IDEAL- INCLUSIVE DIGITAL EDUCATION FOR AUTISTIC PEOPLE LEARNING

Project nº - KA220-VET-97F54FA7

IDEAL PROJECT: RESULTS VALIDATION REPORT

Contents

1. Introduction

The **IDEAL (Inclusive Digital Education for Autistic People Learning) Connect Platform** has been developed to enhance **educational opportunities, accessibility, and communication** for autistic individuals, their families, and professionals. To ensure its usability, accessibility, and effectiveness, a **comprehensive validation process** was conducted, gathering feedback from diverse stakeholder groups, including **Vocational Education and Training (VET) professionals, families, and autistic users**. This validation phase was essential to **assess the platform's strengths and identify areas for improvement** before its final implementation.

The validation was structured through **multi-phased user testing**, where participants interacted with the platform and provided structured feedback on **usability, content relevance, accessibility, and overall user experience**. The process was conducted across **Spain, Portugal, the Czech Republic, and Serbia**, with an emphasis on **inclusive participation** and **co-creation principles**—ensuring that **users' voices and real-world needs** played a central role in shaping the platform.

Objectives of the Validation Process

The primary goals of this validation were to:

- Assess the **user-friendliness and accessibility** of the platform across different profiles of users.

- Evaluate the **educational value and effectiveness** of the platform's content.

- Identify **technical challenges and areas requiring improvement**.

- Gather **insights from autistic individuals, families, and professionals** to refine and optimize the platform.

- Ensure that the platform meets **the real-life needs** of its intended audience.

The validation process involved three key participant groups:

1. **VET Professionals** – Teachers, occupational therapists, psychomotor therapists, and other educators assessed the platform's **practical usability and educational impact**.

2. **Families** – Parents and caregivers evaluated the platform's **accessibility, engagement, and ability to support autistic individuals** in everyday learning and communication.

3. **Autistic Individuals** – Users with varying levels of cognitive support needs shared **first-hand experiences** of navigating and interacting with the platform.

Structure of this Report

This report presents the findings from each of these participant groups, detailing their **feedback on user interface, navigation, content, accessibility, and engagement**. It concludes with a **summary of key strengths and areas for improvement**, ensuring that the final version of the IDEAL Connect Platform fully meets its users' needs.

2. IDEAL CONNECT PLATFORM

This report presents the findings from the validation phase of the **IDEAL (Inclusive Digital Education for Autistic People Learning) project**, a collaborative initiative aimed at developing an **innovative online platform** to support autistic individuals, their families, and educational professionals. The **IDEAL Connect Platform** serves as a **centralized hub** of interconnected applications designed to **enhance educational experiences and facilitate communication** within this community.

Validation Process Overview

The **validation process** was conducted in multiple phases, collecting **comprehensive feedback** from a diverse range of participants, including:

- **VET (Vocational Education and Training) professionals**
- **Family members of autistic individuals**
- **Autistic users**

A key feature of the project's design was the **participatory co-creation approach**, ensuring that all key stakeholders were actively involved from the outset. This inclusive methodology allowed the platform to be **continuously refined** based on real user experiences and feedback.

Participant Groups and Methodology

The **usability and accessibility validation** followed a **multi-phase approach**, engaging a diverse group of participants:

- **Autistic students with lower cognitive levels (Levels 1 and 2)**
- **Their families**
- **VET professionals**

These participants, representing partner organizations from **Spain, Portugal, the Czech Republic, and Serbia**, formed **Validation Groups**, providing essential feedback throughout the

platform's development. Their insights ensured that the platform remained **accessible, intuitive, and user-centred**.

Additionally, a subset of participants took part in a **Learning/Teaching/Training activity (C1)**, where they tested and reviewed the final version of the platform. This **iterative validation process** ensured continuous refinement of the **platform's design and functionality** while integrating **firsthand user experiences**.

Commitment to Inclusivity and Data-Driven Improvements

The validation process emphasized **gender-balanced representation** and actively mitigated potential biases in the assessment. The collected data underwent **meticulous analysis**, yielding valuable insights for **further platform improvement and optimization**.

By incorporating real-user feedback, the IDEAL Connect Platform has been refined to better address the **diverse needs of autistic individuals, their families, and the educational professionals who support them**. The findings presented in this report will help guide **future updates** to ensure the platform's long-term **effectiveness, usability, and accessibility**.

3. VET Professionals Validation

The successful implementation of the IDEAL Connect Platform depends on its ability to **meet the diverse needs** of autistic individuals, their families, and the professionals who support them. This section presents the findings of the validation study conducted with **25 VET professionals**, who assessed the platform's **user interface, content, and technical functionality**.

Participant Profile

The validation process involved a multidisciplinary team of **teachers, occupational therapists, and psychomotor therapists**, consisting of **18 women and 7 men**. This professional group has an **average of 12.54 years of experience**, reflecting their extensive background in working with autistic individuals across various age groups and support levels. Their consistent **direct engagement with users**, many of whom require substantial **educational and emotional support**, provided crucial insights into the platform's usability and effectiveness.

The **expertise and commitment** of these professionals were instrumental in gathering comprehensive feedback, ensuring that the platform meets the specific expectations and needs of its target audience. Through this validation process, the goal is to ensure that the platform is not only **functional** but also **effective and adaptable**, fostering a collaborative and enriched learning environment for all involved groups.

Section 1: User interface and navigation

Items	M
No specific knowledge is required to use the platform.	4,4
Clicking on the icon quickly opens the desired content.	4,3
There is no redundant information.	4,9
The text is clearly distinguishable from the background.	4,6
The texts are short and clear.	4,1
Buttons/icons are adequately sized.	4,2
The content of the platform is well laid out.	4,7
Each page on the platform is organized in a similar way.	4,2

Note: Range is 1 to 5

Section 2: Content and educational value

Items	M
The content has educational significance.	4,4
Icons are related to the content and easily recognized by the user.	4,2
Appropriate visuals are used.	4,6
The content is suitable for autistic users, their parents and professionals.	4,7
Content is interesting for users.	4,2
The content of the platform improves knowledge and skills.	4,6

Note: Range is 1 to 5

Key Observations and Recommendations

Professionals provided valuable feedback on the platform, highlighting both **strengths and areas for improvement**:

1. **Simplified Interface for Enhanced Accessibility**

   o Some users, particularly those with **more severe forms of autism**, encountered difficulties navigating the platform.

   o Professionals recommended **minimizing interaction steps** and providing **clear, structured instructions** to support easier navigation.

2. **Increased Parental and Caregiver Involvement**

   o Professionals emphasized the importance of **engaging parents and caregivers** more actively in the platform.

   o Suggested introducing **joint sessions for parents, teachers, and therapists**, fostering a **collaborative approach** to autism support.

3. **Expanding Practical and Everyday Life Applications**

   o While many applications focus on **academic skills**, professionals recommended equal emphasis on **practical life skills**.

   o Suggested incorporating **applications that address daily needs**, identified through feedback from families and users.

4. **Addressing Technical Concerns**

   o Language settings occasionally **defaulted to English unexpectedly**, which was flagged as an inconvenience.

   o The **lack of tutorial guidance** for new users was highlighted as an area requiring immediate improvement (noted as part of **R1.A7. result development**).

Overall Feedback

Despite the identified areas for enhancement, professionals **recognized the platform's potential** in transforming autism education and support. Their insights will inform **ongoing improvements**, ensuring that the IDEAL Connect Platform evolves into a truly **inclusive, user-friendly, and effective** tool for autistic individuals and their support networks.

4. Families Validation

Understanding the **user experience** is fundamental to the success of the IDEAL Connect Platform. This section presents feedback from **families of autistic individuals** who participated in the validation process, providing essential insights into the platform's **usability, accessibility, and impact on family interactions**.

Participant Profile

The validation process included **20 family members**, consisting of **15 women and 5 men**. These families represented diverse backgrounds, with their autistic family members having an **average age of 27.45 years**. Most families reported having **good to excellent digital skills**, indicating a comfortable level of engagement with technology.

However, they also highlighted that their autistic family members **require substantial support**, particularly in **communication and managing repetitive behaviours**. The most frequently reported **co-morbid conditions** among autistic users included **epilepsy and intellectual disability**, which further underscores the need for an accessible and adaptable platform.

Section 1: User interface and navigation

Items	M
No specific knowledge is required to use the platform.	4,7
Clicking on the icon quickly opens the desired content.	4,3
There is no redundant information.	4,7
The text is clearly distinguishable from the background.	5
The texts are short and clear.	4,5
Buttons/icons are adequately sized.	4,8
The content of the platform is well laid out.	4,3
Each page on the platform is organized in a similar way.	4,7

Note: Range is 1 to 5

Section 2: Content and educational value

Items	M
The content has educational significance.	4,4
Icons are related to the content and easily recognized by the user.	4,5
Appropriate visuals are used.	4,7
The content is suitable for autistic users, their parents and professionals.	4,7
Content is interesting for users.	4,6
The content of the platform improves knowledge and skills.	4,7

Note: Range is 1 to 5

Key Observations and Recommendations

Families provided **valuable insights and concerns** regarding their experience with the platform, identifying key areas for improvement:

1. **Lack of Audio Features**

   o Families noted the absence of **audio recordings**, which could improve engagement and accessibility for users with **visual impairments or reading difficulties**.

2. **Need for Tutorials and Guides**

   o Many users struggled to navigate the platform due to the **absence of tutorials or instructional support**.

- o Families recommended incorporating **visual and audio guides** to facilitate learning.

3. **Unclear Progress Tracking and User Monitoring**

   - o Families expressed uncertainty about **tracking user progress** and **monitoring access** within the platform.

   - o Clarifying these features could enhance **user confidence and engagement**.

4. **Message Notification System**

   - o Families reported **missing new message alerts**, leading to communication gaps with teachers and professionals.

   - o Implementing a **notification system** would improve real-time communication.

Overall Feedback

Despite these challenges, families **appreciated the platform's potential** and recognized the efforts put into its development. They expressed optimism that **future updates and refinements** will further enhance its effectiveness in supporting autistic individuals and their families.

5. Autistic Individuals Validation

Autistic individuals are often underrepresented in the development of technologies designed to support them. This section presents **firsthand feedback** from autistic users who participated in the validation of the IDEAL Connect Platform. Their insights highlight the platform's **strengths and areas for improvement**, ensuring that accessibility, usability, and engagement align with their specific needs.

Participant Profile

The validation study included **20 autistic participants**, ranging in age from **12 to 38 years**, with an **average age of 21.2 years**. Among them:

- **11 identified as male, 9 as female**.

- **Support needs for social communication**: 6 required **substantial support**, 5 needed **moderate support**, and 9 required **some support**.

- **Support needs for restrictive and repetitive behaviours**: 6 required **substantial support**, 5 needed **moderate support**, and 9 required **some support**.

- **Co-occurring conditions**: 4 participants reported **epilepsy**, 2 had **hyperactivity**, 1 had **anxiety**, and 3 had **ADHD**. Four participants reported **no co-occurring conditions**, while 3 were **unsure**.

- **Device usage**: Participants reported using **computers (9), laptops (5), tablets (3), and mobile phones (12)** for studying, information searching, and entertainment, with frequent use of **social media platforms**.

Section 1. User's experience

Item	YES	NEUTRAL	NO	NOT SURE
I can easily understand how to use the platform.	17	2	1	0
The texts are short and understandable.	16	3	1	0
The pictures are clear and help me get around better.	19	1	0	0
The sounds are pleasant.	8	7	0	5
As soon as I click on the icon, I can see what I want, without waiting.	9	5	6	0
There are markings on the platform to help me switch pages.	13	3	0	4
There is a possibility to adapt the platform to myself.	12	4	1	3
If I do something wrong on the platform, I can easily correct the mistake.	7	6	4	3
When I click on the button, it shows me the content.	15	5	0	0
I can use the platform from different devices (e.g., computer, tablet, mobile phone).	16	2	0	2
There are no bugs on the platform.	5	7	5	3

Key Observations and Recommendations

Autistic participants provided **valuable insights** on their experience with the platform. While most found it **accessible and easy to use**, specific areas require improvement:

1. **Overall Usability and Navigation**

   o **Positive:** A majority (n=17) reported **ease of use**, and **most users (n=16)** found the text **short and easy to understand**.

- o **Suggested Improvement:** Enhancing **page-switching markers** and **navigation guides** for those who found navigation **unclear (n=4)**.

2. **Visual and Audio Feedback**

   - o **Positive:** The **clarity of images** was highly rated (n=19), aiding navigation.

   - o **Suggested Improvement:** Audio feedback received **mixed responses**—some found it **pleasant (n=8), while 7 were neutral, and 5 were unsure**. This suggests the need for **further refinement of audio features**.

3. **Platform Responsiveness and Performance**

   - o **Concern:** Only **9 users** reported **instant access to content**, while **6 experienced delays**.

   - o **Recommended Fix:** Optimize **loading speed and response time** to improve user experience.

4. **Customization and Adaptability**

   - o **Concern:** Personalization features were not clear to **12 participants**, indicating a need for **improved customization options**.

   - o **Suggested Improvement:** Introduce **adaptive settings**, allowing users to modify **layout, colours, and content display**.

5. **Error Correction and Technical Stability**

   - o **Concern: 7 users** struggled with **correcting mistakes**, and **5 reported bugs**.

   - o **Recommended Fix:** Implement a **more intuitive error-recovery system** and **address reported technical issues**.

Overall Feedback

The feedback from autistic users confirms that the **IDEAL Connect Platform is largely accessible and effective**, with **intuitive navigation, clear visuals, and strong usability**. However, enhancements in **platform responsiveness, customization, and technical stability** would significantly improve user experience.

Their input will be instrumental in **shaping future refinements**, ensuring that the platform meets the diverse needs of autistic users by providing a **truly adaptive and accessible digital environment**.

6. Conclusions

Following the validation of the **IDEAL Connect Platform**, several **strengths and areas for improvement** have been identified to enhance its effectiveness in supporting autistic individuals, their families, and educational professionals.

Key Strengths

Accessibility and Usability

- The platform **does not require specific knowledge** to navigate, making it accessible to a wide range of users.

- Most participants, including professionals and families, **positively evaluated** the clarity of the text and the visual presentation of the content.

Educational Content

- The platform's content holds **significant educational value**, benefiting autistic users, their families, and professionals alike.

- Feedback indicated that **icons are easily recognizable,** and visuals are **appropriate** for the intended audience.

Inclusive Approach

- The **participatory co-creation** approach, which involved all stakeholders from the beginning, was a highlight of the design process.

- This method **ensured that user voices were heard**, leading to meaningful improvements in platform development.

Areas for Improvement

Simplification of the Interface

- Many **VET professionals and families** suggested making the interface **more intuitive**, particularly for users with more severe forms of autism.

- **Reducing the number of steps** required to navigate and **providing clearer instructions** would enhance the overall user experience.

Incorporation of Audio and Visual Features

- Participants pointed out the **lack of audio features and visual tutorials**.

- Adding **narrated instructions, audio descriptions, and interactive guides** would enhance accessibility, particularly for **non-readers and users with visual impairments**.

Progress Tracking and Monitoring System

- Families and autistic users expressed concerns regarding the **clarity of the access monitoring and progress tracking features**.

- Improving these features with **visual progress bars, activity logs, and personalized reports** could make tracking easier and more effective.

Notification System and Communication Enhancements

- The absence of **notification alerts for new messages** caused communication delays between users and professionals.

- Implementing a **real-time notification system** for messages, reminders, and updates would foster a **more interactive and collaborative learning environment**.

Content Adaptability

- Participants recommended expanding the platform's content to **better address daily living skills and real-world applications**.

- Including **customization options** that allow users to **personalize their learning paths** would increase engagement and relevance.

Final Remarks

The **IDEAL Connect Platform** demonstrates strong potential as an **accessible and inclusive digital tool** for autistic individuals, families, and professionals. The validation process highlighted **key areas of success**, such as its **ease of use, educational value, and collaborative approach**. However, **targeted refinements** in **usability, customization, and interactive support features** will further enhance its effectiveness.

Moving forward, these insights will guide **continuous improvements** to ensure the platform remains a **valuable, adaptable, and user-centred resource** for the autism community.