



# SKILLS EVALUATION MODEL



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PROJUVEN



# About the project:

The project NGOE – Next Generation of Entrepreneurs aims to develop entrepreneurial skills among young people currently enrolled in secondary schools, but also among youth workers in order to integrate new skills and tools into their entrepreneurship teaching.

The project is implemented with five organisations from:

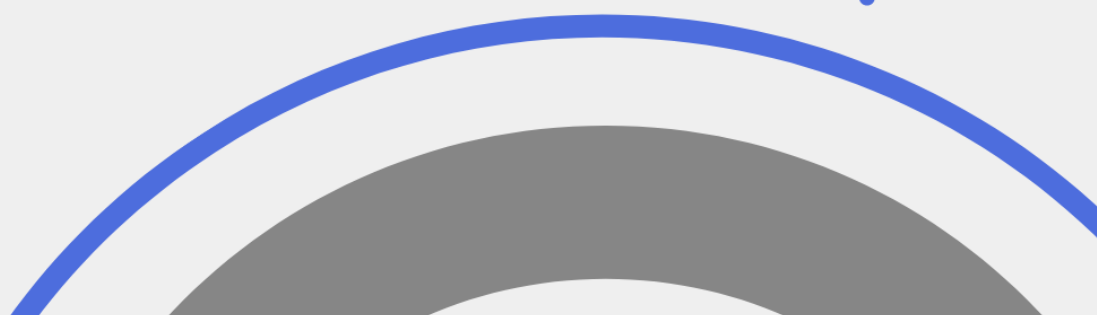
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# CHAPTER 1

## DEFINITION OF KEY TERMS RELATED TO ASSESSMENT AND EVALUATION

### Introduction

In the fast-paced and dynamic world of entrepreneurship, the need for effective assessment tools and methods to evaluate entrepreneurial skills, competencies, and outcomes has become increasingly crucial. Assessment plays a vital role in understanding the effectiveness and impact of entrepreneurship education programs, initiatives, and policies, enabling educators, policymakers, and stakeholders to make informed decisions and drive continuous improvement.

This chapter explores the topic of "Definitions and Review of Assessment Tools" in the context of the next generation of entrepreneurs. It delves into the essential aspects of assessment, highlighting its significance and relevance in evaluating the progress and success of entrepreneurial endeavours. Furthermore, it provides an overview of various assessment tools and methods, examining their utility, applicability, and effectiveness in fostering entrepreneurship and measuring entrepreneurial outcomes.

Overall, this chapter serves as a comprehensive exploration of the definitions and review of assessment tools, shedding light on their significance and applicability in assessing the next generation of entrepreneurs. By gaining a deeper understanding of assessment and its associated tools, educators, policymakers, and stakeholders can effectively evaluate and enhance entrepreneurship education programs, fostering the development of a thriving entrepreneurial ecosystem.

### 1.1 Definition of key terms related to assessment and evaluation.

Assessment and evaluation are essential components of any field or discipline, including entrepreneurship. They are critical in determining the effectiveness of entrepreneurial efforts, measuring progress, identifying areas for improvement, and making informed decisions for future actions. In this chapter, we will define and discuss key terms related to assessment and evaluation in the context of entrepreneurship.

#### 1.1.1 Assessment

Assessment refers to the systematic process of collecting, analysing, and interpreting data or evidence to make informed judgments about an individual, product, process, or system. In the context of entrepreneurship, assessment involves evaluating various aspects of

entrepreneurial activities, such as the skills, competencies, performance, outcomes, and impact of entrepreneurs and their ventures. Assessment can be conducted at different levels, including individual, organizational, and societal, and can be used for different purposes, such as formative assessment for feedback and improvement, and summative assessment for decision-making and accountability.

Assessment is a critical component of evaluating entrepreneurship, as it involves systematically collecting, analysing, and interpreting data or evidence to make informed judgments about various aspects of entrepreneurial activities. Assessments in entrepreneurship can take different forms, such as self-assessment, peer assessment, expert assessment, and performance assessment. Here are some key concepts related to assessment in entrepreneurship:

- **Entrepreneurial Skills and Competencies** - Assessing entrepreneurial skills and competencies involves evaluating the knowledge, abilities, and attitudes that are necessary for entrepreneurs to effectively start, manage, and grow their ventures. These skills and competencies may include opportunity identification, market research, financial management, marketing, negotiation, leadership, and risk management (Fayolle, 2017). Assessments of entrepreneurial skills and competencies may involve self-assessment, where entrepreneurs reflect on their own strengths and weaknesses, or external assessments, where experts or peers evaluate an entrepreneur's skills and competencies based on established criteria.
- **Entrepreneurial Mindset and Attributes** - The entrepreneurial mindset and attributes of an entrepreneur play a crucial role in their success. Assessing the entrepreneurial mindset and attributes involves evaluating the mindset, attitudes, and personal qualities that contribute to entrepreneurial behaviour, such as creativity, resilience, self-efficacy, optimism, and adaptability (Hmieleski & Corbett, 2008). These assessments may involve self-assessment questionnaires or interviews to determine the entrepreneur's mindset and attributes and their impact on entrepreneurial activities.
- **Venture Feasibility and Viability** - Assessing venture feasibility and viability involves evaluating the potential of an entrepreneurial venture to succeed in the market. This assessment may involve conducting a feasibility study that examines the market demand, competition, financial projections, and operational requirements of the venture (Kuratko et al., 2019). Assessments of venture feasibility and viability are important in determining the viability of a business idea, identifying potential risks and challenges, and making informed decisions about the viability of a venture.
- **Performance and Outcomes** - Assessing the performance and outcomes of entrepreneurial ventures involves evaluating the results achieved by the venture in terms of financial, operational, and strategic indicators. These indicators may include

revenue, profitability, growth, customer satisfaction, market share, and social impact (Barringer & Ireland, 2016). Performance assessments provide insights into the effectiveness of entrepreneurial strategies, operations, and decision-making, and can inform future actions and strategies.

- **Innovation and Creativity** - Assessing innovation and creativity in entrepreneurship involves evaluating the level of creativity, novelty, and impact of entrepreneurial innovations. This assessment may involve evaluating the extent to which entrepreneurs are engaging in innovative activities, such as developing new products, services, processes, or business models, and whether these innovations are creating value for customers and society (Schaper et al., 2014). Assessments of innovation and creativity in entrepreneurship can provide insights into an entrepreneur's ability to identify and exploit opportunities, differentiate themselves from competitors, and adapt to changing market conditions.
- **Contextual Factors** - Assessing contextual factors in entrepreneurship involves evaluating the external factors that influence entrepreneurial activities, such as the market conditions, industry trends, regulatory environment, cultural factors, and social and economic context (Welter & Xheneti, 2013). Contextual factors can have a significant impact on the success or failure of entrepreneurial ventures, and assessments of contextual factors can help entrepreneurs better understand and navigate the external environment in which they operate.

In conclusion, assessment is a critical component of evaluating entrepreneurship, and involves systematically collecting, analysing, and interpreting data or evidence to make informed judgments about various aspects of entrepreneurial activities. It includes assessing entrepreneurial skills and competencies, entrepreneurial mindset and attributes, venture feasibility and viability, performance and outcomes, innovation and creativity, and contextual factors. These assessments can provide valuable insights into an entrepreneur's strengths, weaknesses, opportunities, and challenges, and inform decision-making for entrepreneurial ventures.

### **1.1.2 Evaluation**

Evaluation, on the other hand, is a broader concept that encompasses the systematic process of assessing the design, implementation, and outcomes of a program, project, or intervention, and making judgments about its effectiveness, efficiency, relevance, sustainability, and impact. In the context of entrepreneurship, evaluation involves critically examining the overall performance and impact of entrepreneurial initiatives, including the identification of strengths, weaknesses, opportunities, and threats, and the determination of their value, significance, and relevance to the intended goals and objectives.



Evaluation is an integral part of assessing the effectiveness and impact of entrepreneurship education initiatives. While assessment focuses on collecting data and making judgments about various aspects of entrepreneurial activities, evaluation goes a step further by systematically analysing and interpreting the collected data to make informed judgments about the overall quality, effectiveness, and value of the entrepreneurship education program or initiative.

Evaluation involves a comprehensive and systematic review of the program's goals, objectives, activities, outcomes, and processes. It helps to determine whether the program is meeting its intended objectives, whether the desired outcomes are being achieved, and whether the program is delivering value and making a positive impact on the target audience.

Key elements of evaluation in entrepreneurship education include:

- **Setting Clear Evaluation Criteria:** Evaluation criteria should be established at the outset of the program to define what success looks like. These criteria could include factors such as the acquisition of specific entrepreneurial skills, changes in entrepreneurial mindset, success in venture creation, or contributions to social impact. Clear criteria help to guide the evaluation process and ensure that the program is assessed against relevant and meaningful benchmarks.
- **Collecting Relevant Data:** Evaluation involves collecting data from various sources, such as surveys, interviews, observations, and performance metrics. The data should be aligned with the evaluation criteria and provide insights into the program's outcomes and impact. Both quantitative and qualitative data can be valuable for evaluation, as they provide different perspectives and contribute to a more comprehensive understanding of the program's effectiveness.
- **Analysing and Interpreting Data:** The collected data should be analysed and interpreted to identify patterns, trends, and relationships. This analysis helps to assess the extent to which the program is achieving its goals and objectives. Statistical analysis, content analysis, and thematic analysis are common methods used to make sense of the data and draw meaningful conclusions.
- **Drawing Conclusions and Making Recommendations:** Based on the analysis of the data, evaluation involves drawing conclusions about the effectiveness of the entrepreneurship education program and its impact on the target audience. These conclusions should be supported by evidence and insights gained from the evaluation process. Additionally, evaluation should provide recommendations for improvement, suggesting ways to enhance the program's design, delivery, and outcomes.
- **Continuous Improvement:** Evaluation is an iterative process that feeds back into the program's improvement cycle. The insights and recommendations from evaluation

help to inform decision-making, program design, and future iterations of the entrepreneurship education initiative. By embracing a culture of continuous improvement, programs can adapt and evolve based on the evaluation findings, leading to more effective and impactful entrepreneurship education experiences.

### 1.1.3 Key Terms

In the field of entrepreneurship assessment and evaluation, there are several key terms that are commonly used. Here are the definitions of some of these key terms:

- **Entrepreneurial Competencies** - Entrepreneurial competencies refer to the knowledge, skills, and attitudes that are necessary for entrepreneurs to be successful in creating, managing, and growing their ventures. These competencies include a wide range of capabilities, such as opportunity identification, innovation, risk management, marketing, financial management, leadership, networking, and resilience. Assessing entrepreneurial competencies involves measuring the extent to which entrepreneurs possess and demonstrate these skills and traits in their entrepreneurial endeavours.
- **Business Performance** - Business performance refers to the outcomes and results achieved by entrepreneurial ventures in terms of financial, operational, and strategic indicators (Barringer & Ireland, 2016). These indicators may include revenue, profitability, growth, customer satisfaction, employee productivity, market share, and social impact. Evaluating business performance involves assessing the extent to which entrepreneurial ventures are meeting their financial and non-financial goals and objectives, and whether they are sustainable and competitive in the long run.
- **Innovation** - Innovation refers to the process of creating, developing, and implementing new ideas, products, services, processes, or business models that bring value to customers, society, and the economy (Schaper et al., 2014). Innovation is a critical driver of entrepreneurial success, as it enables entrepreneurs to identify and exploit opportunities, differentiate themselves from competitors, and create customer value. Assessing innovation in entrepreneurship involves evaluating the level of creativity, novelty, and impact of entrepreneurial innovations, as well as the effectiveness of the innovation process and management.
- **Social Impact** - Assessment of social impact is an important aspect of evaluating entrepreneurship, as it considers the broader societal implications and outcomes of entrepreneurial activities. Social impact refers to the positive or negative effects that entrepreneurship can have on society, beyond the immediate economic and financial considerations. It involves assessing the extent to which entrepreneurial ventures contribute to addressing social issues, creating social value, and improving the well-being of individuals and communities. Understanding the social impact of entrepreneurship is becoming increasingly important in today's business landscape, as



stakeholders, including investors, consumers, and policymakers, are placing greater emphasis on the role of entrepreneurship in contributing to social good. By assessing social impact, entrepreneurs and policymakers can better understand the broader implications of their entrepreneurial efforts and make informed decisions to maximize positive social outcomes.

## **1.2 Assessment tools and methods used at the EU and international level for entrepreneurship education.**

When it comes to assessing entrepreneurship education at the EU and international level, there are various assessment tools and methods that are commonly used. These assessment tools and methods help to evaluate the effectiveness and impact of entrepreneurship education programs, initiatives, and policies. Here's an overview of some of these tools and methods:

- **Entrepreneurship Education Program Evaluation Frameworks:** Several frameworks have been developed at the EU and international level to assess entrepreneurship education programs. For example, the European Entrepreneurship Education NETWORK (EE-HUB) has developed a comprehensive framework for evaluating entrepreneurship education programs, which includes assessing program objectives, content, delivery methods, outcomes, and impact. Similarly, the Organization for Economic Co-operation and Development (OECD) has developed the "HEInnovate" framework, which is a self-assessment tool for higher education institutions to evaluate their entrepreneurial and innovative capabilities.
- **Surveys and Questionnaires:** Surveys and questionnaires are commonly used to collect data from entrepreneurship education stakeholders, such as students, educators, policymakers, and industry partners. These tools typically include questions related to the perceived effectiveness of entrepreneurship education programs, satisfaction levels, learning outcomes, and impact on entrepreneurial mindset and skills. Examples of widely used surveys and questionnaires include the Global University Entrepreneurial Spirit Students' Survey (GUESSS) and the Entrepreneurship Education Impact Survey (EEIS).
- **Case Studies and Best Practices:** Case studies and best practices are often used to assess entrepreneurship education initiatives and policies at the EU and international level. These methods involve analysing successful examples of entrepreneurship education programs, policies, or initiatives to understand their key components, outcomes, and impact. Case studies and best practices can provide valuable insights and benchmarks for assessing the effectiveness of entrepreneurship education efforts.

- **Quantitative and Qualitative Data Analysis:** Quantitative and qualitative data analysis methods are commonly used to assess the impact and outcomes of entrepreneurship education programs. Quantitative methods involve analysing numerical data, such as pre- and post-program assessments, performance metrics, and financial data, to measure changes in knowledge, skills, attitudes, and behaviours. Qualitative methods, on the other hand, involve analysing non-numerical data, such as interviews, focus groups, and open-ended survey responses, to capture in-depth insights into the experiences and perceptions of entrepreneurship education stakeholders.
- **Frameworks for Assessing Entrepreneurial Skills and Competencies:** Various frameworks have been developed to assess entrepreneurial skills and competencies at the EU and international level. For example, the Entrepreneurial Skills Pass (ESP) is a European-wide certification that assesses key entrepreneurial competencies, such as opportunity recognition, creativity, risk management, and teamwork, through a standardized assessment process. Similarly, the EntreComp framework, developed by the European Commission, provides a comprehensive reference framework for assessing and developing entrepreneurial competencies.

It's important to note that the choice of assessment tools and methods may vary depending on the specific context, objectives, and scope of the entrepreneurship education initiatives being evaluated. A combination of different tools and methods may be used to obtain a holistic and comprehensive assessment of entrepreneurship education programs and policies.

## **Conclusion**

In conclusion, the assessment of entrepreneurship education programs and initiatives at the EU and international level is a crucial process to evaluate their effectiveness, impact, and alignment with desired outcomes. Using various assessment tools and methods, stakeholders can gather valuable data and insights to inform decision-making, policy development, and program improvement.

The chapter provided an overview of key terms related to assessment and evaluation in the context of entrepreneurship education, including the definition of assessment, its importance, and its various dimensions. It also highlighted the social impact of entrepreneurship education and the need to assess it to understand its broader effects on individuals, communities, and societies.

Additionally, the chapter discussed the overview of various assessment tools and methods commonly used at the EU and international level for entrepreneurship education evaluation, such as program evaluation frameworks, surveys and questionnaires, case studies and best practices, quantitative and qualitative data analysis, and frameworks for assessing entrepreneurial skills and competencies.

It is important to note that the choice of assessment tools and methods should be aligned with the specific context and objectives of the entrepreneurship education initiatives being evaluated. Additionally, continuous improvement and refinement of assessment approaches based on feedback, data, and stakeholder input are essential for ensuring the robustness and reliability of the assessment process.

In conclusion, effective assessment and evaluation of entrepreneurship education programs and initiatives at the EU and international level can provide valuable insights into their impact, outcomes, and areas for improvement, ultimately contributing to the development of the next generation of entrepreneurs and fostering a more entrepreneurial mindset and culture in communities and societies.

# CHAPTER 2

## CRITERIA FOR SELECTING ASSESSMENT TOOLS AND METHODS FOR THE NGOE PROJECT

### Introduction

In today's dynamic and rapidly changing world, fostering entrepreneurial initiatives among young people has become increasingly important. The Next Generation of Entrepreneurs project is an innovative endeavour aimed at empowering young individuals with the necessary skills and knowledge to embark on their entrepreneurial journeys. By equipping them with both traditional and digital entrepreneurial skills, this project seeks to cultivate a new generation of entrepreneurs who can thrive in the modern business landscape.

Within this chapter, we will delve into the crucial aspect of selecting appropriate assessment tools and methods for evaluating the progress and achievements of the participants in the Next Generation of Entrepreneurs project. Effective assessment not only measures the participants' growth but also guides the project's pedagogical approach and contributes to their overall learning experience.

Throughout the chapter, we will emphasize the significance of using assessment as a pedagogical tool, rather than solely as a means of evaluation. By adopting a learner-centred approach, we aim to foster continuous learning, reflection, and improvement among the young entrepreneurs. This chapter will serve as a guide for project coordinators, educators, and stakeholders involved in the Next Generation of Entrepreneurs project, equipping them with the knowledge and understanding needed to select appropriate assessment tools and methods that best serve the participants' learning and development.

### 2.1 Specific assessment needs for the Next Generation Of Entrepreneurs project

The Next Generation of Entrepreneurs project aims to empower young individuals with the skills and knowledge necessary to embark on their entrepreneurial journeys. In order to assess their progress and development effectively, it is crucial to identify the specific assessment needs that arise from the project's objectives. By understanding these needs, we can design assessments that accurately measure the acquisition of entrepreneurial skills and competencies. In this section, we will explore the desired learning outcomes, performance indicators, and skill development areas that require assessment.

### **2.1.1 Desired Learning Outcomes**

The first step in assessing the needs for the project is to identify the desired learning outcomes. These outcomes serve as benchmarks for measuring the participants' progress and achievement. Some examples of desired learning outcomes include:

- **Entrepreneurial Mindset:** Assessing the participants' ability to think creatively, identify opportunities, take calculated risks, and embrace an entrepreneurial mindset.
- **Business Planning and Strategy:** Evaluating the participants' skills in developing comprehensive business plans, setting strategic goals, and adapting to changing market conditions.
- **Innovation and Problem-Solving:** Assessing the participants' capacity to think critically, generate innovative ideas, and solve complex business problems.
- **Communication and Collaboration:** Measuring the participants' ability to effectively communicate their ideas, collaborate with team members, and build professional networks.
- **Creative Thinking:** Assessing participants' ability to generate innovative business ideas, think outside the box, and propose unique solutions to entrepreneurial challenges.
- **Adaptability and Resilience:** Assessing participants' capacity to adapt to changing business environments, handle setbacks, and demonstrate resilience in the face of challenges.

### **2.1.2 Performance Indicators**

Once the desired learning outcomes are established, the next step is to define performance indicators that align with these outcomes. Performance indicators are measurable criteria used to evaluate participants' progress and achievements in acquiring entrepreneurial skills. These indicators provide tangible evidence of the participants' development and proficiency in various areas. By assessing these indicators, project coordinators and educators can gauge the effectiveness of the program and make informed decisions about participants' growth.

Here are some specific performance indicators that can be considered for the Next Generation of Entrepreneurs project:

- **Business Idea Generation:** Assessments can measure participants' capacity to generate innovative business ideas and identify entrepreneurial opportunities. This can be evaluated through their ability to propose unique value propositions, think creatively, and demonstrate originality in their business concepts.

- **Business Plan Development:** Participants' ability to create comprehensive and well-structured business plans can be assessed. This may include evaluating their understanding of market analysis, competitive positioning, financial projections, and marketing strategies. Assessments can focus on the clarity, feasibility, and innovative aspects of their business plans.
- **Project Management:** Assessing the participants' skills in planning, organizing, and executing entrepreneurial projects, including resource allocation and time management.
- **Communication and Presentation Skills:** Participants' proficiency in communication and presentation can be assessed. This may involve evaluating their clarity of expression, persuasive abilities, and effective delivery of business pitches or presentations. Assessments can focus on their verbal and non-verbal communication skills, engagement with the audience, and ability to convey the value of their entrepreneurial ideas.
- **Teamwork and Collaboration:** Assessments can evaluate participants' collaboration and teamwork skills, as entrepreneurship often involves working with others. This may include their ability to contribute effectively within a team, resolve conflicts, delegate tasks, and leverage diverse perspectives. Evaluations can focus on their active participation, ability to listen and respect others' opinions, and contributions to collective outcomes.
- **Adaptability and Problem-solving:** Participants' capacity to adapt to changing business environments and solve problems can be assessed. This may involve evaluating their ability to analyse complex situations, make informed decisions, and pivot their business strategies when needed. Assessments can focus on their critical thinking skills, creativity in problem-solving, and resilience in overcoming obstacles.
- **Financial Literacy and Business Acumen:** Assessments can measure participants' understanding of financial concepts and their ability to apply business acumen. This may include evaluating their knowledge of financial statements, budgeting, revenue models, cost analysis, and profitability assessment. Assessments can focus on their ability to make sound financial decisions and demonstrate a strong business sense.
- **Digital Literacy and Technological Skills:** In today's digital age, entrepreneurial success often relies on digital literacy and proficiency in using ICT tools. Assessments can evaluate participants' ability to leverage technology for business purposes. This may include their proficiency in using digital platforms for marketing, data analysis, communication, or project management. Assessments

can focus on their comfort level with digital tools and their ability to harness technology for entrepreneurial success.

### **2.1.3 Skill Development Areas**

To ensure a comprehensive assessment, it is important to identify the key skill development areas that require evaluation. These areas may vary based on the project's specific focus, but some common skill development areas for the Next Generation of Entrepreneurs project may include:

- **Idea Generation and Opportunity Recognition:** This skill development area focuses on participants' ability to generate innovative ideas and identify entrepreneurial opportunities. Assessments can evaluate their creativity in generating business concepts, their understanding of market trends, and their capacity to identify viable opportunities in various industries. Participants can be assessed on their ability to conduct market research, identify customer needs, and develop innovative solutions to address those needs.
- **Financial Literacy and Business Planning:** Developing financial literacy and business planning skills is crucial for aspiring entrepreneurs. Assessments in this area can evaluate participants' understanding of financial concepts such as budgeting, financial projections, cash flow management, and investment analysis. Participants can be assessed on their ability to develop realistic financial plans, assess the financial feasibility of their business ideas, and demonstrate an understanding of financial risks and opportunities.
- **Market Research and Analysis:** Entrepreneurs need to understand their target market and consumer preferences to develop successful business strategies. Assessments in this skill development area can evaluate participants' ability to conduct market research, analyse consumer behaviour and market trends, and identify target markets for their business concepts. Participants can be assessed on their knowledge of market analysis techniques, ability to interpret market data, and capacity to identify market opportunities.
- **Digital Literacy and ICT Skills:** In the digital age, entrepreneurs must be proficient in using technology and digital tools to enhance their businesses. Assessments in this area can evaluate participants' digital literacy, their ability to navigate online platforms, and their understanding of digital marketing techniques. Participants can be assessed on their knowledge of social media marketing, website development, data analytics, and other relevant digital skills necessary for entrepreneurial success in the digital era.



- **Leadership and Teamwork:** Successful entrepreneurs often need to lead teams and work collaboratively with others. Assessments in this skill development area can evaluate participants' leadership skills, their ability to motivate and inspire others, and their capacity to effectively delegate tasks and manage team dynamics. Participants can be assessed on their ability to communicate and collaborate with team members, resolve conflicts, and achieve collective goals.
- **Adaptability and Resilience:** Entrepreneurship involves navigating uncertainties and overcoming challenges. Assessments in this area can evaluate participants' adaptability, problem-solving skills, and resilience in the face of obstacles. Participants can be assessed on their ability to pivot their business strategies, adjust to changing market conditions, and demonstrate a positive attitude towards failure and learning from setbacks.
- **Communication and Networking:** Effective communication and networking skills are essential for entrepreneurs to pitch their ideas, negotiate deals, and build partnerships. Assessments in this area can evaluate participants' ability to communicate their business concepts clearly and persuasively, actively listen to others, and build professional relationships. Participants can be assessed on their presentation skills, networking capabilities, and their ability to communicate their value proposition effectively.

By identifying the desired learning outcomes, performance indicators, and skill development areas, we can create assessments that provide a comprehensive evaluation of the participants' progress and achievements in our project “the Next Generation of Entrepreneurs”. These assessments will serve as valuable feedback mechanisms, guiding their learning journey and enabling them to acquire the necessary entrepreneurial skills to thrive in the modern business landscape.

## **2.2 Criteria for selecting appropriate assessment tools for the Next Generation Of Entrepreneurs project**

As said previously, the assessment tools and methods chosen must directly reflect and assess the entrepreneurial skills that have been developed by the participants. Problem-solving, innovation, decision-making, and risk assessment are among the skills that could be emphasized. It is also important for the tools utilized to reflect the digital ICT skills being taught, such as expertise in specific software applications or online platforms because this can ensure that the assessment tools and methods are relevant to the project goals.

### **2.2.1 Applicability to the project target**

When selecting assessment tools, it is important to take into consideration the applicability to the project target. The adolescent years between 15 and 19 are a period of substantial cognitive, emotional, and social development. When selecting assessment tools and methods, it's important to take these developmental stages into account to ensure that the process is suitable, meaningful, and engaging for the participants.

According to Piaget's theory, adolescents in this age group are typically in the formal operational stage of cognitive development, which means that they are capable of abstract thinking, logical reasoning, and understanding complex ideas. However, they also have varying degrees of cognitive maturity and abilities. Assessment tools should thus be designed to stimulate higher-level thinking such as problem-solving, critical thinking, and creativity, while not assuming uniform cognitive abilities across all participants. The tools shouldn't be too simple to lose their interest, or too complex to discourage them.

In this specific age, adolescents also experience significant emotional changes and are developing emotional intelligence during these years. They are learning to manage their emotions, empathize with others, and navigate social complexities. As such, assessment tools should be sensitive to these emotional transitions. For example, assessments should not cause undue stress or anxiety and should foster a positive learning environment. They should also aim to cultivate emotional intelligence, such as through assessments involving teamwork and collaboration, where participants need to understand and manage interpersonal dynamics.

In addition, assessment tools have to be developed appropriately. It's important that they do not require skills or knowledge beyond what can be reasonably expected from adolescents of this age group. For instance, while these participants may have advanced digital skills, they may not have extensive experience with certain specialized software or complex business concepts. The tools should thus be designed to assess the learning outcomes that have been explicitly targeted by the NGOE project, and not presuppose prior knowledge or skills that haven't been taught.

The tools should align with the participants' current educational level. If participants are still in secondary school, it would be inappropriate to use tools that require university-level knowledge or comprehension. Instead, the assessments should be grounded in the curriculum they are familiar with, leveraging on what they are learning in their regular coursework. Moreover, the language and instructions used in the assessments should be clear and understandable for the participants, not using jargon or complex language that might confuse them.

### **2.2.2 Alignment with non-formal pedagogical approach**

As the NGOE project employs an innovative non-formal pedagogical methodology, the assessment tools should similarly be non-traditional. The tools should allow for experiential learning, creativity, flexibility, and real-world application.

Experiential learning is an integral aspect of non-formal education, therefore, project assessment tools should be designed to reflect this. For example, instead of traditional exams, assessments could involve participants applying their knowledge in real-world or simulated scenarios. This could be through role-plays, case studies, or simulations where they need to make decisions or solve problems just like they would in a real entrepreneurial scenario. This kind of an approach not only measures their understanding but also their ability to apply what they have learned.

Non-formal education encourages creativity and innovative thinking, and assessment tools should be adjusted to this goal. Rather than merely testing factual recall, assessments can involve tasks where participants need to come up with original ideas or solutions, such as designing a new product or service, or creating a business plan for a hypothetical start-up. These creative assessments can stimulate student's imagination and foster their entrepreneurial thinking.

Important to consider is the need for project-based assessments. During NGOE activities educators have to focus on giving tasks where participants need to complete a project over a period of time, such as developing a business plan or creating a prototype of a product. This type of assessment can measure a wide range of skills such as research skills, planning, teamwork, problem-solving, creativity, and time management.

In addition, it is important to create space for self and peer evaluations. Self-evaluation can encourage participants to reflect on their own learning and skills, fostering self-awareness and independent learning. Peer evaluation, on the other hand, will develop skills in giving and receiving feedback, fosters teamwork, and enables participants to learn from each other. Both methods can be used in conjunction with other assessments to provide a more holistic evaluation of the participants' skills.

### **2.2.3 Human-Centred Design**

As a problem-solving approach, human-centred design should begin with a deep understanding of the solution that has been designed for the learners. It has to take into consideration their needs, desires, limitations, and environments, designing solutions specifically tailored to them. In the context of educational assessments for the NGOE project, employing a human-centred design approach may involve several key aspects, such as needs and desires, limitations, and accessibility.

Different learners have different needs and desires when it comes to their educational experience. Some may prefer hands-on, interactive learning, while others may thrive in more theoretical, reflective situations. Assessment tools should take these preferences into account, offering a variety of methods to cater to different learning styles. For example, auditory learners might excel in oral presentations or discussions, while visual learners might benefit from creating diagrams or infographics, and kinaesthetic learners might thrive in more hands-on, practical tasks.

In the context of limitations, it will be essential to consider any limitations that participants may have, whether they are cognitive, physical, emotional, or related to access to resources. This is particularly important for participants with special educational needs or disabilities, who may need modified assessments or extra support. For example, participants with dyslexia may require additional time for reading-based tasks, while participants with physical disabilities may need certain adaptations for hands-on tasks. The assessment methods should also consider the resources available to the participants, such as access to technology, and not require resources that some participants may not have.

Another important aspect in employing a human-centred design approach involves accessibility. Accessibility refers to ensuring that all participants, regardless of their abilities or disabilities, can participate fully in the assessment process. It will be needed to provide alternative formats for visually or hearing-impaired participants, allowing extra time for participants with learning difficulties, or provide assistive technology for participants with physical disabilities.

It's also important to consider digital accessibility, given the use of digital tools in the NGOE project. This means ensuring that any online assessments are compatible with assistive technologies, and that all participants have the necessary equipment and internet access to participate. Educators have to think about what online quizzes, virtual presentations, or digital submissions they can include in their assessment, as well as consider that the tools should also be able to be conducted in various settings, whether it's a formal school setting, an informal learning centre, or a home environment.

#### **2.2.4 Use of digital tools**

The use of digital tools in assessment offers several advantages. It allows educators to broaden their range of assessment methods, can enhance engagement, allows for instant feedback, as well as it can be adapted to different learning styles. Moreover, in the case of NGOE project that focus on developing ICT and entrepreneurial skills, using digital tools for assessment can provide an additional opportunity for participants to practice and demonstrate these skills.

For example, online quizzes can be a quick and efficient assessment method. They can be used to test knowledge and understanding of specific topics, as well as they can provide immediate feedback, helping participants identify areas they need to improve. Online quizzes can include

a variety of question types, such as multiple-choice, true/false, or short answer questions. They can also be designed to be interactive and engaging, using multimedia such as images, videos, or interactive diagrams.

Educators must consider the use of digital simulations because they can provide a realistic, immersive environment where participants can apply their entrepreneurial skills in a safe, controlled setting. For instance, a business simulation game could allow participants to run a virtual company, making decisions about product development, marketing, finance, and more. These simulations can offer rich data for assessment, tracking not just the outcomes of the participants' decisions, but also the process they used to make them.

Digital tools that facilitate collaboration can also be used for assessment. Indeed, participants could work together on a project using a shared online document or a project management platform. The collaboration process itself, as well as the final output, can provide important information for assessment, such as the participants' teamwork skills, their contribution to the project, their ability to communicate and negotiate, and their problem-solving skills.

In addition, a Learning Management System (LMS) can serve as a hub for assessments, where teachers can post assignments, participants can submit their work, and both can track progress. A LMS is a software tool used to deliver learning content and other resources to end users. The popularity of LMS in teaching is attributed to the ease that it offers to teachers and educators in delivering study material, monitoring learner participation, and assessing performance. Implementing learning management systems in education allows educators to keep track of a learner's progress in terms of course completion, identification of knowledge gaps, participation and engagement level, and time taken to complete the course.

LMS can be instrumental in the assessment process because it offers detailed tracking of each student's progress through the course. This includes information about which materials they have accessed, how much time they have spent on the course, their grades on assignments, and their participation in discussions or other collaborative activities. This data can help educators identify participants who may be struggling or disengaged and intervene early to provide support. In addition, by analysing performance on assignments or quizzes, teachers can pinpoint areas where participants are struggling and may need additional instruction or resources.

## **Conclusion**

The assessment strategies for the "Next Generation of Entrepreneurs" project must focus on measuring the development and application of entrepreneurial skills among the participants. The desired learning outcomes, performance indicators, and skill development areas serve as a guide for designing these assessments, ensuring they align with the overall objectives of the project.

As seen in this chapter, it is imperative that assessment tools are selected appropriately, as they should accurately measure the progress and achievements of the participants throughout the project. The criteria and considerations discussed above aim to serve as a roadmap for selecting and developing assessment tools that not only measure the participants' progress and achievements but also enhance the overall learning experience in the NGOE project. Through these carefully selected tools, educators can provide a comprehensive, inclusive, and engaging assessment strategy that truly captures the entrepreneurial development of our next generation.

# CHAPTER 3

## SELECTION OF ASSESSMENT TOOLS AND METHODS

### Introduction

The Next Generation of Entrepreneurs project represents a significant opportunity to cultivate entrepreneurial skills among young people. However, it is important to have a comprehensive and reliable assessment strategy that can accurately measure the development of these skills over time. A well-thought-out assessment approach is vital, not only to measure the project's impact but also to ensure continuous improvement and tailor the learning experience to the needs of the participants.

In this chapter, we will discuss the selection of assessment tools and methods for the NGOE project. We will justify the choice of these tools and methods, emphasizing their suitability for evaluating participants' competences and their impact on fostering entrepreneurial skills. We will also describe how these selected tools can be implemented effectively within the NGOE framework.

The criteria for selection will be centred on their alignment with the project's non-formal pedagogical approach, the human-centred design principles, the developmental stages of the target age group, and the use of digital tools in the teaching and learning process. Our focus is on creating an assessment environment that supports the development of entrepreneurship in young learners, considering not only their acquired knowledge but also the necessary skills and attitudes.

### **3.1. The most suitable assessment tools and methods for evaluating young people's entrepreneurial skills.**

The extensive array of assessment tools available in EU countries and globally for measuring entrepreneurship education presents a considerable challenge for the NGOE project in terms of selecting the most suitable and practical tools.

However, our strategic priorities in selecting the tools and methods revolve around the integration of ICTs and Human-Centred Design methodologies, as well as the creation of an innovative, integrated pedagogical methodology that can be adapted to various contexts across different European countries.



### **3.1.1 Types of evaluation**

For the Next Generation of Entrepreneurs project, an optimal evaluation strategy will incorporate both formative and summative evaluation approaches. This dual approach will provide a holistic view of the project's process and outcomes, thereby enabling comprehensive and continuous improvement.

#### **Formative Evaluation**

The formative evaluation will investigate the processes through which the entrepreneurship education programme is planned and actualized. This approach aims to identify potential areas of improvement in the execution of the project. It offers insight into how, why, and under what conditions the programme is effective or needs adjustment.

In the NGOE project, feedback will be gathered from both the educators involved in delivering the programme and all young people participating in it. This feedback will focus on various aspects such as:

- Shift in attitudes about entrepreneurship.
- Knowledge acquisition about the topics covered in the programme.
- Perceived skills improvement related to entrepreneurial competencies.
- Level of satisfaction with the course content and delivery.
- Opinions on the digital tools and learning management systems used during the programme.

This feedback can provide important information on the planning, design, content, and teaching methods utilized in the programme, thereby contributing to its continuous enhancement.

#### **Summative Evaluation**

The summative evaluation, or impact evaluation, will concentrate on the outcomes achieved by the entrepreneurial programme. This evaluation method will primarily assess the level of entrepreneurial skills among participants after completing the programme. It aims to evaluate the programme's effectiveness in fostering entrepreneurial skills and competences.

Summative evaluation requires comparing the post-programme level of entrepreneurial skills with the pre-programme level. This approach can help ascertain the tangible impact of the programme, demonstrating what has been achieved that wouldn't have been possible without the NGOE programme.

Both formative and summative evaluations are important in the assessment process. They serve different purposes and can utilize different tools and methods. Following, let's see some of them.

### **3.2 Assessment tools and methods for NGOE project**

In understanding the selection and application of assessment tools, it is crucial to remember that the distinction between formative and summative assessments depends on their timing and purpose in the learning process.

Assessment tools, in this context, possess the flexibility to be utilized for either formative or summative assessments. Their classification is contingent upon their role in the learning cycle, whether employed during the learning process (formative) or after its conclusion (summative), and their goal, whether to provide feedback that enhances learning or to evaluate and measure learning outcomes.

The upcoming examples will illustrate specific tools for formative and summative evaluations within the context of the NGOE project.

**Following, some tools and methods for formative evaluations could include:**

#### **Peer assessment**

This method involves participants reviewing each other's work. It provides an opportunity for them to learn from one another and offers diverse perspectives on the same work, fostering collaborative learning and critical thinking skills. Peer assessment can facilitate improvement and adjustment during the learning process, aligning with the goals of formative assessment.

For example, peer assessment is a great tool to be used in a team activity. For instance, within the framework of the NGOE project, educators might structure an activity where participants are divided into small groups. Each group is tasked with brainstorming a unique business idea, formulating a basic business model around it, and preparing a presentation to pitch it to their peers.

Upon completion of the presentations, educators can foster a peer review process, encouraging each group to provide constructive feedback on their peers' pitches. Aspects for review can include the viability of the business idea, clarity of the presentation, innovative elements of the proposed business model, and potential challenges that might arise.

This methodology offers several benefits. First, it enables participants to exercise critical evaluation of their peers' work, thereby enhancing their analytical and critical thinking skills, vital elements for entrepreneurship. Secondly, it affords presenting teams the opportunity to receive varied feedback, potentially providing them with feedback for the improvement of their ideas and presentation skills. Lastly, it cultivates a collaborative learning environment

where participants can get knowledge from both their direct experiences and the feedback and perspectives of their peers.

As facilitators, educators play a crucial role in guiding this process, ensuring that feedback is given and received in a respectful and constructive manner, fostering a positive and productive learning environment.

### **Online quizzes and tests**

Online quizzes and tests can be an effective way of evaluating participants' understanding of specific knowledge areas. These could be automatically scored, providing instant feedback to participants, and saving time for educators.

Designed with varying degrees of complexity and encompassing different facets of the course, these quizzes and tests can be administered at strategic intervals throughout the duration of NGOE project.

These online tools can be structured in multiple formats including multiple choice, true or false, fill in the blanks, or short answer questions. Such diversity in question formats not only keeps the participants engaged but also allows educators to assess understanding and knowledge retention from different angles.

Furthermore, these online quizzes and tests can be set up to be automatically scored. This instant grading system offers immediate feedback to participants, allowing them to understand their proficiency levels, recognize areas of strength, and identify topics they may need to review or further study.

The automated scoring system will save valuable time for educators that would otherwise be spent on manual grading. Additionally, it will provide them with clear and immediate insight into the participants' understanding and progress, enabling them to adapt and tailor subsequent content and teaching strategies accordingly.

### **Interactive Assignments**

Interactive assignments can have a significant role within the NGOE project, providing hands-on learning experiences and reinforcing the entrepreneurial skills of the participants. They allow the learners to apply their knowledge in practical situations, thereby enhancing understanding and engagement.

For instance, an assignment could involve participants creating a digital presentation or a basic website for a hypothetical business. This not only tests their understanding of the business concepts taught but also their ability to communicate these concepts effectively. It also gives them a chance to utilize and improve their digital skills, a vital aspect of contemporary entrepreneurship.

Another type of interactive assignment could require the participants to design a social media campaign for their business idea. This will test their creativity, understanding of their target audience, and check their ability to leverage different social media platforms.

In collaborative assignments, tools such as Google Docs or online mind-mapping tools could be used. Participants could be asked to work together on a shared document to create a business plan or brainstorm innovative business ideas. Such an activity will promote real-time collaboration and enable participants to learn from each other's perspectives and ideas.

Feedback on these assignments, provided either by the educators or through self-assessment, allows participants to understand their strengths, identify areas for improvement, and monitor their progress. Thus, interactive assignments will serve as an effective tool for both teaching and assessment in the NGOE project.

### **Discussion Boards**

Discussion boards can stimulate thoughtful conversation and debate on relevant topics. In the context of NGOE project, they can provide a platform for participants to share ideas, ask questions, and engage in thoughtful conversation on various topics related to entrepreneurship.

For example, a discussion board could be set up where participants are asked to post their thoughts on a specific topic, such as identifying opportunities in their local market, or the challenges faced by young entrepreneurs. Other participants can then respond to these posts, creating a dynamic and interactive learning environment. This can stimulate a rich exchange of ideas, perspectives, and experiences, fostering a deeper understanding of the entrepreneurial landscape.

Furthermore, these boards will enable participants to learn from each other, as they can gain alternative perspectives from their peers' posts and responses. This interactive dialogue can foster a sense of community and collaborative learning among the participants.

For educators, discussion boards can serve as a useful assessment tool. By monitoring the discussions, educators can assess the participants' understanding of the topics, their ability to articulate their ideas, and their level of engagement in the learning process. Regular participation in the discussion board can also be encouraged and factored into the overall assessment.

### **Virtual Reality and Augmented Reality activities**

Virtual Reality (VR) and Augmented Reality (AR) activities can be powerful tools in the NGOE project, offering a unique and engaging learning experience that replicates real-world entrepreneurial scenarios.

Specifically, a VR simulation could place participants in a virtual marketplace where they must negotiate deals, manage resources, and make strategic decisions. This immersive experience would not only help them apply the skills and knowledge they have learned but also give them a practical understanding of the dynamics of the business world. On the other hand, AR could be used to augment learning materials, making them interactive and engaging, which can enhance understanding and retention of concepts.

Such innovative digital tools could help to foster entrepreneurial qualities such as decision-making, problem-solving, and creativity. The tasks performed in the VR/AR environment can be assessed in real-time or after completion, offering beneficial suggestions to the learners and helpful data for educators.

Moreover, for educators, VR/AR activities can provide a new way of assessing the progress of participants. These exercises generate data that can be analysed to evaluate perception, skill application, and problem-solving abilities. The data can also be used to identify areas of improvement and customize future learning experiences, making assessment a more dynamic and personalized process.

#### **Tools and methods for summative evaluations could include:**

##### **Project-Based Assessments**

Within the framework of the NGOE project, project-based assessments can provide an opportunity for young people to demonstrate their entrepreneurial skills in a practical, real-world context.

For example, if we consider a project where participants are tasked to develop a business plan for a social enterprise, based on the knowledge and skills they have acquired, they will have to conduct market research, identify a unique social problem, devise innovative solutions, develop a financial plan, and create a marketing strategy. This will allow them to apply their learning directly, fostering essential entrepreneurial skills such as creativity, problem-solving, and initiative.

For educators, project-based assessments are a good tool to measure the effective application of learned entrepreneurial skills. It enables the assessment of a range of competencies including innovation, leadership, decision making, resilience, and communication skills, among others.

In addition, these projects provide an opportunity for feedback and reflection, which can inform future learning experiences. By assessing the outcome of the project, educators can identify areas of the program that may need improvement or further emphasis.

## **Digital Simulations**

Digital simulations offer a safe and engaging platform for participants to practice and demonstrate their entrepreneurial skills. They can provide an engaging and interactive learning experience and generate rich data for assessment.

Participants could be engaged with a business simulation software where they are given the responsibility of managing a virtual company. They would have to make informed decisions about aspects like product development, pricing, marketing, and hiring. The digital simulation replicates the challenges and prospects one would encounter in a real-world entrepreneurial scenario, making the learning experience extremely important.

In this controlled environment, participants can learn from both their errors and achievements, thereby developing a more profound understanding of how businesses operate. They are given the opportunity to innovate, take calculated risks, and directly observe the repercussions of their decisions. All these experiences are integral to nurturing an entrepreneurial mindset.

For the educators involved in the NGOE project, these digital simulations will be important source of data that could be used to evaluate the learning outcomes of the participants. The use of simulations will allow them to assess a wide range of skills such as strategic thinking, problem-solving abilities, financial literacy, decision-making capacity, and teamwork skills.

In addition, if used at the end of the course to assess participants' overall ability to apply the skills they have learned, digital simulations can serve as effective summative assessment tools. They provide comprehensive data on participants' performance, which can be used to assign grades or levels of proficiency.

## **Presentations**

Participants can be asked to present a final project or their entrepreneurial idea. Presentations will not only provide an opportunity for them to exhibit their understanding of entrepreneurship concepts and their ability to apply these to a practical business idea, but they also help in assessing vital interpersonal skills. These include clear communication, persuasiveness, and the ability to articulate complex ideas succinctly. This exercise also promotes creativity, initiative, and problem-solving abilities as they develop a unique business proposal and strategy.

For educators, these presentations provide a comprehensive look at the participants' knowledge and understanding, as well as their soft skills. It allows them to assess a variety of competencies including business understanding, communication skills, problem-solving abilities, creativity, and initiative.

## **Self-Evaluations**

While typically associated with formative assessment, self-evaluations can also be used in summative assessment. Participants can be asked to reflect on their learning journey at the end of the course, providing insights into their overall learning experience. At the end of the programme, educators can ask participants to complete a self-evaluation where they review and reflect on their growth and development throughout the course. This could involve participants documenting their understanding of entrepreneurship, the skills they have developed, and the areas they feel need improvement. This method encourages introspection and enhances self-awareness, key elements in becoming a successful entrepreneur.

However, while self-evaluations provide significant perspectives into participants' perceived growth, they are subjective by nature. Therefore, these assessments are most effective when paired with other tools such as project-based assessments or digital simulations that provide a more objective measure of the skills and knowledge.

All the tools presented above provide an extensive and varied approach to measuring the impact of the NGOE project on its participants and young people in general. These tools are designed to assess a broad spectrum of skills, competencies, and attitudes that are crucial to fostering an entrepreneurial mindset. This includes but is not limited to critical thinking, problem-solving, creativity, collaboration, digital literacy, self-awareness, and reflection.

Peer assessment and discussion boards cultivate communication skills and foster a collaborative environment. Interactive assignments and digital simulations provide a practical, hands-on context for participants to develop and apply their problem-solving abilities and creativity. Presentations, project-based assessments, and VR/AR activities evaluate participants' ability to apply learned concepts in real-world or near-real-world settings, showcasing their initiative and strategic thinking. In addition, self-evaluations emphasize the importance of self-awareness and reflection in personal growth and continuous learning.

## **Conclusion**

The integration of effective and appropriate assessment tools is an important aspect of the NGOE project's success. These tools, ranging from peer assessments to digital simulations, offer diverse ways to measure the development of entrepreneurial skills, competences, and attitudes among the participants.

As seen in this chapter, the process for selecting appropriate tools will be rooted in their compatibility with the project's non-formal teaching strategies, human-centred design concepts, and the application of digital technologies in teaching and learning. The primary objective is to establish an assessment framework that encourages the growth of entrepreneurial capabilities in young learners, considering not just their gained knowledge, but also the needed skills and attitudes.



# CHAPTER 4

## PILOT TESTING AND FEEDBACK

### Introduction

*This chapter focuses on the pilot testing process and analysis of feedback for the selected assessment tools and methods used in the context of youth work.*

The part of the chapter begins by outlining the pilot testing process conducted to assess the effectiveness of the chosen assessment tools and methods. It provides a step-by-step description of the planning, participant selection, preparation, training, execution, monitoring, and analysis stages of the pilot test. The chapter highlights the importance of a well-designed pilot test to ensure the reliability and validity of the assessment tools and methods. It explores the methodology used, the sample size, and the specific criteria used to select participants. **Furthermore, it details how the infrastructure and resources were set up and explains the training provided to participants to ensure their understanding and proficiency in utilizing the assessment tools and methods.**

The second part then delves into the analysis of feedback received from both youth workers and young people who participated in the pilot testing. The chapter highlights key themes and findings derived from the feedback analysis, including strengths and weaknesses of the assessment tools and methods, areas for improvement, and suggestions for enhancing their effectiveness.

Overall, this chapter provides a comprehensive overview of the pilot testing process and the subsequent analysis of feedback received from youth workers and young people. It offers valuable insights into the suitability and effectiveness of the assessment tools and methods, paving the way for their refinement and enhancement based on the input received from the target audience.

### **4.1. Description of the pilot testing process for the selected assessment tools and methods**

#### **4.1.1 Description of the pilot testing process**

Pilot testing refers to the process of conducting a preliminary trial or test of a product, service, or system before its full-scale implementation or launch. It allows organizations to evaluate and refine their offerings, identify potential issues or areas for improvement, and gather feedback from a small group of users or participants. Pilot testing is the process of assessing

instructional materials with end users in the actual learning environment, prior to the implementation of the instruction, and provides empirical support regarding the efficacy of the proposed instruction. Thus, subsequent decisions can be made from an informed position.

Pilot testing affords developers the opportunity to try out the instruction before its implementation in the actual environment. Much like purchasing a car, a test drive is a mandatory first step before purchasing, or implementing, instruction. The evaluation of a methodology, a working procedure or other learning means is based on a formative evaluation process. According to Dick and Carey (1996) formative evaluation has the following three stages:

- One-to-one evaluation: the evaluator reviews the instruction with one learner who is representative of the target audience. This step is meant to inform developers of any structural or logistical problems learners may have with the instruction.
- Small group try-out: the evaluator reviews the instruction with a small group of 6–8 members from the end-user population. The focus here is on how the learners use the materials, and how much help is requested.
- Field trial: the instructional materials are tried out with an entire class that is representative of the learner population. The field trial, in practice, is commonly referred to by many names in the literature of performance and technology, among them: pilot test, alpha test, usability analysis, beta test, and field test.

A pilot test of instruction serves as a final stage of formative evaluation and presents final instruction (including all components) to a representative body of end users in the actual learning environment. The purpose of pilot testing instruction in a defined context with actual learners is to inform the decision-makers of a project about the result of this trial presentation of the product and to recommend whether the instruction should be adopted as is, adopted with revisions, or abandoned without implementation. Pilot test results often yield one of three recommendations: 1) implement, 2) implement with revisions, and 3) do not implement, as informed by the data gathered during the pilot test. The process typically involves the following steps:

**1. Planning:** The organization defines the objectives of the pilot test, determines the target audience or participants, and sets specific goals to measure the success of the test. A detailed plan is created, outlining the scope, timeline, resources, and methodology for the pilot. Define the Purpose, clearly identify the goals and objectives of the pilot test. *What do you hope to achieve? What specific aspects are you testing?* Having a clear purpose will guide your entire pilot test process.

**2. Selection of participants:** A representative sample of participants is chosen based on predefined criteria, such as demographics, expertise, or specific requirements. This selection ensures that the pilot test captures a diverse range of perspectives and experiences. Choose a representative group of participants who match your target audience.

**3. Preparation:** The necessary infrastructure, resources, and tools are set up to support the pilot test. This may include creating prototypes, configuring software or hardware systems, or preparing test environments.

**4. Training:** If required, participants are provided with training sessions to familiarize them with the product or service being tested, its features, and any specific tasks they need to perform. Training helps participants understand the purpose of the pilot test and ensures they can provide meaningful feedback.

**5. Execution:** The pilot test is conducted according to the predefined plan. Participants engage with the product or service, perform specified tasks, and provide feedback through various means, such as surveys, interviews, or observation. Data is collected systematically to capture insights, including both quantitative and qualitative information.

**6. Monitoring and analysis:** Throughout the pilot test, the organization closely monitors the participants' interactions and collects relevant data. This data is then analysed to identify patterns, trends, and potential issues. Statistical analysis, qualitative coding, and other evaluation techniques may be used to extract meaningful insights. Throughout the pilot test, closely monitor the participants' progress and offer any necessary support or clarifications. Address any issues or difficulties they encounter promptly. Document any observations or feedback for later analysis.

**7. Feedback and iteration:** Based on the findings from the pilot test, the organization gathers feedback from participants and stakeholders. This feedback is carefully reviewed and used to refine the product, service, or system. Necessary adjustments, improvements, or bug fixes are made to address identified issues or enhance the user experience.

**8. Evaluation and decision-making:** The organization assesses the success of the pilot test based on the predefined goals and criteria. This evaluation helps determine whether the product, service, or system is ready for full-scale implementation, requires further refinement, or necessitates additional pilot testing cycles. Identify strengths, weaknesses, and areas for improvement. This evaluation will inform decisions about further development or implementation.

By following this iterative process, organizations can gain valuable insights, validate assumptions, and mitigate risks before introducing their offerings to a wider audience or market. Pilot testing serves as a crucial step in ensuring a successful and well-received launch.

#### **4.1.2 Description of the pilot testing process for the selected assessment tools and methods**

In order to understand the selection and application of assessment tools, the previous chapters have reviewed the distinctions between formative and summative assessments,

which depend on their timing and purpose in the learning process. The assessment tools detailed above are characterised by the flexibility to be used for either formative or summative assessments. Their classification depends on their role in the learning cycle, whether they are used during the learning process (formative) or after its completion (summative), and their ultimate purpose, either to provide feedback to improve learning or to assess and measure learning outcomes.

Examples that illustrated specific tools for formative and summative assessments in the context of the NGOE project were *peer assessment, online quizzes and tests, interactive assignments, discussion boards, virtual reality and augmented Reality activities, project-based assessments, digital simulations, presentations, self-evaluations*. This stage of the chapter will present the pilot testing process of each of the selected assessments tools and methods analysed above through the core indicators.

### **Peer assessment**

To conduct a pilot test for the peer assessment tool in the context of the NGOE project, follow these steps: firstly, *define objectives* - Determine what specific aspects of the peer assessment tool you want to evaluate, such as its effectiveness in fostering critical thinking skills, promoting collaborative learning, and providing actionable feedback. Select a group of participants who are representative of the target audience for the peer assessment tool.

*Design Assessment Criteria:* Develop clear and specific assessment criteria that participants will use to evaluate their peers' work. The criteria should align with the goals of the activity and provide a comprehensive evaluation of the business pitches. Consider aspects such as the feasibility of the idea, clarity of the presentation, innovation in the business model, and identification of potential challenges. *Create Assessment Guidelines:* Prepare detailed guidelines or rubrics that participants can follow when conducting the peer assessments. These guidelines should explain how to assess each criterion, provide examples of constructive feedback, and emphasize the importance of respectful and constructive communication.

*Conduct the Pilot Test:* Organize the activity where participants form small groups, brainstorm business ideas, create presentations, and pitch their ideas to their peers. Facilitate the process and encourage active engagement and participation. After the presentations, distribute the assessment guidelines and ask participants to evaluate the presentations of their peers using the established criteria. Finally, gather from participants regarding their experience with the peer assessment process. This could be done through surveys, interviews, or group discussions. Ask participants about the clarity of the assessment criteria, the effectiveness of the guidelines, and their overall perception of the peer assessment tool. Also, gather feedback on any challenges or suggestions for improvement. Assess whether the peer assessment tool effectively achieved the desired outcomes, such as fostering critical thinking and collaborative learning. Identify strengths and weaknesses of the tool and areas that need improvement.

## **Online Quizzes and test**

Determine what specific aspects of the online quizzes and tests you want to evaluate, such as their effectiveness in assessing understanding, providing immediate feedback, and saving time. Depending on the specifics of the participants, prepare the content of the questionnaire/test: set of questions for the questionnaire/test covering various relevant knowledge areas. Create questions in different formats. For example:

- Multiple-choice questions: Assess participants' knowledge and comprehension.
- True or false questions: Test participants' ability to distinguish between correct and incorrect statements.
- Fill in the blank's questions: Evaluate participants' ability to recall specific information.
- Short answer questions: Require participants to provide brief explanations or examples.

Choose a suitable online assessment platform or learning management system (LMS) that supports the required question formats and automated scoring. Set up the quizzes/tests on the platform, ensuring that the questions are correctly formatted, and the scoring system is properly configured. Share the access details of the online assessment platform with the participants and provide clear instructions on how to access and complete the quizzes/tests. Specify the timeframe within which participants should complete the assessments. Monitor the process to address any technical issues or questions participants may have.

Once the participants have completed the quizzes/tests, collect the data from the online assessment platform. Analyse the results to evaluate the effectiveness of the method. Consider metrics such as participant performance, completion rates, time taken to complete the assessments, and participant feedback. Ensure that the method remains engaging, effective, and aligned with the learning objectives.

## **Interactive assignments**

The aim is to assess participants' ability to apply their knowledge in practical situations, enhance understanding, and promote engagement. Design Assignments: Develop interactive assignments that align with the learning objectives of the NGOE project. For example:

- Assignment 1: Create a digital presentation or a basic website for a hypothetical business. Participants should demonstrate their understanding of business concepts and effectively communicate them through the presentation or website.
- Assignment 2: Design a social media campaign for their business idea. Participants need to showcase their creativity, understanding of the target audience, and ability to leverage different social media platforms.

Clearly communicate the instructions for each assignment, including specific requirements, deliverables, and deadlines. Provide participants with the necessary resources, such as templates, guidelines, or access to relevant tools like design software or social media platforms. Monitor the progress and address any questions or issues that arise.

**Evaluate Assignments:** Assess the completed assignments based on predefined criteria. Consider factors such as the quality of the digital presentation or website, creativity and effectiveness of the social media campaign, adherence to instructions, and overall demonstration of entrepreneurial skills. Ask participants about their level of engagement, the practicality of the assignments, the usefulness of the feedback received, and their perception of the assignments' impact on their learning.

### **Discussion Boards**

Determine the specific aspects you want to evaluate, such as the quality of discussions, depth of participants' contributions, and the sense of community built among participants. **Set Up Discussion Boards:** Choose a suitable online platform or learning management system that supports discussion board functionality (such as Moodle, Canvas, Blackboard, Google Classroom, Edmodo, Schoology). Set up discussion boards for specific topics related to entrepreneurship, aligning with the learning objectives of the NGOE project. For example:

- Topic 1: Identifying opportunities in the local market.
- Topic 2: Challenges faced by young entrepreneurs.

Explain the expected level of engagement, the importance of respectful and constructive communication, and any specific instructions for posting and responding to others' contributions. Encourage participants to actively participate and share their perspectives, experiences, and questions. Facilitate the discussions by asking probing questions, providing additional insights, or redirecting the conversation if necessary.

### **Virtual Reality and Augmented Reality activities**

Determine specific aspects you want to evaluate, such as the level of immersion, application of skills and knowledge, and the quality of assessment data generated. Choose a group of participants who are interested in entrepreneurship and have access to VR and AR technologies. Ensure participants are willing to actively engage in the pilot test and have the necessary hardware and software requirements to participate in VR and AR activities.

**Choose VR/AR Activities:** Select VR and AR activities that align with the learning objectives of the NGOE project. For example:

- VR: A negotiation simulation where participants interact with virtual characters and make business deals.

- AR: Augment learning materials such as business models, market data, or financial statements with interactive elements that participants can explore. Set up the required VR and AR equipment and ensure that the software applications or platforms are properly installed and functioning. Test the activities to ensure they run smoothly and provide a seamless user experience.

Clearly communicate the purpose and guidelines for participating in the VR and AR activities. Explain how to use the VR/AR equipment, navigate the virtual environments, and interact with the simulations. Provide instructions for completing the assigned tasks and any specific objectives or challenges to be addressed. Monitor participants during their engagement with the VR and AR activities to address any technical issues or questions they may have.

Assess participant performance based on predefined criteria for the VR and AR activities. Consider factors such as decision-making, problem-solving, creativity, and the application of entrepreneurial skills. Use the assessment data generated by the VR and AR activities to evaluate participants' progress and identify areas of improvement. Analyse the results of the pilot test, including participant performance data and feedback. Evaluate the effectiveness of the VR and AR activities in providing a unique and engaging learning experience, fostering entrepreneurial qualities, and generating meaningful assessment data. Identify strengths, weaknesses, and opportunities for improvement.

### **Project-Based Assessments**

Determine specific aspects you want to evaluate, such as the application of learned skills, creativity, problem-solving, leadership, and communication. Develop a project that aligns with the learning objectives of the NGOE project and requires participants to apply their entrepreneurial skills. For example:

- Project: Develop a business plan for a social enterprise.
- Tasks: Conduct market research, identify a unique social problem, devise innovative solutions, develop a financial plan, and create a marketing strategy.

Emphasize the importance of creativity, problem-solving, and effective communication throughout the project. Support participants throughout the project by offering guidance, resources, and opportunities for feedback. Act as a facilitator and provide assistance when needed, while also encouraging participants to take ownership and initiative in their work. Consider the quality of the business plan, the feasibility of the proposed social enterprise, and the depth of analysis and innovation demonstrated. Ask participants about the applicability of their learned skills, the overall effectiveness of the project, and the level of engagement throughout the process.

## **Digital Simulations**

Determine specific aspects you want to evaluate, such as participants' ability to make informed decisions, strategic thinking, problem-solving abilities, financial literacy, decision-making capacity, and teamwork skills. Choose Simulation Software: Select a suitable business simulation software that offers a realistic and immersive experience. Some examples of suitable simulation software are:

- **SimVenture:** SimVenture is a comprehensive business simulation software that allows participants to run their own virtual businesses. It covers various aspects such as product development, marketing, finance, and operations. Participants make strategic decisions and observe the outcomes in real-time.
- **Virtual Business:** Virtual Business is a series of online simulations that cover different areas of entrepreneurship, including retail, marketing, management, and personal finance. Participants navigate virtual business scenarios, make decisions, and experience the consequences of their actions.
- **Marketplace Live:** Marketplace Live is a simulation platform that simulates a competitive marketplace environment. Participants manage their virtual companies and make decisions related to pricing, product development, marketing, and distribution. They compete against other virtual companies and experience the dynamics of the business world.

Explain the goals of the simulations, the scenarios participants will encounter, and the skills they are expected to develop and demonstrate. Provide guidelines on how to navigate the simulation software and make informed decisions. Encourage participants to apply their entrepreneurial skills, take calculated risks, and observe the consequences of their decisions. Foster an interactive and collaborative learning environment where participants can learn from both their successes and failures.

Evaluate participants' performance in the digital simulations based on predefined criteria and learning objectives. Analyse the data generated by the simulations, such as financial reports, market performance, and decision outcomes. Assess participants' strategic thinking, problem-solving abilities, financial literacy, decision-making capacity, and teamwork skills. By utilizing suitable business simulation software, providing clear instructions, facilitating the simulations, and evaluating participant performance, you can assess the effectiveness of digital simulations in providing an engaging and interactive learning experience while fostering entrepreneurial skills within the context of the NGOE project.

## **Presentation**

Define Objectives-to evaluate the effectiveness of the discussion boards method in providing participants with an opportunity to exhibit their understanding of entrepreneurship concepts, apply them to a practical business idea, and assess vital interpersonal skills such as clear



communication, persuasiveness, and articulation of complex ideas. Determine the types of presentations participants will deliver. Some examples include:

- **Final Project Presentation:** Participants can present their final projects, showcasing their understanding of entrepreneurship concepts, application of these concepts in a practical business idea, and the development of a comprehensive strategy. They can present their project in various formats, such as a pitch deck, PowerPoint presentation, or a multimedia presentation.
- **Entrepreneurial Idea Pitch:** Participants can pitch their entrepreneurial ideas, focusing on the problem they aim to solve, their unique value proposition, market analysis, and their proposed business model. They can present their idea using visual aids, storytelling techniques, or interactive demonstrations.

Develop clear assessment criteria that align with the objectives of the presentations. Consider aspects such as the participants' understanding of entrepreneurship concepts, creativity and innovation in their ideas, clarity and persuasiveness of their communication, problem-solving abilities demonstrated in their strategies, and their overall presentation skills. Provide participants with detailed guidelines on how to prepare and deliver their presentations. Include instructions on the format, time limits, visual aids, and any specific requirements. Emphasize the importance of clear communication, persuasiveness, and the ability to articulate complex ideas succinctly. Provide examples or templates to guide participants in structuring their presentations effectively.

Create a platform, such as an online discussion board or video conferencing tool, where participants can deliver their presentations. Facilitate the presentations by providing a structured schedule and ensuring a supportive and respectful environment. Encourage participants to engage with each other's presentations, ask questions, and provide feedback. Consider the content, delivery, clarity, persuasiveness, creativity, problem-solving abilities, and overall presentation skills. Use a rubric or scoring system to provide objective feedback and assessment.

### **Self-Evaluation**

The objective is to evaluate the effectiveness of self-evaluations in providing participants with an opportunity to reflect on their learning journey, gain insights into their overall growth and development, and enhance self-awareness. Determine specific aspects you want to evaluate, such as participants' ability to document their understanding of entrepreneurship, identify the skills they have developed, and recognize areas for improvement. Develop a structured self-evaluation questionnaire or template that prompts participants to reflect on their growth and development throughout the course. Include sections or prompts related to their understanding of entrepreneurship concepts, the skills they have acquired or improved, and the areas they feel need further development. Provide space for participants to elaborate on

their thoughts and experiences. **Some examples of self-reflecting questions that participants can be asked to answer in a self-evaluation:**

*Understanding of Entrepreneurship: How would you define entrepreneurship based on your learning in this course/program? What key concepts or principles of entrepreneurship have you grasped during the course/program? Are there any specific areas or topics within entrepreneurship that you feel you need to further explore or understand?*

*Skills Development: What specific skills related to entrepreneurship do you feel you have acquired or improved upon? How have these skills contributed to your overall growth and development as an entrepreneur? Are there any skills that you believe are particularly important for your entrepreneurial journey that you would like to further develop?*

*Areas for Improvement: Are there any challenges or obstacles that you have encountered during the course/program that you would like to address or overcome? How do you plan to work on these areas of improvement moving forward?*

*Application of Learning: How have you applied the concepts and knowledge gained in this course/program to real-life entrepreneurial situations or projects? How do you plan to continue applying your learning in future entrepreneurial endeavours?*

*Personal Growth and Reflection: Reflecting on your overall learning journey, what personal growth or transformation have you experienced as a result of this course/program? Are there any significant insights or realizations that you have gained about yourself as an entrepreneur or individual? How do you plan to continue fostering your personal growth and development in the field of entrepreneurship?*

These questions can serve as a starting point for participants to reflect on their learning journey, evaluate their progress, and gain insights into their growth and development. Clearly communicate the purpose and instructions for completing the self-evaluation. Explain the importance of self-reflection, self-awareness, and the role of the self-evaluation in assessing their learning journey. Provide guidelines on how to approach each section or prompt, encouraging participants to be honest, introspective, and specific in their responses. Allow participants sufficient time to reflect on their learning journey and provide thoughtful responses. Remind participants of the importance of their feedback and the role it plays in the assessment process.

## **4.2. Analysis of feedback from youth workers and young people on the effectiveness of the assessment tools and methods**

### **4.2.1 The importance of effective feedback**

Next, we collected feedback from youth workers who are used to this kind of thing and have experience working with young people in entrepreneurship. Receiving feedback after a pilot test process is crucial for several reasons. Feedback allows you to evaluate the performance, effectiveness, and feasibility of your pilot test. It provides insights into what worked well and what needs improvement. By analysing the feedback, you can identify areas of success and areas that require further refinement. This information is invaluable in making informed decisions on how to modify and enhance the tools and methods.

Pilot tests often involve making certain assumptions about user needs, preferences, and expectations. Feedback helps validate these assumptions by providing real-world input from the target audience. It helps you understand whether the pilot test successfully meets the needs of the users and if it aligns with their expectations. This validation ensures that you are on the right track before moving forward with a larger-scale implementation.

Feedback puts the focus on the users and their experiences. It provides you with direct insights into their perspectives, preferences, and challenges encountered. The user-centric approach helps you understand their pain points and allows you to address them effectively. Incorporating user feedback leads to the development of more user-friendly and customer-oriented solutions. By collecting feedback, you can identify areas where adjustments are needed, prioritize them, and incorporate the necessary changes into the next stages. Pilot tests are often conducted to mitigate risks associated with implementing new processes, technologies, or products. Feedback helps identify potential risks and challenges early on, allowing you to proactively address them. By addressing these concerns during the pilot test stage, you can minimize the risk of encountering larger issues during full-scale implementation.

Feedback enables effective communication and collaboration with stakeholders. It provides a platform for stakeholders to voice their opinions, concerns, and suggestions. By actively involving stakeholders in the feedback process, you can ensure their perspectives are considered and their expectations are met. This alignment fosters better decision-making, improves buy-in, and increases the overall success of the pilot test.

In summary, receiving feedback is essential for evaluating performance, validating assumptions, adopting a user-centric approach, supporting iterative development, aligning stakeholders, and mitigating risks. It enables continuous improvement, enhances user satisfaction, and increases the chances of successful implementation.

Effective feedback should be specific, actionable, constructive, and focused on helping the recipient improve. It should be respectful and considerate of the recipient's efforts while providing valuable insights for future enhancements. The structure typically follows a clear and constructive format:

- **Positive Feedback:** Start with highlighting the positive aspects and successes. Acknowledge the strengths, achievements. This positive reinforcement creates a balanced and encouraging tone.
- **Specific Areas for Improvement:** Identify the areas that need improvement or further development. Focus on actionable suggestions rather than general criticisms. This allows the recipient to understand the specific aspects that require attention and provides a basis for improvement.
- **Constructive Criticism:** Present any concerns, issues, or potential risks associated. However, it's important to maintain a constructive tone and offer suggestions for overcoming these challenges. Provide relevant information, data, or user feedback to support your concerns. This helps the recipient understand the significance of the issues and the rationale behind the suggestions.
- **Recommendations:** Offer actionable recommendations and suggestions for addressing the identified areas of improvement and challenges. Provide practical solutions or alternative approaches that could enhance the pilot test's effectiveness, feasibility, or user experience. Consider the resources, constraints, and limitations of the project while making recommendations.

#### **4.2.2 Analysis of feedback from youth workers and young people on the effectiveness of the assessment tools and methods**

The feedback collection procedure followed the above steps and stages. We will look at the methods in turn in terms of what is good, what needs improvement and what is recommended.

TOOLS AND METHODS	POSITIVE FEEDBACK	SPECIFIC AREAS FOR IMPROVEMENT	RECOMMENDATIONS
<b>PEER ASSESSMENT</b>	<ul style="list-style-type: none"> <li>• Promotes collaborative learning. This collaborative approach fosters a sense of shared learning and allows for diverse perspectives and insights.</li> <li>• Peer assessment requires participants to critically evaluate the work of their peers, which enhances their analytical and critical thinking abilities.</li> <li>• Offers presenting teams the opportunity to receive feedback from multiple sources.</li> <li>• Contributes to creating a collaborative learning environment where participants can learn from both their own experiences and the feedback and perspectives of their peers.</li> </ul>	<ul style="list-style-type: none"> <li>• Addressing potential bias: Participants may have biases or preconceptions that could influence their assessments.</li> <li>• Educators should promote objectivity and fairness in the assessment process, encouraging participants to evaluate based on the established criteria rather than personal opinions or biases.</li> <li>• As participants engage in the peer assessment process, conflicts or disagreements may arise. Educators should be prepared to manage and mediate any conflicts, ensuring a respectful and productive learning environment for all participants.</li> </ul>	<ul style="list-style-type: none"> <li>• Before implementing the peer assessment method, offer training or workshops to educate participants on how to give and receive constructive feedback.</li> <li>• Develop clear and specific assessment criteria that align with the objectives of the activity.</li> <li>• Incorporate self-reflection activities as part of the peer assessment method</li> </ul>

<p><b>ONLINE QUIZZES AND TESTS</b></p>	<ul style="list-style-type: none"> <li>• Online quizzes and tests offer an efficient way to evaluate participants' understanding of specific knowledge areas. The automatic scoring feature saves time and provides instant feedback to participants, allowing for timely assessment and intervention.</li> <li>• The use of multiple question formats, such as multiple choice, true or false, fill in the blanks, and short answer questions, provides variety and engages participants in different ways. This variety helps assess understanding and knowledge retention from various perspectives.</li> <li>• The interactive nature of online quizzes and tests keeps participants engaged in the learning process.</li> </ul>	<ul style="list-style-type: none"> <li>• Online quizzes and tests may have limitations in assessing certain types of skills or complex knowledge areas that require in-depth understanding or practical application. It is important to consider additional assessment methods to complement the online quizzes and tests and ensure a comprehensive evaluation.</li> <li>• Online assessments may present opportunities for participants to engage in dishonest practices, such as seeking external help or collaborating with others during the test.</li> <li>• While automated scoring saves time, it may not capture the full range of participant knowledge and understanding, especially in subjective or open-ended questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Combine online quizzes and tests with additional assessment methods, such as project-based assignments, group discussions, or presentations, to evaluate a broader range of skills and knowledge. This will provide a more comprehensive assessment of participants' learning outcomes.</li> <li>• To address the vulnerability of cheating, incorporate measures like time restrictions, question randomization, or online proctoring tools.</li> <li>• Introduce open-ended questions in the online quizzes and tests to allow participants to demonstrate their critical thinking and application skills.</li> </ul>
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<p><b>INTERACTIVE ASSIGNMENTS</b></p>	<ul style="list-style-type: none"> <li>• Interactive assignments provide participants with practical, hands-on learning opportunities. By engaging in activities such as creating digital presentations or designing social media campaigns, participants can apply their knowledge in real-world scenarios, enhancing their understanding and skills.</li> <li>• The interactive nature of these assignments promotes engagement and motivation among participants.</li> <li>• Real-time collaboration: Collaborative assignments using tools like Google Docs or online mind-mapping tools encourage real-time collaboration among participants.</li> </ul>	<ul style="list-style-type: none"> <li>• To ensure participants fully understand the requirements and expectations of each interactive assignment, it is important to provide clear instructions and guidelines. Ambiguity in assignment instructions may lead to confusion or suboptimal outcomes.</li> <li>• Clear connections should be established between the skills being developed through the assignments and the desired outcomes of the project.</li> <li>• Interactive assignments may require participants to have access to specific tools, software, or technology platforms. Ensuring that all participants have equal access to these resources is crucial to avoid inequity and ensure a fair assessment process.</li> </ul>	<ul style="list-style-type: none"> <li>• Clearly communicate the objectives, requirements, and expectations for each interactive assignment. This will help participants understand what is expected of them and enable them to focus their efforts effectively.</li> <li>• Offer participants access to resources, tutorials, or training sessions that can help them acquire or enhance the necessary skills for completing the interactive assignments successfully.</li> <li>• Encourage participants to engage in reflection and self-assessment after completing each interactive assignment. Provide prompts or questions that prompt participants to evaluate their performance, identify areas for improvement, and</li> </ul>
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			set goals for their continued development.
<b>DISCUSSION BOARDS</b>	<ul style="list-style-type: none"> <li>• Discussion boards provide a platform for participants to engage in thoughtful conversation and debate on relevant topics. This encourages critical thinking, analysis, and the exchange of ideas among participants, fostering a deeper understanding of entrepreneurship.</li> <li>• The use of discussion boards creates an interactive learning environment where participants can share ideas, ask questions, and respond to each other's posts. This fosters engagement, collaboration, and the development of a sense of community among participants.</li> <li>• By monitoring the discussions, educators can</li> </ul>	<ul style="list-style-type: none"> <li>• Discussion boards require active facilitation and guidance from educators to ensure productive and meaningful discussions. Without proper facilitation, discussions may become disorganized, lack depth, or veer off-topic. Educators should actively participate, provide prompts, and steer the conversation when necessary.</li> <li>• Some participants may be hesitant to participate or lack confidence in expressing their ideas on the discussion board. It is important to create a supportive and inclusive environment that encourages all participants to actively engage in the discussions.</li> </ul>	<ul style="list-style-type: none"> <li>• Clearly communicate the purpose of the discussions, expected levels of participation, and guidelines for respectful and constructive communication.</li> <li>• Encourage meaningful participation, ask probing questions, provide feedback, and steer the conversation to maintain focus and depth.</li> <li>• Create a safe and inclusive environment where participants feel comfortable expressing their ideas and engaging in discussions.</li> <li>• Prompt participants to reflect on the discussions and synthesize key points and takeaways.</li> </ul>



	<p>assess participants' comprehension of the topics, their ability to articulate their ideas effectively, and their level of engagement in the learning process.</p>	<ul style="list-style-type: none"> <li>Balancing participation and evaluation: strike a balance between encouraging active participation and evaluating the quality of contributions.</li> </ul>	
<b>VIRTUAL REALITY AND AUGMENTED REALITY ACTIVITIES</b>	<ul style="list-style-type: none"> <li>VR and AR activities provide participants with an immersive learning experience that replicates real-world entrepreneurial scenarios. This hands-on approach enhances engagement, allowing participants to apply their skills and knowledge in a realistic and interactive environment.</li> <li>VR simulations can place participants in virtual marketplaces, allowing them to negotiate deals, make strategic decisions, and manage resources.</li> <li>This interactive element enhances participants'</li> </ul>	<ul style="list-style-type: none"> <li>VR and AR activities require access to specific technology and equipment. Ensuring that all participants have access to the necessary devices or resources may present challenges, particularly in environments with limited technological infrastructure or resources.</li> <li>Implementing VR and AR activities may involve significant costs, including the development of software or content and the acquisition of appropriate hardware. Scaling up these activities to accommodate larger groups of participants may require additional</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize accessibility and equitable access to VR and AR activities.</li> <li>Consider phased implementation, pilot testing, or utilizing existing resources to maximize cost-effectiveness and reach a larger number of participants.</li> <li>Provide participants with adequate training and support to familiarize them with the VR/AR technology and software. Offer tutorials, workshops, or user guides to minimize the learning curve and address any technical difficulties that</li> </ul>

	<p>understanding and retention of concepts, as they can visualize and interact with the content in a more dynamic way.</p>	<p>resources and careful planning.</p> <ul style="list-style-type: none"> <li>• Participants may require time to familiarize themselves with the VR/AR technology and software.</li> </ul>	<p>may arise during the activities.</p> <ul style="list-style-type: none"> <li>• Collaborative efforts can help streamline the implementation process, share best practices, and reduce the burden of development and maintenance.</li> </ul>
<p><b>PROJECT-BASED ASSESSMENTS</b></p>	<ul style="list-style-type: none"> <li>• Project-based assessments provide participants with an opportunity to apply their entrepreneurial skills in a practical, real-world context. This hands-on approach allows them to demonstrate their understanding and competence in a meaningful and relevant manner.</li> <li>• It requires them to synthesize information, make connections between different concepts, and apply them in a cohesive and comprehensive manner.</li> </ul>	<ul style="list-style-type: none"> <li>• It is crucial to provide participants with clear expectations and guidelines for the project-based assessments. Ambiguity in instructions may lead to confusion or inconsistent outcomes.</li> <li>• The assessments should be designed to simulate genuine scenarios and encourage participants to apply their skills in practical contexts.</li> <li>• Project-based assessments often require participants to manage their time effectively</li> </ul>	<ul style="list-style-type: none"> <li>• Provide detailed instructions, assessment rubrics, and examples of high-quality work to ensure clarity and promote consistent evaluation.</li> <li>• Incorporate real-world scenarios, case studies, or industry partnerships to enhance the authenticity and relevance of the tasks.</li> <li>• Encourage participants to engage in reflection and self-assessment throughout the project-based assessments. Provide prompts or questions that prompt them</li> </ul>

	<ul style="list-style-type: none"> <li>• Project-based assessments offer opportunities for feedback and reflection, allowing participants to gain insights into their strengths, areas for improvement, and growth as entrepreneurs.</li> </ul>	and handle a substantial workload.	to evaluate their progress, identify areas for improvement, and set goals for their ongoing development.
<b>DIGITAL SIMULATIONS</b>	<ul style="list-style-type: none"> <li>• Participants can experiment, make decisions, and learn from their mistakes in a controlled environment, without the risks associated with real-world ventures.</li> <li>• Digital simulations replicate the challenges and prospects of real-world entrepreneurial scenarios, providing participants with a realistic learning experience.</li> <li>• Digital simulations provide participants with the opportunity to innovate, take calculated risks, and observe the consequences of their decisions. This fosters an entrepreneurial mindset by</li> </ul>	<ul style="list-style-type: none"> <li>• Digital simulations may require specific software, hardware, or technical capabilities.</li> <li>• It is essential to strike a balance between creating a realistic simulation and ensuring its accessibility and ease of use. Simulations that are too complex or difficult to navigate may overwhelm participants and hinder their learning experience.</li> <li>• While digital simulations can replicate many aspects of entrepreneurial scenarios, they may not fully capture the complexity and</li> </ul>	<ul style="list-style-type: none"> <li>• Consider alternative solutions for participants with limited resources or technological capabilities to ensure equal opportunities for engagement and learning.</li> <li>• Create simulations that strike a balance between realism and simplicity. Conduct user testing and gather feedback to refine the user interface and experience, making it intuitive and easy to navigate for participants.</li> <li>• Facilitate discussions and reflection on how the experiences and skills gained</li> </ul>

	encouraging participants to think creatively, problem-solve, and develop a willingness to take risks in a supportive learning environment.	unpredictability of the real business world.	from the digital simulations can be applied to real-world entrepreneurial scenarios
<b>PRESENTATIONS</b>	<ul style="list-style-type: none"> <li>• Final project presentations provide participants with an opportunity to showcase their understanding of entrepreneurship concepts and their ability to apply them to a practical business idea. This demonstrates their comprehension of the subject matter and their capacity to translate theory into practice.</li> <li>• Presentations assess vital interpersonal skills such as clear communication, persuasiveness, and the ability to articulate complex ideas succinctly.</li> <li>• Developing a unique business proposal and strategy requires creativity, initiative,</li> </ul>	<ul style="list-style-type: none"> <li>• To ensure fairness and consistency, it is important to establish clear assessment criteria for the presentations. This helps in evaluating participants' performance objectively and provides them with a transparent understanding of the expectations.</li> <li>• It is crucial to allocate sufficient time for each presentation while also ensuring that the overall schedule is maintained.</li> <li>• Evaluating presentations involves a certain degree of subjectivity. It is essential to establish clear rubrics or evaluation guidelines to</li> </ul>	<ul style="list-style-type: none"> <li>• Develop clear and specific assessment criteria for the presentations. This ensures transparency and provides participants with a clear understanding of what they will be evaluated on.</li> <li>• Offer participants guidance on effective presentation techniques, including structuring their content, utilizing visual aids, and delivering their ideas confidently.</li> <li>• Consider incorporating a peer assessment component where participants provide feedback on each other's presentations.</li> </ul>

	<p>and problem-solving abilities. Presentations encourage participants to think outside the box, generate innovative solutions, and present their ideas in an engaging and practical way.</p>	<p>minimize bias and promote fairness in the assessment process.</p>	
<b>SELF-EVALUATIONS</b>	<ul style="list-style-type: none"> <li>• Self-evaluations provide participants with an opportunity to reflect on their learning journey and assess their own growth and development. This encourages introspection and enhances self-awareness, which are important elements for personal and professional growth, including becoming a successful entrepreneur.</li> <li>• Self-evaluations offer unique insights into participants' perceived growth and learning experience.</li> <li>• Self-evaluations empower participants to take</li> </ul>	<ul style="list-style-type: none"> <li>• There may be variations in participants' ability to objectively evaluate their own skills and progress, potentially leading to biased or inaccurate assessments.</li> <li>• Self-evaluations may lack external validation and objective measures of participants' skills and knowledge. Relying solely on self-assessments may not provide a complete picture of participants' abilities or the impact of the learning experience.</li> </ul>	<ul style="list-style-type: none"> <li>• To enhance the effectiveness of self-evaluations, consider pairing them with other assessment tools that provide more objective measures.</li> <li>• Provide specific questions or reflection prompts that encourage participants to critically assess their growth, skills development, and areas for improvement. This helps participants provide more in-depth and meaningful self-assessments.</li> <li>• Create opportunities for participants to reflect on their self-evaluations and</li> </ul>

	<p>ownership of their learning and development. By reflecting on their progress and identifying areas for improvement, participants can take responsibility for their own growth and actively engage in their entrepreneurial journey.</p>		<p>provide feedback. This can be done through one-on-one discussions, small group reflections, or online platforms. Engage in a dialogue to further explore participants' self-assessments, clarify any misconceptions, and provide additional insights and suggestions for growth.</p> <ul style="list-style-type: none"><li>• Encourage participants to use their self-evaluations as a basis for setting personal goals.</li></ul>
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# CHAPTER 5

## PROPOSED EVALUATION MODEL: KIRKPATRICK'S EVALUATION MODEL

### Introduction

In today's dynamic and technology-driven world, equipping aspiring entrepreneurs with both essential entrepreneurial skills and technological proficiency is paramount for their success. As outlined in the *ENTREPRENEURIAL CURRICULA - Pedagogical Methodology Approach*, developed within the project NGOE – New Generation of Entrepreneurs, Challenge-Based Learning (CBL) offers a promising approach that immerses learners in real-world problem-solving scenarios, fostering critical thinking, collaboration, and creativity. When combined with the integration of Information and Communication Technology (ICT) tools, CBL becomes a powerful vehicle to nurture a new generation of tech-savvy and innovative entrepreneurs.

This proposed evaluation model aims to comprehensively assess the impact of ICT-enhanced Challenge-Based Learning in entrepreneurship training. Drawing inspiration from the renowned Kirkpatrick's Model, we approach the evaluation in four levels, each shedding light on distinct aspects of the programme's effectiveness. From participants' reactions and skill acquisition to behavioural changes and long-term outcomes, this model provides educators and programme organisers with valuable insights to enhance the learning experience and optimise the integration of ICT tools.

At **Level 1**, we delve into participants' perceived value and satisfaction with the incorporation of ICT tools in CBL. Through post-training surveys and focus group discussions, we gain a deeper understanding of their experiences, preferences, and challenges encountered while utilizing technology. Usability tests further reveal participants' ease of use and comfort with the ICT tools, reflecting their overall satisfaction with technology integration.

Moving to **Level 2**, we assess not only entrepreneurial knowledge and skill acquisition but also participants' ICT proficiency. Pre- and post-assessments gauge the growth of entrepreneurial competencies, while specific evaluations focus on their ability to navigate software, leverage online resources, and effectively present solutions using technology. Targeted training and support address any ICT skill gaps, ensuring participants can harness the full potential of technology during the programme.

**Level 3** explores participants' behavioural changes resulting from ICT-enhanced CBL. We analyse their utilization of ICT tools during entrepreneurship activities, evaluating the frequency and effectiveness of technology integration. Collaborative behaviours, information

sharing, and online engagement within team-based projects are also under scrutiny, showcasing the impact of technology on entrepreneurial teamwork and collaboration.

At **Level 4**, we gauge the tangible impact of ICT-enhanced solutions on participants' entrepreneurial outcomes. By measuring the success, feasibility, and scalability of ventures or projects developed using technology during the programme, we gain insights into the effectiveness of ICT integration in driving entrepreneurial success. Furthermore, we assess how the use of ICT tools influenced participants' ability to identify opportunities, enhance productivity, and make informed decisions.

Through the evaluation model's multi-faceted approach, educators and programme organisers can optimise the integration of ICT tools in Challenge-Based Learning for entrepreneurship training. By continually refining this immersive learning experience, we empower young entrepreneurs with the combination of essential skills and technological proficiency, fostering innovation and success in the ever-evolving entrepreneurial landscape.

## 5.1 Kirkpatrick's Evaluation Model

The *Kirkpatrick model*, also known as *Kirkpatrick's Four Levels of Training Evaluation*, is a widely adopted framework for assessing the effectiveness of training and development programmes.

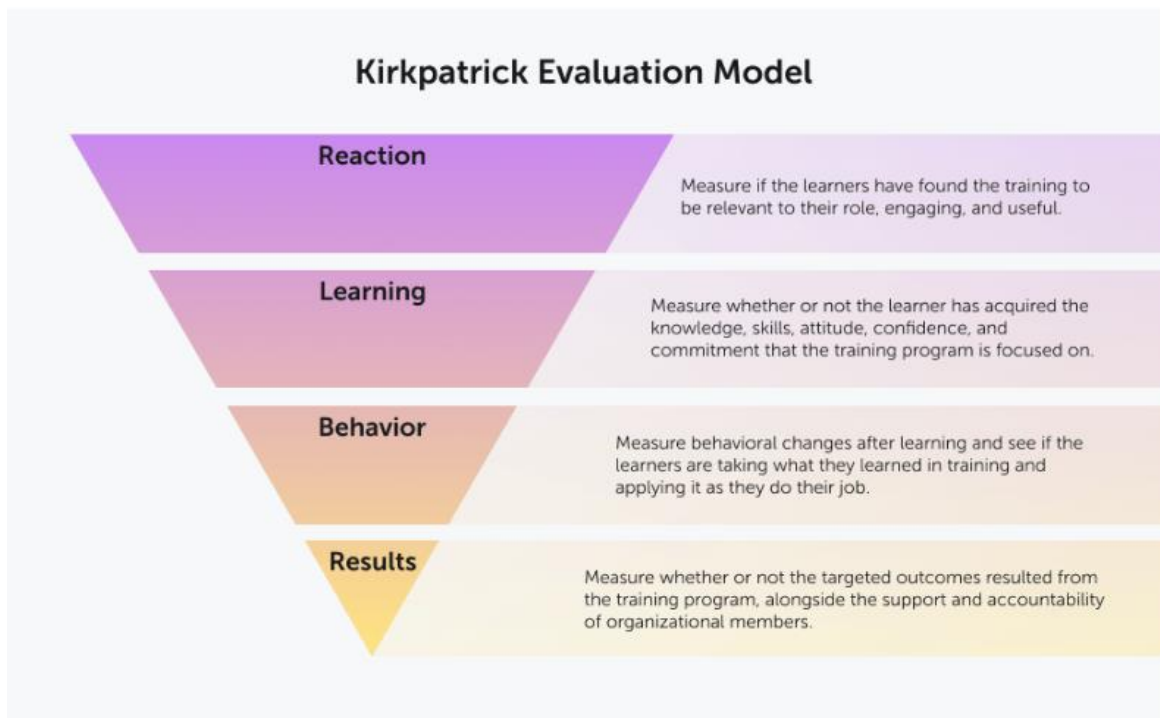
Developed by Donald L. Kirkpatrick in the 1950s, the model consists of **four distinct levels**, each designed to evaluate different aspects of the training's impact on participants and the organization. By employing this comprehensive model, trainers, educators, and programme organisers can gain valuable insights into the training's outcomes, make data-driven decisions, and continuously improve the effectiveness of their programmes. (Andreev, Valamis)

The Kirkpatrick model consists of 4 levels: Reaction, Learning, Behaviour, and Results.

It can be used to evaluate either formal or informal learning and can be used with any style of training.

The Kirkpatrick Model has been widely used since Donald Kirkpatrick first published the model in the 1950s and has been revised and updated three times since its introduction. In 2016, it was updated into what is called the *New World Kirkpatrick Model*, which emphasised how important it is to make training relevant to people's everyday jobs.





*The Kirkpatrick Model (Andreev, I.; Valamis)*

## 5.2 Structure of Kirkpatrick’s Evaluation Model in the context of NGOE

In order to effectively measure the impact of the project’s results (*Pedagogical Methodology Approach – CBL, ICT Tools in the context of entrepreneurship*), various assessment tools from previous chapters can be applied. These tools, ranging from peer assessments to digital simulations, offer diverse ways to measure the development of entrepreneurial skills, competences, and attitudes among the participants.

Kirkpatrick's Evaluation Model is highly suitable for evaluating entrepreneurship training that incorporates ICT tools and challenge-based learning due to its comprehensive and multi-level approach. The model covers four distinct levels of evaluation, enabling a holistic assessment of the training's impact on participants' engagement, skill development, technology proficiency, real-world application, and overall entrepreneurial outcomes. This data-driven approach promotes continuous improvement, ensuring the training programme stays relevant and effective in equipping aspiring entrepreneurs with essential skills and technological acumen for success in the modern business landscape.

To effectively measure entrepreneurial skills, as well as the chosen methodological approaches within **NGOE** using Kirkpatrick's Evaluation Model, each level should be carefully designed with appropriate evaluation methods and assessment tools (see *Chapter 3: Selection of Assessment Tools and Methods*).

By doing so, trainers and organisations can gain insights into the effectiveness of the training programme and identify areas for improvement to foster successful entrepreneurs.

### Level 1: Reaction (Perceived Value and Satisfaction)

The first level of criteria is “reaction,” which measures whether learners find the training engaging, favourable, and relevant to their jobs. This level is most assessed by an **after-training survey** (often referred to as a “smile sheet”) that asks students to rate their experience.

A crucial component of Level 1 analysis is a focus on the learner versus the trainer. While it may feel natural for a facilitator to fixate on the training outcome (such as content or learning environment), the Kirkpatrick Model encourages survey questions that concentrate on the learner’s takeaways. (Arden Learning)

#### How to apply this level:

- Gather **qualitative feedback** from participants through open-ended survey questions and focus group discussions regarding their experience with the specific ICT tools used. Understand their preferences, challenges faced, and suggestions for improving the integration of technology in future programmes.
- Conduct usability tests and measure participants' ease of use and comfort with the ICT tools to gauge their overall satisfaction and perceived value of technology in the learning process.

EVALUATION CATEGORY	TRAINER-CENTERED	LEARNER-CENTERED
<b>PROGRAMME OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• The programme objectives were clearly defined.</li> <li>• The programme objectives were covered by the instructor.</li> <li>• The material was the right level of complexity for my background</li> </ul>	<ul style="list-style-type: none"> <li>• I understood the learning objectives.</li> <li>• I was able to relate each of the learning objectives to the learning I achieved.</li> <li>• I was appropriately challenged by the material</li> </ul>
<b>COURSE MATERIALS</b>	<ul style="list-style-type: none"> <li>• The course materials were well organised.</li> <li>• The course materials complemented the course content</li> </ul>	<ul style="list-style-type: none"> <li>• I found the course materials easy to navigate.</li> <li>• I felt that the course materials will be essential for my success</li> </ul>

<b>CONTENT RELEVANCE</b>	<ul style="list-style-type: none"> <li>The material was relevant to my needs</li> </ul>	I will be able to immediately apply what I learned
<b>FACILITATOR KNOWLEDGE</b>	<ul style="list-style-type: none"> <li>The facilitator demonstrated a good understanding of the material.</li> <li>The facilitator shared his/her experiences in regard to the content</li> </ul>	<ul style="list-style-type: none"> <li>My learning was enhanced by the knowledge of the facilitator.</li> <li>My learning was enhanced by the experiences shared by the facilitator</li> </ul>

*Adapted from Ardent Learning*

### **Level 2: Learning (Knowledge, Skill Acquisition, and ICT Proficiency)**

This level gauges the learning of each participant based on whether learners acquire the intended knowledge, skills, attitude, confidence and commitment to the training. Learning can be evaluated through **both formal and informal methods** and should be evaluated through pre-learning and post-learning assessments to identify accuracy and comprehension.

Methods of assessment include **exams** or **interview-style evaluations**. A defined, clear scoring process must be determined in advance to reduce inconsistencies. (Ardent Learning)

#### **How to apply this level:**

- In addition to assessing entrepreneurial knowledge and skills, use specific assessments or **quizzes** to evaluate participants' proficiency in using the ICT tools. Measure their ability to navigate different software, utilise online resources, and effectively present their solutions using technology.
- Provide targeted training and support to address any gaps in ICT proficiency and ensure participants can fully leverage the technology tools during the programme.

### **Level 3: Behaviour (Application of Skills and ICT Tool Usage)**

One of the most crucial steps in the Kirkpatrick Model, Level 3 measures whether participants were truly impacted by the learning and if they're applying what they learn. Assessing behavioural changes makes it possible to know not only whether the skills were understood, but if it's logistically possible to apply the skills in the workplace as entrepreneurs.

A lack of behavioural change may not mean training was ineffective, but that the organisation’s current processes and cultural conditions aren’t fostering an ideal learning environment for the desired change. (Arden Learning)

**How to apply this level:**

- Analyse participants' use of ICT tools during Challenge-Based Learning activities. Assess the frequency and effectiveness of technology integration in their entrepreneurial problem-solving process.
- Evaluate the extent to which participants collaborate, share information, and engage in online discussions using ICT tools for team-based projects.

EVALUATION CATEGORY	POSSIBLE OPTIONS
<b>DESIGN</b>	<ul style="list-style-type: none"> <li>• Post only</li> <li>• Pre and Post</li> <li>• Multiple Repeat Measures</li> </ul>
<b>DATA COLLECTION SOURCE</b>	<ul style="list-style-type: none"> <li>• Self-Report</li> <li>• Peer Evaluation</li> <li>• Supervisors</li> <li>• Evaluator or Trained Observer</li> </ul>
<b>DATA COLLECTION METHOD</b>	<ul style="list-style-type: none"> <li>• Interview</li> <li>• Survey</li> <li>• Observation</li> </ul>
<b>METRICS/INDICATORS</b>	<ul style="list-style-type: none"> <li>• Goal-Based Behaviours</li> <li>• Competence-Based Behaviours</li> <li>• Knowledge, Skills, and Attitudes (KSAs)</li> </ul>

*Evaluation approaches for measuring behaviour change (Adapted from PERLC)*

#### Level 4: Results (Impact on Outcomes and ICT-Enhanced Solutions)

The final level is dedicated to measuring direct results. Level Four measures the learning against an organization's business outcomes— the Key Performance Indicators that were established before learning was initiated. Common KPI's include higher return on investments, less workplace accidents, and larger quantity of sales.

Using the Kirkpatrick Model creates an actionable measurement plan to clearly define goals, measure results and identify areas of notable impact. Analysing data at each level allows organizations to evaluate the relationship between each level to better understand the training results— and, as an added benefit, allows organizations to readjust plans and correct course throughout the learning process. (Ardent Learning)

Assessment at level 4 can be carried out through evaluations, interviews, and focus groups involving managers and other stakeholders, and/or through desk research. (trainingcheck.com, Level 4)

- Measure the impact of ICT-enhanced solutions on participants' entrepreneurial outcomes. Evaluate the success, feasibility, and scalability of ventures or projects developed using technology during the programme.
- Assess how the integration of ICT tools influenced participants' ability to identify and capitalise on entrepreneurial opportunities, enhance productivity, and make informed decisions.

Extending the assessment of ICT tools in Challenge-Based Learning for entrepreneurship training through Kirkpatrick's Model provides a comprehensive evaluation of both entrepreneurial skills and technology proficiency. The model enables educators to gather detailed feedback on participants' perceptions of technology integration, measure their ICT proficiency, and assess the impact of ICT-enhanced solutions on entrepreneurial outcomes. By continually improving the integration of technology in Challenge-Based Learning, educators can empower young entrepreneurs with the necessary skills to thrive in a digitally driven business landscape.

Kirkpatrick's Evaluation Model is highly suitable for evaluating entrepreneurship training that incorporates ICT tools and challenge-based learning due to its comprehensive and multi-level approach. The model covers four distinct levels of evaluation, enabling a holistic assessment of the training's impact on participants' engagement, **skill development**, technology proficiency, real-world application, and overall entrepreneurial outcomes. This data-driven approach promotes continuous improvement, ensuring the training programme stays relevant and effective in equipping aspiring entrepreneurs with essential skills and technological acumen for success in the modern business landscape.

Here's why:

1. **Holistic Assessment:** Kirkpatrick's Model covers four distinct levels of evaluation, allowing a comprehensive assessment of the training's impact. This is essential when evaluating complex programmes that combine entrepreneurship training, ICT tools, and challenge-based learning, as it ensures no aspect is overlooked.
2. **Participant Engagement:** With Level 1 (Reaction), the model captures participants' immediate reactions and perceptions of the training, including their satisfaction with the integration of ICT tools and challenge-based learning. This helps gauge the overall engagement and perceived value of these elements.
3. **Skill Development and Technology Proficiency:** Level 2 (Learning) enables the evaluation of participants' knowledge acquisition, skill development, and ICT proficiency. It assesses whether the training effectively equips learners with both entrepreneurial competencies and technological acumen.
4. **Real-world Application:** Level 3 (Behaviour) evaluates how participants apply their newly acquired entrepreneurial skills and ICT knowledge in real-world scenarios through challenge-based learning. This level is particularly relevant when assessing the effectiveness of entrepreneurship training that emphasises practical problem-solving.
5. **Impact on Entrepreneurial Outcomes:** Level 4 (Results) allows for the measurement of the training's overall impact on entrepreneurship-related outcomes. It assesses how the integration of ICT tools and challenge-based learning influences participants' entrepreneurial ventures, startups, or business ideas.
6. **Cost-Effectiveness and ROI:** Beyond Kirkpatrick's standard model, organisations can extend the evaluation to **Level 5**, assessing the return on investment (ROI) and cost-effectiveness of integrating ICT tools and challenge-based learning in entrepreneurship training. This level helps determine the efficiency gains and enhanced learning experiences attributed to technology use.
7. **Continuous Improvement:** Kirkpatrick's Model promotes continuous improvement by providing data-driven insights at each level. The evaluation results can inform modifications and enhancements to the training programme, ensuring it stays relevant and effective in a rapidly evolving entrepreneurial landscape.

Kirkpatrick's Evaluation Model is well-suited for assessing entrepreneurship training with ICT tools and challenge-based learning. Its multi-level structure provides a thorough evaluation of participants' engagement, skill development, technology integration, behavioural changes, and impact on entrepreneurial outcomes. By applying this model, educators and programme organisers can make informed decisions, optimise training effectiveness, and equip aspiring

entrepreneurs with the necessary skills and technological proficiency for success in the modern business world.

## **Conclusion**

Integrating ICT tools and challenge-based learning is vital for training aspiring entrepreneurs. Kirkpatrick's Evaluation Model proves to be the perfect framework to assess such dynamic programmes.

This comprehensive model provides valuable insights at every level, from gauging engagement and skill development to measuring real-world application and impact on entrepreneurial outcomes. Its data-driven approach drives continuous improvement, ensuring programmes stay effective and relevant.

By harnessing the power of Kirkpatrick's Model, educators can equip aspiring entrepreneurs with essential skills and technological prowess, empowering them to thrive in the ever-changing business landscape. This evaluation model becomes a guiding force, fostering entrepreneurial success and innovation for a brighter entrepreneurial future.

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