abiose and resonates with the banking agents due to her traditional fashion style and appearance (Figure 57). In that way, she raises empathy by the banking agents for the stories she is telling. Because the start of the training programme is offline synchronously, the district manager will take the role of trainer temporarily.

Motivating the students

Rewards and incentives are used to directly motivate the banking agent students to start and finish the training programme. The chosen rewards and incentives are classified as extrinsic motivations and are based on the selected options in Chapter 4.1.2.

At the first assembly, when students are doing the tutorial together, refreshments such as lunch and drinks are provided. When announced beforehand, it motivates the students to come over to start the training. A small goody bag with merchandise of the iPOS will be given as well to remind them to go on with the training online. This goody bag contains a financial record-keeping booklet and a pen with the text: start the training now by sending a Whatsapp message to [a certain phone number]. When they have started the online training, they will see in the thematic overview of the journey that every message in a bottle (Figure 55) represents a reward or incentive.

Sketch

The students are engaged by a treasure hunt journey, a digital trainer in the videos and several rewards and incentives, like lunch, a goody bag, business materials and recharge cards.

When they have finished the first module, the banking agent students can send their business name and a personalised A2 poster with their business name will be printed and delivered to their shop by the district manager. This motivates them to start the business as soon as possible. After the second module, the banking agent students receive a recharge card to make sure they have enough mobile internet to proceed with the training. After the third and fourth modules, the banking agent students receive a pack of print rolls for the POS machine by the district manager. This business material encourages them to obtain a POS machine and gives them a headstart to start with the business as soon as the training is finished. The reward is only given when both modules are completed.

After finishing the third module the student will get the promise that she will receive the reward when finishing the next module. That incentive stimulates starting with the next module directly. The fifth reward is again a recharge card. The final reward they get after finishing the sixth module and before they reach the promised 50.000 ₦ monthly, is a certificate that they completed the vocational

training about agent banking successfully. The expectation is that the banking agent will display the certificate in their shop, to show that they are a validated digital service provider to their customer. By providing all these rewards and incentives, the banking agent students are continually motivated to proceed with the training.

5.3.4 Development of the materials

To develop the training programme the student group, the key players, the used new media software and the performance measurement approach are elaborated in this subchapter.

Student group: the young female potential banking agent

The student group is important to define to make sure the communicated language and body language are appropriate to make them understand the content. That is done for this training programme and is described in Chapter 5.1.3: the young female banking agent.

New media software

The software used to create the videos and images for this training programme is Adobe Character Animator (Figure 58) and Adobe Illustrator. Adobe Character Animator is used to sketch the scene by using an illustration of the digital trainer and the recorded face and voice input of the camera and microphone. The face and mouth of the digital trainer will move just like the camera records. Adobe Illustrator is used to creating the illustrations that are loaded in Adobe Character Animator. Landbot.io is used to create the Whatsapp chatbot.

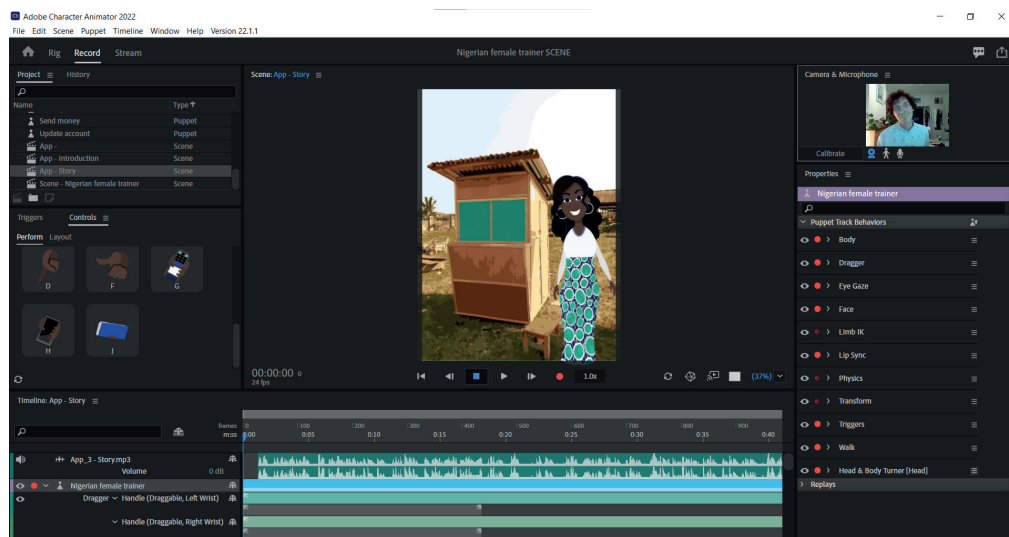


Figure 58: Adobe Character Animator in use to develop training materials

Key players

The digital training materials that should be developed can be created by the employees of Innovectives or the employees of Bopinc themselves. The use of Adobe Character Animator software requires little skills to use, but these skills are pretty easy to obtain by following the basic tutorials. In this programme, the training materials are made in the Netherlands. The voice of a Nigerian woman reading out a script is recorded, sent over the internet and used for the video materials. With this software, anyone over the world can combine the voice with the movement of the digital trainer and produce high quality animated videos. Although, a local partner is required as a key player to collect insights for the training content and the recordings for the video since that is not possible to do remotely.

The second key player is an illustrator since the visual appearance of the digital trainer has to be created and linked to the Adobe Character Animator software. For this training programme, the illustrations are made in-house, but can also be outsourced to a freelance illustrator for low costs via fiverr.com. The creation of the chatbot in Landbot.io and all other training material developments can be done in-house by Innovectives or Bopinc.

Performance measurement

It is expected that the training programme as presented has a good chance in succession since the training elements already have been piloted during the case study. Although, the learning curve of the banking agent students is not tested during this project. In the future, when many people will follow the training programme, certain training elements that counterwork that learning curve will come to light. These elements should be improved by the in-house knowledge of Innovectives and Bopinc, so that the learning curve increases.

The measurement of the performance will be done in four ways: by the assessments after each module, by monitoring the chatbot outputs, by requesting feedback from the graduated banking agents via the district managers and via the number of transactions done by the banking agents. Through analysing the results of these three measurement methods, the training programme can be improved continually.

Sketch

The content is based on what is known from the needs of the young female banking agent. The videos are quickly animated by Adobe Character Animator with a Nigerian voice. The chatbot is made in Landbot.io. The local partner played a role in defining the training content and assisted in creating the materials. The performance in the long term is not measured yet but can be done in different ways. The design decisions explain how the final training programme has come to what it is now.

5.3.5 Design decisions of the training programme

During the whole design process, there are many design decisions made. Since the development guide and the iPOS training programme are parallel developed and the research for both designs have contributed to each other, the decisions that are discussed in the paragraph below are largely applicable for both designs. Although, some elements are specific concerning the content and intentions of the case in Nigeria.

Figure 59 is shown which options are chosen into decisions. The decisions are labelled by six origins: pilot 1, pilot 2, pilot 3, literature, Innovectives & Bopinc's call and the own call. The pilots represent the methods that are derived from literature and are tested by empirical research. The literature is not confronted with the reality of the low-income context but is promising based on discussions with Abuchi Okaro. The other two labels are related to personal interests. Bopinc and Innovectives wanted to launch online training possibilities and their own call is made to empower women in Nigeria by presenting a female digital trainer, although the pilot results showed that the gender of the digital trainer is insignificant. The freelance work is not included in any of the research activities, which makes it an own call as well.

This concludes that most of the decisions are based on the empirical research and some on a combination of literature and trust in the local partner.

Pilot 1	Pilot 2	Pilot 3	Literature	Innovatives & Bopinc's call	Own call
Value definition of a local partner and AI software			Learning objectives and topics		
Collaborative learning, mobile learning as methods of delivery	First meeting synchronous offline	Engagement by a treasure hunt journey	Assessment by portfolios, learning contracts and applied problems	Training programme will be asynchronous online	A womanly digital trainer
Video, text and images as media to share content	Video-based learning and microlearning as methods of delivery	Engagement by motivation via by rewards and incentives: goody bags, business materials, compliments and motivational quotes.	Assessment by portfolios, questions, commenting on a set of records and applied problems		Freelance work to create basic content
Audio as media to share exercise outcomes	Whatsapp chatbot as channel to share content				
Whatsapp group as channel to share exercise outcomes	Gamified quizzes and branching scenario as teaching structures		Motivation by rewards and incentives: money, refreshments, recharge cards, and mini-games		
Video-driven stories, storytelling and reflective learning as teaching structures	Unity by a digital trainer				
Engagement by unity	Assessment by work-based problems, problem scenarios, analysing cases, short answer questions, learning contracts, and applied tasks				

Figure 59: Design decisions

6.

Value of the designs

This chapter elaborates on the current and future value of the designs. The impact describes what the development guide and the iPOS training programme means for Bopinc, Innovectives and the potential banking agents. The conclusion, discussion and recommendations state the research question, the hypothesis, the major findings, the research contribution, the limitations and the recommended directions of the research. The future implementation explains how Bopinc and Innovectives will use the results of the project. To close this thesis, a personal reflection of the author is presented.

Overview of chapter

- 6.1 Impact
- 6.2 Conclusion
- 6.3 Discussion
- 6.4 Recommendations
- 6.5 Future implementation
- 6.6 Personal reflection



6.1 Impact

This project will be successful in impact if the following target is reached: make a positive impact on the lives of underserved consumers and communities, without jeopardising their environment. For this project 'impact' means financial growth. This impact will be formed by creating inclusive business opportunities for low-income consumers with the result that these people can sustain themselves with financial security. The next paragraphs explain the specific expected impact of the development guide and iPOS training programme.

Development guide for low-income countries

The expected impact of the development guide is that every newly onboarded Bopinc employee and Bopinc's clients can use the development guide as a starting point when designing online training for people in low-income countries. The development guide forms an easy approach with fast results showing them the outline of the training programme. For Bopinc employees experienced with expertise in designing online training for people in low-income countries, this approach might enlighten them to try out new methods structurally. The eventual macro perspective impact on the low-income consumers is that the rise of online training possibilities will be included in low-income countries.

iPOS training programme

The expected impact of the iPOS training programme is that the young Nigerian women will increase their financial literacy and skills and are ready to start their agent banking business. They will be able to provide all digital financial services of Innovectives, to keep financial records, to provide customer service, to operate safely and to grow their business sales. The estimated time-investment related impact on students is that they need two full-time days of training until they can commence their business as banking agents.

6.2 Conclusion

This thesis researched promising online training methods that can be used in low-income countries. In doing so, this thesis revises the traditional way of offline training programmes in low-income countries into a future proof approach by going online. This conclusion answers the two research questions of what viable, desirable, feasible, suitable and impactful online training methods in low-income countries are and which online training methods are promising to enable young women to commence their agent banking businesses in the Nigerian context.

It can be concluded that there is not one specific online training method that works for low-income countries or training in general. A training programme consists of various methods that are brought together in a cohesive way that enables the trainer to teach and the student to learn. These various methods are brought together by constructive alignment. By researching the training needs of the students, the intended learning outcomes can be constructed. By deciding what kind of settings, training structures, methods of delivery, channels and media need to be used, the teaching and learning activities can be defined. When finalising the training, the progress of the students needs to be assessed, which is done by the assessment and feedback. Since most training in low-income countries is vocational, skills-based methods of assessment are the most promising. When all the elements are aligned with each other constructively, the training has good potential to be successful.

Other methods that are useful when designing a training programme are the ways the students are engaged to start and finish the programme, and the ways how the training can be developed. The students can be engaged when there is a sense of unity when they are taken on a journey with clear goals and when they are motivated by rewards and incentives. The development of

6.3 Discussion

the training materials brings some needs to think about methods about the student group, key clients, new media production and performance measurement. The student group can be generalised, when they are African or Asian, towards similarity in the cultural dimensions of communication, evaluation, trust, disagreement, scheduling and attitude. The key clients are inevitable when developing the training programme remotely, especially a local partner. For the production of new media artificial intelligent software creates many possibilities for high-level content and when the performance of the students is measured, the training can be continually improved. All these methods indirectly influence student performance, which makes them promising methods in low-income countries.

From literature research on the more and more upcoming online training methods and validating them in the low-income context, the methods are selected towards a promising level. These promising methods enlarge the chances that a training programme will be desirable, viable, feasible and suitable for the chosen context. Besides, it will have a, directly and indirectly, positive impact on the lives of low-income consumers.

In the end, an online training programme is a complex design with many variables that have to be taken into account. The design case in Nigeria is only one example, but the development guide ensures for many cases in low-income countries, a starting point for a fast developed and promising online training programme on any topic.

This thesis is accomplished by the interpretation of remote perspectives and intercultural collaborations. This means that the results and conclusions have limitations in their validity. These limitations are discussed in this subchapter.

Firstly, the word 'promising' is used throughout the whole thesis. This is done because there are no 'most effective' or 'best' online training methods possible to present since both the theoretical and empirical research was limited due to the time span of the project. Besides, new and maybe better training methods are created at high speed. Based on the theory and examples from practice, the methods that seem to be favourable were tested empirically and turned out to be workable in the Nigerian context. In other words: 'promising' is a relative term that explains its possible discussable effectiveness, due to limited validation during the project.

Secondly, the case study in Nigeria is not fully representative of the cultural generalisation made of the low-income countries. It is similar on four cultural dimensions (communication, trust, scheduling and attitude) that are relevant for training but differs on evaluation and disagreement. This means that the conclusions derived from the case study provide limitations on the development guide. The effects of these limitations are unknown.

Thirdly, the flow of the development guide is not tested among the Bopinc employees, only revised by two employees. This means that the user experience of the implementation of the development guide is still contestable.

The fourth limitation is the absence of insights into the learning curve of the students. The methods seem to be promising, but the real effectiveness can only be assessed when the students

have completed the whole training programme. Hereafter the performance needs to be measured, resulting in insights into how to improve the online training programme. This is for both the training programmes that will be rolled out of the development guide and the iPOS training programme.

To conclude, the case of Nigeria has been useful for creating the development guide and the chosen methods are workable for the Nigerian design case, but the methods presented remain contestable. Furthermore, the effectiveness of the methods concerning the learning curve of the students and the user experience of the development guide is not included in this thesis but are relevant.

6.4 Recommendations

This subchapter describes which activities should be planned to create more validation of the concluded and contestable results among the development guide and the iPOS training programme.

The first recommendation to Bopinc and Innovectives is to directly implement the two training modules of the iPOS training programme and develop the four other modules in-house. When these are developed, the training programme should be monitored to ensure that the performance and learning curve of the students meets the pre-defined level of mastery of the intended learning outcomes.

Secondly, the development guide should be shared among the Bopinc employees and relevant clients. The proposed training methods need to be used by Bopinc's employees in various projects in other low-income countries than Nigeria to determine the value of the development guide and make it more representative for more low-income countries by verifying it.

6.5 Future implementation

Both designs are made to impact the lives of low-income consumers directly and indirectly. To reach that intention, the design results need to be implemented as soon as possible. However, this graduation thesis is finalised after half a year, which means that Bopinc and Innovectives will have to continue from here. What will happen with the results is discussed in this subchapter.

Firstly, the development guide will be introduced at Bopinc during a 'Dance Club'. This is a bi-weekly session with all employees of Bopinc that are interested in the topic. The focus of the session is providing knowledge or insights into current developments in the low-income sector and how to tackle those. The session consists of interactive elements and calls to action from the audience. After the 'Dance Club', the development guide will be included in the Bopinc toolkit where all tools that are made by or for Bopinc are located. This toolkit is also part of the onboarding process at Bopinc, which means that every new employee will be informed about its existence and its relevance.

The iPOS training programme will be used by Bopinc and Innovectives in the onboarding of new banking agents. The flow of the chatbot is ready to be used and two modules are developed, so the only thing left to do is the development of the four other modules. The reason why the modules of financial record-keeping and business safety were chosen from all six modules, is so the training materials can be reproduced for other projects. The content will most likely be translated into other languages, adjusted to cultural sensitivities and the animated Nigerian character will be restyled. In that way, the developed training content can be used in current Bopinc projects, such as the Shakti micro-entrepreneurship project from Unilever in India and the micro-merchants project from Mastercard in Kenya.

To conclude, the development guide will be used and distributed among Bopinc's employees and the iPOS training programme will be used by Innovectives and in other Bopinc projects, hopefully leading to a positive impact on the lives of women and youth in low-income communities.

6.6 Personal reflection

Before I started this graduation project I set several goals. First, I tried to have an impact on the lives of people who need it the most. Secondly, I would like to gain work experience in the intercultural social design sector. Thirdly, I wanted to obtain more intercultural awareness between my culture and low-income cultures. And fourthly, I tried to use new design and research approaches to get acquainted with.

In the end, I am happy with how that worked out during this project. In this personal reflection, I will explain how I achieved these goals.

The graduation journey

This thesis project took place during the COVID-19 pandemic and has influenced the progress in many ways. Normally at Bopinc, the intern goes to the context of the project. Since it was not possible to go to Nigeria due to the negative travel advice, I had to do the whole project from the Netherlands. This has limited my design outcomes for sure, but in the end, it meant that remote research was necessary. This new design approach was very educative for me as a designer. Especially since I planned a long time ago to do this kind of work in the future. In other words, I am very happy and proud that I may have learned this skill.

Along the way, I realised that diving into other cultures was hard doing remotely. I needed to draw from earlier experiences abroad to understand the context. But I learned a lot about the macro perspective of the various cultures of low-income countries;

something I never learned before and is pretty insightful. Besides, the LEAN startup approach was also new for me. In the end, I am not sure if I became familiar with it, but I learned the value of it in a project like this: project planning is relative, but stays always relevant. Another lesson I learned surprisingly along the way was how I should report my project. Reporting is not a skill of mine, but by the constructive feedback of my coaches and friends, I learned better how to write both academic and understanding. It is still not high quality, but still way better than before.

My time at Bopinc felt really special. I had never done an internship before, so I felt and still feel privileged to do that at my favourite company that I learned during my studies. Despite the corona limitations, everyone gave me a warm welcome from the start. In my first month, I even went with all the Utrecht based employees together on a trip to learn about Bopinc, the sector and each other interests. We had fun, shared emotional lessons about burnouts and taught each other how to look bright at the future. It feels like a community with like-minded people. For that reason, I am even more excited that I can stay at them after my graduation.

Personal ambitions

I achieved all my ambitions to a certain extent. The results of the thesis project have the potential to have a positive impact on the lives of young Nigerian women through financial growth. Via that case, I learned a lot about the Nigerian culture and also cultures of low-income countries from a macro perspective, which means that my intercultural awareness has increased a bit as well. Due to the negative travel advice, I could improve my remote research skills, while I got more acquainted with the LEAN startup approach as well. But in the end, Bopinc and its employees have learned me how it is to work in a sector where cultural challenges, inequality and positive perseverance meet each other.

Thank you for reading this thesis report. I wish you all the best.

References

Literature

A

Ade Ajayi, J.F., Kirk-Greene, A. H. M., Udo, R. K., Falola, T. F., Ifeanyi, & M., Obotetukudo, S. (2020). Nigeria. Encyclopaedia Britannica. Retrieved at September 15, 2021, from <https://www.britannica.com/place/Nigeria>

Adobe. (n.d.). Character Animator. Retrieved at February 14, 2022 from <https://www.adobe.com/nl/products/character-animator.html>.

Akoji, J., & Fij, T. (2021). Analysis report Social norms diagnostics. Utrecht: BoP Innovation Centre.

Akoji, J., & Fij, T. (2021). Gender norms and Shakti entrepreneurs. Utrecht: BoP Innovation Centre.

Akoji, J., & Van der Schaaf, J. (2021). Insight Study CFYE. Utrecht: BoP Innovation Centre.

Articoolo Inc. (n.d.). Create unique textual content in a flash. Retrieved at February 14, 2022, from <http://articoolo.com/>.

B

Behn, R. D. (2003). Why measure Performance? Different Purposes Require Different Measures. *Public Administration Review*, 63 (5), 586-606. doi: 10.1111/1540-6210.00322

Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, 32, 347-364. doi: 10.1007/BF00138871

Blench, R. (2020). *An Atlas of Nigerian Languages*.

BNNVARA. (2019). Planeet Nigeria: De Nigeriaanse Droom. Retrieved from https://www.npostart.nl/planeet-nigeria/BV_101393591

Bopinc. (n.d.). Approach. Retrieved at January 25, 2022, from <https://bopinc.org/approach/>

Bopinc. (n.d.). Home. Retrieved at January 25, 2022, from <https://bopinc.org/>

C

Cambridge Dictionary (n.d.). Meaning of training in English. Retrieved at October 18, 2021, from <https://dictionary.cambridge.org/dictionary/english/training>

Cambridge Dictionary. (n.d.). Meaning of agent in English. Retrieved at January 22, 2022, from <https://dictionary.cambridge.org/dictionary/english/agent>.

Charles Sturt University. (2021). *Assessment Types and Methods*. Retrieved at November 3, 2021, from <https://www.csu.edu.au/division/learning-and-teaching/home/assessment-and-moderation/>

assessment-resources-and-information/assessment-types-and-methods

Ceci, L. (2021). Nigeria: mobile internet user penetration 2016-2026. Retrieved at January 16, 2022, from <https://www.statista.com/statistics/972896/nigeria-mobile-internet-users/>
CLGF (2019). Country Profile 2019: The Local Government System In Nigeria.

Coiro, S. (September 1, 2017). The Status of Digital Literacy in the Developing World. Retrieved at February 22, 2022, from <https://www.borgenmagazine.com/digital-literacy-in-the-developing-world/>

D

Degenhard, J. (2021). Forecast of the debit card penetration in Nigeria from 2010 to 2025. Retrieved at October 11, 2021, from <https://www.statista.com/forecasts/1150169/debit-card-penetration-forecast-in-nigeria>

Dixit, P. (2020). Different Forms of Online Training. Retrieved at September 17, 2021 from <https://blog.commlabindia.com/elearning-design/models-of-elearning-for-corporate-training>

F

Fordham University (2020). Types of Online Learning. Retrieved at September 17, 2021, from https://www.fordham.edu/info/24884/online_learning/7897/types_of_online_learning

G

Grammarly Inc. (n.d.). About. Retrieved at February 14, 2022, from <https://app.grammarly.com/>.

GSM Association. (2019). The Mobile Economy Sub-Saharan Africa 2019.

GSM Association. (2021). The State of Mobile Internet Connectivity 2021.

H

HELLO UMI S.L. (n.d.). Landbot. Retrieved at February 14, 2022, from <https://landbot.io/>

Hess, A. J. (2021). Online learning boomed during the pandemic—but what happens when students return to classrooms? Retrieved at February 10, 2022, from <https://www.cnbc.com/2021/03/26/online-learning-boomed-during-the-pandemic-but-soon-students-return-to-school.html>

Hofstede Insights (2022). Country Comparison Tool. Retrieved at September 9, 2021, from <https://www.hofstede-insights.com/>

Hofstede, G. (1980). Culture's Consequences: International Differences in Work-Related Values.

K

Khan, A., Egbue, O., Palkie, B., Madden, J. (2017). Active Learning: Engaging Students To Maximize Learning In An Online Course. *The Electronic Journal of e-Learning*, 15 (2), 107-115.

M

Markovic, M. (2021). 10 online training examples you can draw inspiration from (2021 update). Retrieved at September 17, 2021, from <https://www.elucidat.com/blog/online-training-examples/>

Mager-Lightfoot, S. (April 16, 2019). Training Consistency: A Learning Leader Challenge. Retrieved at December 22, 2021, from <https://trainingindustry.com/articles/professional-development/training-consistency-a-learning-leader-challenge/>

Meyer, E. (2014). *The Culture Map: Decoding How People Think, Lead, and Get Things Done Across Cultures*. New York: PublicAffairs.

Meyer, E. (2018). *The Country Mapping Tool*. INSEAD.

Meyers, J. (2014). 5 Steps to Writing Clear and Measurable Learning Objectives. Retrieved at October 6, 2021, from <https://www.bobpikegroup.com/trainer-blog/5-steps-to-writing-clear-and-measurable-learning-objectives>

Miller, G. A. (1956). The magical number seven, plus or minus two: some limits on our capacity for processing information. *Psychological Review*, 63 (2), 81–97. doi: 10.1037/h0043158

Monday.com. (n.d.). A platform built for a new way of working. Retrieved at February 14, 2022, from <https://monday.com/>

O

Oluwapo, M. O. (2005). *The Family Lifestyle in Nigeria*. School of Statistics and Actuarial Science, University of the Witwatersrand.

Onyeiwu, S. (2021). Nigeria's poverty profile is grim. It's time to move beyond handouts. Retrieved at September 10, 2021, from <https://theconversation.com/nigerias-poverty-profile-is-grim-its-time-to-move-beyond-handouts-163302>

P

Piaget, J. (1971). *The theory of stages in cognitive development*.

R

Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*. New York: Crown Business.

Rina, N., Suminar, J. R., Damayani, N. A., & Hafiar, H. (2020). Character Education Based On Digital Comic Media. *International Journal of Interactive Mobile Technologies (IJIM)*, 14 (3), 107–127. doi: 10.3991/ijim.v14i03.12111

Rochaun, A. (2018). What Is Extrinsic Motivation and Is It Effective? Retrieved at March 1, 2022, from <https://www.healthline.com/health/extrinsic-motivation#examples>.

S

Salami, K. K., Jegede, A. S., & Oshiname, F. O. (2017). Dynamics of Household Role Performance and the Culture of Child Health Production in Igbo-Ora, Southwestern Nigeria. *Journal of Social, Behavioral, and Health Sciences* 2017, 11(1), 245–267. doi: 10.5590/JSBHS.2017.11.1.17

Sasu, D. D. (2022). Leading social media platforms in Nigeria 2020. Retrieved at Februari 7, 2022, from <https://www.statista.com/statistics/1176101/leading-social-media-platforms-nigeria/>

Sennett, P. (June 29, 2021). Understanding intrinsic and extrinsic motivation. Retrieved at March 1, 2022, from <https://www.rochester.edu/emerging-leaders/understanding-intrinsic-and-extrinsic-motivation/#:~:text=Intrinsic%20motivation%20involves%20performing%20a,punishment%20or%20receiving%20a%20reward>

Schultz, W. (2015). Neuronal Reward and Decision Signals: From Theories to Data. *Physiol Rev.* 2015 Jul, 95(3), 853–951. doi: 10.1152/physrev.00023.2014

Synthesia Ltd. (n.d.). Create professional AI videos from text in 60+ languages. Retrieved at February 14, 2022, from <https://www.synthesia.io/>

T

Team Leverage Edu (2021). Types of Mass Media. Retrieved at September 17, 2022, from <https://leverageedu.com/blog/types-of-mass-media/>

U

Unicef (2021). Nigeria education. Retrieved at October 7, 2021, from <https://www.unicef.org/nigeria/education>.

United Nations (n.d.). The 17 goals. Retrieved at February 17, 2022, from <https://sdgs.un.org/goals>

V

Van Boeijen, A. G. C. (2015). Crossing Cultural Chasms: Towards a culture-conscious approach to design. doi: 10.4233/uuid:fc87dfd1-b7eb-4c84-b6c7-6835c5e837f8

Van Boeijen, A. G. C. & Zijlstra, I. S. J. (2020). *Culture Sensitive Design: A Guide to Culture in Practise*. Amsterdam: BIS Publishers.

Van Boeijen, A. G. C., Daalhuizen, J. J., & Zijlstra, J. J. M. (Eds.), (2020, Rev. ed.). *Delft Design Guide: Perspectives,-Models-Approaches-Methods*. Amsterdam: BIS Publishers.

Varrella, S. (2021). Payment methods in Nigeria - statistics & facts. Retrieved at October 11, 2021, from <https://www.statista.com/topics/7133/payment-methods-in-nigeria/>

Vlasceanu, L., Grunberg, L., & Parlea, D. (2007). Quality assurance and accreditation: A glossary of basic terms and definitions.

W

Worldometer (2022). Nigeria Population. Retrieved from <https://www.worldometers.info/world-population/nigeria-population/>

Image credits

Image front page (p. 1), figure 47 (p. 53) and figure 48 (p. 54): i_am_zews (Photographer). (n.d.). Nigerian lady selling in a local nigerian market using her mobile phone and credit card to do a transaction online smiling (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/nigerian-lady-selling-local-market-using-1607819821>

Image editorial (p. 2): Nelson Mandela (Photograph). (n.d.). Retrieved at January 16, 2022, from <https://www.deborahswallow.com/2012/07/18/nelson-mandela-day-july-18th/>

Image Chapter 1 (p. 11): Courage007 (Photographer). (n.d.). African woman trying to operate a pos machine in the market (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/african-woman-trying-operate-pos-machine-1415954078>

Image Chapter 2 (p. 19): i_am_zews (Photographer). (n.d.). Customer paying for items bought in a supermarket with a credit card, black female attendant processing the payment with a mobile pos device (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/customer-paying-items-bought-supermarket-credit-1591957456>

Image Chapter 3 (p. 33): i_am_zews (Photographer). (n.d.). Nigerian woman working a pos kiosk smiling while counting money for a customer (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/nigerian-woman-working-pos-kiosk-smiling-1906299640>

Figure 27 (p. 37). Okaro, A. (Photographer). (December 1 & 8, 2021). Ambiance of the focus group discussions.

Image Chapter 4 (p. 41): i_am_zews (Photographer). (n.d.). Young african woman selling tomatoes in a local african market using her mobile pos device (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/young-african-woman-selling-tomatoes-local-1593775501>

Image Chapter 5 (p. 49): i_am_zews (Photographer). (n.d.). African woman in a kiosk using a pos device (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/african-woman-kiosk-using-pos-device-1942923823>

Figure 44 (p. 52): Klumpenaar, R. J. (Photographer). (n.d.). Young banking agent in small kiosk.

Figure 45 (p. 52): Klumpenaar, R. J. (Photographer). (n.d.). Young banking agent in shopping street.

Figure 46 (p. 52): Klumpenaar, R. J. (Photographer). (n.d.). Banking agent under a parasol.

Image Chapter 6: i_am_zews (Photographer). (n.d.). A young beautiful african market woman wearing face mask to prevent herself from the society holding a pos machine. (Photograph). Retrieved at January 13, 2022, from <https://www.shutterstock.com/nl/image-photo/young-beautiful-african-market-woman-wearing-1816603385>

Appendices

The Appendices contain the supporting documents for the report.

Overview of Appedices

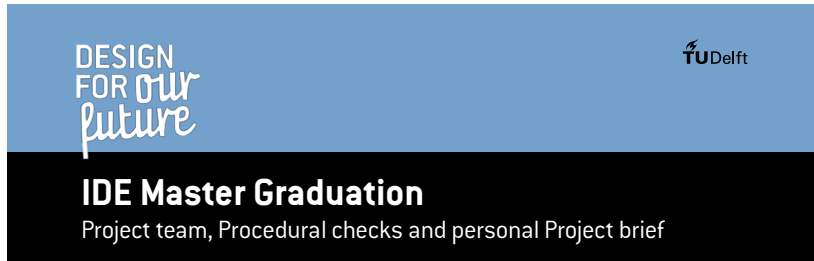
Appendix A: Design proposal

Appendix B: Intended learning outcomes of the iPOS training programme

Appendix C: Focus group discussion questions

Appedix A: Design proposal

On the right the design proposal is shown. This was the initial brief of the project assignment and the planned deliverables. Note that since this was the first version of the assignment, the definitions of certain deliverables and terms changed along with the project.



This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT
Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME
Save this form according to the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

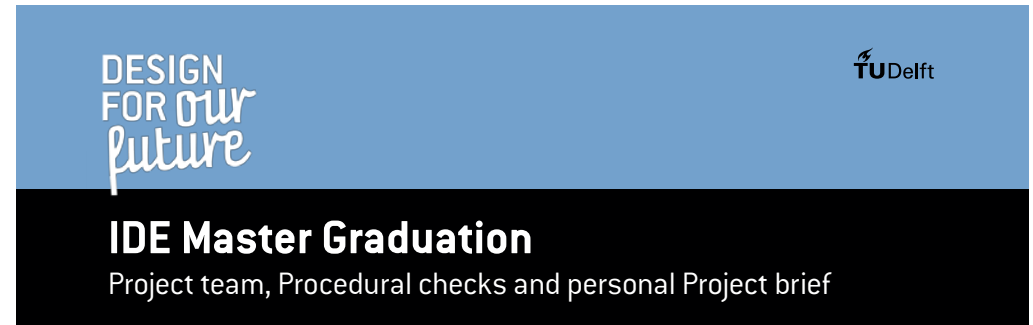
family name Nieuwendijk Your master programme (only select the options that apply to you):
 initials T.J. given name Thomas IDE master(s): IPD Dfi SPD
 student number 4444868 2nd non-IDE master: _____
 street & no. _____ individual programme: - - (give date of approval)
 zipcode & city _____ honours programme: Honours Programme Master
 country _____ specialisation / annotation: Medisign
 phone _____ Tech. in Sustainable Design
 email _____ Entrepreneurship

SUPERVISORY TEAM **
Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair J.C. Diehl dept. / section: SDE/DFS
 ** mentor S.C. Mooij dept. / section: DOS/MCR
 2nd mentor Nick van der Velde
 organisation: BoP Innovation Center
 city: Utrecht country: The Netherlands

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v.
 Second mentor only applies in case the assignment is hosted by an external organisation.
 Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

comments (optional) _____



This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT
Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME
Save this form according to the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name Nieuwendijk Your master programme (only select the options that apply to you):
 initials T.J. given name Thomas IDE master(s): IPD Dfi SPD
 student number 4444868 2nd non-IDE master: _____
 street & no. Elandstraat 91A individual programme: - - (give date of approval)
 zipcode & city 2513GM's-Gravenhage honours programme: Honours Programme Master
 country The Netherlands specialisation / annotation: Medisign
 phone +31 6 13 91 78 65 Tech. in Sustainable Design
 email thomasjellenieuwendijk@gmail.com Entrepreneurship

SUPERVISORY TEAM **
Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair J.C. Diehl dept. / section: SDE/DFS
 ** mentor S.C. Mooij dept. / section: DOS/MCR
 2nd mentor Nick van der Velde
 organisation: BoP Innovation Center
 city: Utrecht country: The Netherlands

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v.
 Second mentor only applies in case the assignment is hosted by an external organisation.
 Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

comments (optional) _____

APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair J.C. Diehl date 03 - 09 - 2021 signature  Digitally signed by jdiehl Date: 2021.09.03 14:45:04 +02'00'

CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: _____ EC YES all 1st year master courses passed

Of which, taking the conditional requirements into account, can be part of the exam programme _____ EC NO missing 1st year master courses are:

List of electives obtained before the third semester without approval of the BoE

name _____ date _____ signature _____

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)? APPROVED NOT APPROVED
- Is the level of the project challenging enough for a MSc IDE graduating student? APPROVED NOT APPROVED
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

comments

name _____ date _____ signature _____

Development of training on agent banking for Nigerian youth project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 03 - 09 - 2021 end date 10 - 03 - 2022

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

This project is a collaboration between Bopinc, Challenge Fund for Youth Employment, Innovectives and Delft University of Technology (figure 1). The overarching project arose from a challenge fund of Palladium Group which will be used to empower youth, especially women, in Nigeria. This will be done in collaboration with Innovectives, a company that offers point-of-sale (POS) systems in Nigeria. A part of the project will be conducted by Thomas Nieuwendijk. This graduation assignment is part of the larger project, performed by Bopinc. The focus for this graduation project will be on developing an training for Nigerian youth who started or will start a small-medium financial services enterprise, called agent banking.

The origin of the project is to stimulate youth employment in Nigeria. Innovectives and Bopinc's project proposal is one of the eight awarded grants, enabling the rollout of a two-year program to create 3.000 agent banking jobs for youth. To encourage and help these people running their banking enterprises, a training will be developed, which will be the main focus of the graduation project. During the project the educational training of four modules, including educational materials, will be designed, built and tested in co-creation with Nigerian youth. These modules are based on the extended experiences of Bopinc in earlier projects. The outcomes of the project will be implemented by Bopinc and the supporting partners.

space available for images / figures on next page

introduction (continued): space for images

	<p>BoP Innovation Center (Bopinc) is an consultancy based in Utrecht that supports companies to bring quality products and services to low-income consumers. Their focus is on Inclusive Innovation, Marketing and Distribution and Inclusive Business Empowerments. Bopinc will be my main stakeholder of my project, as it is my client. Bopinc will operate as organisation between me and the other stakeholders.</p>
	<p>The Delft University of Technology (TU Delft) will guide me as academical institution during my project by providing study space and my graduation committee, which will supervising my academical design approaches, progress and results.</p>
	<p>The Challenge Fund for Youth Employment (CFYE) is a fund raised an provided by the Palladium Group, which aims to empower youth, especially women, in low-income countries with an emerging market. The result of their grants will create a prosperous future for 200.000 young women and men in the Middle East, North Africa, Sahel & West Africa and Horn of Africa. Bopinc has been awarded by one of their eighth grants.</p>
	<p>Innovectives is a fintech oriented company which operates in the market of Digital Financial Services (DFS) and the supply of agent networks. This company produces POS-systems, which will be used by the bank agents to actualise their small-medium enterprises.</p>

image / figure 1: Involved companies and authorities

Online training on



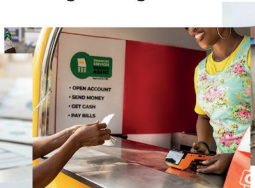

<p>the use of POS systems</p> 	<p>offering digital financial services</p> 	<p>customer trust and loyalty building strategies</p> 	<p>dealing with household dynamics</p> 
---	--	--	--

image / figure 2: The four framed modules of the training

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

The preliminary problem comes from the lack of (female) youth employment in Nigeria. This unemployment is occurring in general, but especially among women. This is caused by the conservative household dynamics in Nigeria where the mother is expected to stay at home instead of working. By offering the opportunity to start agent banking for young Nigerian people, these defined problems will be adressed towards a solution.

The main problem which this graduation project focusses on is the lack of knowledge in agent banking and so arises the need of a fitting training for the potential Nigerian (female) banking agents. There are currently already educational services, provided by the government, banks and companies, but these are limited and mostly focussed on male bank agents. To make sure agent banking is implementable for other similar cases in the Nigerian context, a blueprint (with described elements) is needed to create the training for these contexts. Both the educational blueprint and female focussed training are missing and will be the scope during the project.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

To design a blueprint of a training on agent banking run by Nigerian youth in order to stimulate youth employment and financial inclusion in Nigeria. The aim is to create entrepreneurial possibilities for (female) bank agents by providing an up-and-running training with four modules which can be directly implemented by Bopinc and her local partners.

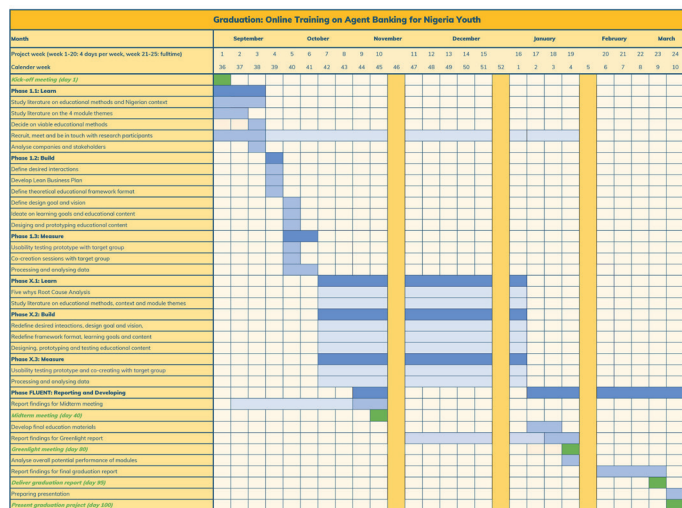
I expect to deliver an training that especially focusses on the educational experience and learning curve of women. It contains four modules (figure 2): the use of POS systems (1), offering financial services (2), customer trust and loyalty building strategies (3) and dealing with household dynamics (4).

The training for the case in Nigeria will be directly implementable and thus usable by the Nigerian youth. Beside of that, the training will be used as case for the development of the blueprint as academic contribution for agent banking in other BoP context with the need for employment of young women. The research question that will guide the development of the blueprint is: 'What are the most effective educational methods to enable female youth to effectively enhance their agent banking businesses?' I expect the development of the training and blueprint to be co-created together with a group of Nigerian youth representing the agent bankers of now and the future. This will be facilitated by Bopinc and Innovectives.

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 3 - 9 - 2021 10 - 3 - 2022 end date



During my graduation I will spend 4 days per week on the project and 1 day per week on my work as student assistant. In November I will take one week off after the midterm meeting. In week 52 I will take one week off as well, due to the Christmas holidays and New years eve. In the first week of February I will take my third week off to go on winter sport. The approach I will take is based on the LEAN Startup method. The elements of building and distributing the minimal viable educational modules as soon as possible among the users, measuring if this is what the user needs and learning & improving the concept until it works best. This means that after phase 1.3, the planning structure will be repeated constantly in shorter cycles. How much cycles will be conducted will be influenced by the available time, the willingness and cooperation of the user group and the need for specific developments.

Because the project takes place in a Base of the Pyramid context and the research will be done remotely, it is wise to use this hands-on approach and explore the occurring cultural differences, similarities and opportunities by co-creating the training and putting the users first in any development. Situations can change rapidly and I have to be prepared by flexibility and anticipatability.

The project ends in a fluent phase (focussed on reporting and development), where the final educational materials and content will be developed and analysed on its performance. This will be documented in the final report and presentation.

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

Preliminary to my Bachelor in IDE I was already fascinated in the lives of people outside of the Netherlands. The differences and similarities in behavior, social expectations and rituals always triggered me. During my Bachelor I did my Minor project focused on the Base of the Pyramid context in Nepal and during my Bachelor End Project on how Dutch people relate to experiences in BoP contexts. In my Master I did a Joint Master Project focused on the BoP context in Kenya. Beside of that I did the master electives Design for Emerging Markets and Culture Sensitive Design. Both focused on the cultural differences and similarities and how to use those while designing. Beside of that I have been very committed with the quality of education of our faculty in the past years, so affiliation with educational methods. The reason why the project of Bopinc enthused me is due to its setting in the BoP context, the educational purpose and the personal interaction with the target group during the design process.

I have two main educational ambitions during my graduation. The first ambition is to experience the workstyle of a LEAN methodical approach and direct personal contact with the target group in an online way. Both approaches are semi new for me and so it will be insightful to try this out in the final part of my studies. My second ambition is to learn more about the BoP context and how to approach and understand individuals and groups while I try to be intercultural aware. Despite I already have some experience by physical presence in a culture, I have never tried this very personal approach in a remote setting before.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

Appendix B: Intended learning outcomes of the iPOS training programme

Chapter 5.2 describes the value of the modules in the programme. Besides this value, every module has a certain intended learning outcome. This learning outcome consists of several learning objectives and topics. In this Appendix, these are discussed separately.

B.1 Basic POS and web app functionalities

Learning objectives

- After following this module, *the banking agent processes the financial services of creating & updating an account, cash-in/cash-out, sending money, bill payment, airtime & data and saving up without errors.*
- After following this module, *the banking agent handles the POS machine and web app instinctively.*

Topics

- Financial service offer
 - Different types of basic services (creating & updating an account, cash-in/cash-out, sending money, bill payment, airtime & data and saving up)
 - Process/scenarios per service
- POS machine and web app usage
 - Navigation through systems
 - Usage by customer

B.2 Advanced POS and web app functionalities

Learning objectives

- After following this module, *the banking agent processes the financial services of loans, fixed deposits and insurances without errors.*
- After following this module, *the banking agent handles the POS machine and web app instinctively.*

Topics

- Financial service offer
 - Different types of advanced services (loans, fixed deposits and insurances)
 - Process/scenarios per service
- POS machine and web app usage
 - Navigation through systems
 - Usage by customer

B.3 Financial record-keeping

Learning objectives

- After following this module, *the banking agent evaluates her business activities and transactions with accuracy, integrity and self-assurance.*
- After following this module, *the banking agent demonstrates efforts in applying for loans or making use of savings well-considered.*

Topics

- Managing money
 - Income, profit and loss
- Managing information
 - Documentation
 - Integrity
 - Accuracy
- Loans and savings

B.4 Customer service

Learning objectives

- After following this module, *the banking agent performs a pleasant customer experience to a level that the customer shows loyal behaviour.*
- After following this module, *the banking agent supports the customers sufficiently with their problems.*
- After following this module, *the banking agent builds reward programs to a level that customers prefer her business above others.*

Topics

- Customer experience
 - Appearance of shop
 - Interaction and approach
- Customer support
 - Potential situations
 - Get in touch with the support team
- Reward programs
 - Types of programmes

B.5 Business safety

Learning objectives

- After following this module, *the banking agent recognises the occurrence of risks directly.*
- After following this module, *the banking agent chooses the most risk effective option with trust, a sense of security and an entrepreneurial mindset.*

Topics

- Risks
 - Fraud
 - Robbery
 - Burglary
- Risk management
 - Environment
 - Confrontation
 - Security and protection
 - Cash and transfers
 - Planning

B.6 Growing your business

Learning objectives

- After following this module, *the banking agent* assesses the success rate and profitability of the business **that conforms to reality.**
- After following this module, *the banking agent* builds a customer feedback source that is sustainable and reliable.
- After following this module, *the banking agent* adjusts the business activities **until the response leads to sales improvements.**
- After following this module, *the banking agent* aligns all ways of communication channels **to its full potential in advertising.**

Topics

- Success rate and profitability
- Customer needs
 - Situations related to customer needs
 - Exploration of customer needs
- Customer feedback and response
 - Collecting feedback
 - Converting feedback to sales improvements
- Advertisement

Appendix C: Focus group discussion questions

The focus group discussions function to retrieve insights from the participants about the prototypes they have tested. After the test, Abuchi Okaro asked to share and discuss their experiences. The discussion about their experience per pilot was guided by the questions below.

Pilot 1

1. How familiar are you with the financial services before you started this training?
2. What was your general feeling about this training?
3. What do you like the best about this training and why?
4. What positive experiences or outcomes have you had during following this training?
5. What are specific issues, concerns, or problems you've faced when following this training?
6. How significant was this problem?
7. What was the cause of this problem?
8. What challenged you and why?
9. How would you describe the guidance by the trainer? (for the app: Bimbo (animated character) | for Whatsapp: Adil (voice))
10. How would you describe your feelings about the method of assessment? (for the app: quizzes and simulation | for Whatsapp: peer and trainer review)
11. Where and when would you follow this training?

Pilot 2

1. How familiar are you with the financial services before you started this training?
2. What was the general feeling about this training?
3. What do you like the best about this training and why?

4. What positive experiences or outcomes have you had during following this training?
5. What are specific issues, concerns, or problems you've faced when following this training? How significant was this problem and what was its cause?
6. What challenged you and why?
7. How would you describe the guidance by the trainer in the videos (Abiose)?
8. How would you describe your feelings about the method of assessment? (simulation and peer review)
9. Where (location) and when (time of the day) would you follow this online training?
10. What would digital finance associate like to know from the start about agent banking? Which topics are important to learn?
11. What kind of digital media would (video, image, audio) trigger a digital finance associate the most to follow the training?
12. What kind of effect does an incentive (like a physical or digital reward) in the training have on the performance of the digital finance associate?
13. What financial services should Innovectives offer to attract your attention as a customer?

Pilot 3

1. Do you feel motivated to finish the training by this journey? Why?
2. What was your favourite reward and why?
3. What is your opinion about the other rewards?
4. Do you think you are more or less willing to finish the second module when you knew you only could get the 'print rolls reward' when you finish two modules? And why?
5. Are all the steps during the training journey clear? Why or why not?
6. Which journey option was your favourite: space travel or treasure hunt? Why?
7. What is your opinion about the skit videos as training content?

