IDEAL- INCLUSIVE DIGITAL EDUCATION FOR AUTISTIC PEOPLE LEARNING

Project nº - KA220-VET-97F54FA7

IDEAL PROJECT: ASSESSMENT TOOL FOR DIGITAL APPLICATIONS IN AUTISM SUPPORT

Contents

1. Introduction

Digital technologies have become an integral part of education and therapeutic support for individuals with autism. However, the vast number of available applications presents a challenge in selecting the most effective and accessible tools. To address this, the IDEAL project has developed a **standardized assessment tool** for evaluating digital applications designed to support autistic individuals, their caregivers, educators, and professionals.

This document outlines a methodology for assessing **the pertinence, accessibility, usability, and effectiveness** of digital resources targeted at autism intervention. It aims to provide a **systematic framework** for determining whether applications align with the needs of autistic users and the professionals who support them.

Objectives of the Assessment Tool

- To provide **a clear and replicable methodology** for evaluating digital tools.
- To ensure that digital applications meet the **specific learning and accessibility needs** of autistic individuals.
- To support **educators, therapists, caregivers, and policymakers** in making informed decisions about the integration of digital tools into educational and therapeutic practices.
- To promote **best practices in digital development** for autism support, encouraging innovation and continuous improvement.

The assessment tool includes a set of **criteria-based evaluations**, covering content quality, technical usability, pedagogical effectiveness, and overall user experience. Additionally, this document includes **guidelines for educators and professionals**, along with a **training model** that can be replicated across different settings to ensure proper utilization of digital applications.

2. Digital Application Profile

This section provides a structured overview of the key characteristics of digital applications being assessed.

Basic Information

- **Program Name**
- **Developer and Version**
- **Release Date**
- **Distribution Platform** (Online Store, Physical Device, Free Software, etc.)
- **Language Availability** (English, Spanish, French, etc.)

Accessibility & Cost

- **Free or Paid Model** (Cost-free, Free trial, Paid with tiers, Subscription-based, etc.)
- **Hidden Costs** (In-app purchases, Premium features, etc.)

Technical Requirements

- **Device Compatibility** (PC, Tablet, Smartphone, etc.)
- **Operating System Support** (Android, iOS, Windows, etc.)
- **Internet Requirement** (Fully online, Partial offline functionality, Fully offline available)

Target User Profile

- **Autistic Individual (Independent Use vs. With Support)**
- **Caregivers and Families**
- **Educators and Professionals**
- **Policymakers and Developers**

Application Category

- **Educational**
- **Speech and Communication**
- **Social Stories and Social Skills**
- **Functional Skills and Health Promotion**

- **Entertainment and Leisure**
- **Social Networks and General Use**

3. Standardized Evaluation Criteria

A structured assessment framework has been developed to evaluate digital applications based on key usability and pedagogical principles.

Content Quality & Relevance

- Relevance of content for autism intervention
- Educational value for skill development
- Customization and personalization options
- Regular content updates and accuracy
- Reinforcement mechanisms within the app

Technical Usability & Accessibility

- Response time during startup and usage
- Simplicity and accessibility of the interface
- Availability of customization (text size, button resizing, subtitles, contrast adjustment)
- Integration of assistive technology features (text-to-speech, external device support, etc.)

Pedagogical & Functional Aspects

- Clear pedagogical objectives
- Enhancement of cognitive, social, and communication skills
- Task progress tracking and feedback mechanisms
- Intuitiveness and ease of use

User Experience & Engagement

- Multi-user profile options
- Engagement and enjoyment for autistic users

- Adaptation for different motor skills
- Intuitive navigation and autonomy support

4. Guidelines for Educators and Professionals

The **Assessment Tool** is designed as a structured questionnaire where users evaluate various aspects of a digital application based on a **Likert scale (1 to 5)**, with **higher scores indicating greater suitability** for autistic individuals.

How to Use the Assessment Tool

1. **Fill in General and Technical Information**
    - This step provides an overview of the application's accessibility, affordability, and technical requirements, encouraging reflection on whether the app is viable for individuals with **fewer resources**.
2. **Evaluate Each Criterion Using the Likert Scale**
    - Each category—content quality, usability, pedagogy, and user experience—is rated from **1 (Very Poor) to 5 (Very Adequate)**.
3. **Interpret the Results**
    - The assessment generates an **average score from 1 to 5**, providing a **quantitative measure** of the application's overall quality and suitability.
    - **Guidelines for interpretation:**
        - **1.0 - 2.4:** The app is likely **unsuitable** for autistic individuals.
        - **2.5 - 3.4:** The app has **moderate suitability** but may need significant improvements.
        - **3.5 - 4.4:** The app is **adequate** and can be useful with some adjustments.
        - **4.5 - 5.0:** The app is **highly suitable** and meets most accessibility and usability criteria.
4. **Access the Virtual Assessment Tool**
    - A **digital version** of this tool is available on **IDEAL Connect**, allowing users to complete assessments online: https://tools.idealearning.eu/.

5. Recommended Training Model for Educators, Caregivers, and Policymakers

Purpose of the Training Model

The training model is designed to help educators, caregivers, therapists, and policymakers effectively **implement and evaluate** digital applications for autistic individuals. The model provides a structured approach to understanding accessibility, usability, and the pedagogical impact of digital tools.

Training Framework for Different Stakeholders

- **Educators:** Learn how to integrate digital applications into structured lesson plans, monitor student progress, and adapt tools based on individual needs.
- **Therapists:** Understand how digital applications can be used as interventions for social, communication, and cognitive skill development.
- **Caregivers:** Gain skills to support at-home learning and ensure that digital tools are used effectively and safely.
- **Policymakers:** Learn about accessibility and inclusion requirements to promote policy recommendations that enhance digital access for autistic individuals.

Recommended Module-Based Training Structure

The training program should address **three core modules**:

Module 1: Understanding Digital Accessibility and Usability

- What makes an application accessible for autistic individuals?
- Principles of **universal design for learning (UDL)**.
- How to assess customization and usability features in digital tools.

Module 2: Practical Implementation in Education and Therapy

- Step-by-step guide to integrating digital tools into learning environments.
- Case studies on how applications improve engagement and skill development.
- Strategies to **track and analyse user progress**.

Module 3: Evaluation and Decision-Making

- Using the **Assessment Tool** to evaluate different applications.
- How to interpret assessment scores and make data-driven decisions.
- Best practices for providing **feedback to developers** to improve accessibility.

Certification & Ongoing Support

- Participants completing the training will receive a **certification** in digital accessibility and application evaluation.
- A **community-driven support network** will be established to foster ongoing learning and resource sharing.
- Access to an **online repository of evaluated applications**, allowing educators and professionals to share best practices and recommendations.

6. Future Perspectives and Continuous Improvement

The IDEAL assessment tool is a **living methodology** that should evolve alongside technological advancements and user needs. The following aspects will shape its continuous improvement:

Innovations in AI and Autism-Supportive Technologies

- Implementing **machine learning and AI** for personalized digital learning experiences.
- Enhancing **speech recognition and predictive analytics** to better tailor interventions.
- Integrating **virtual and augmented reality (VR/AR)** to support autism-friendly environments.

Strengthening User Participation in Digital Tool Development

- Encouraging **co-design approaches** where autistic individuals and caregivers contribute directly to application development.
- Conducting **regular feedback sessions** to improve accessibility and usability based on real-world experiences.
- Establishing a **user panel** to guide continuous refinement of the assessment tool.

Policy Recommendations for Digital Accessibility

- Advocating for **open-access digital resources** for neurodiverse individuals.
- Encouraging **government and educational policies** that promote technology inclusion.

- Strengthening **EU-wide regulations on digital accessibility and usability** to set universal standards for assistive technologies.

7. Conclusion

This document provides a **structured and practical methodology** for assessing digital applications aimed at autism support. By applying the **standardized evaluation framework**, educators, caregivers, and professionals can make **informed decisions** about digital tools, ensuring accessibility, usability, and effectiveness.

The **continuous evolution** of digital applications and accessibility features highlights the need for **ongoing assessment, adaptation, and collaboration** between developers, educators, therapists, and autistic individuals themselves. The IDEAL Assessment Tool serves as a foundational resource, helping professionals navigate the complex digital landscape and select tools that truly enhance the learning and everyday experiences of autistic individuals.

To further facilitate assessment and decision-making, a **virtual version of this tool is available on IDEAL Connect**, allowing users to complete evaluations and access comparative insights online:

Access IDEAL Connect: https://tools.idealearning.eu/

8. Appendix: Standardized Assessment Tool for Evaluating Digital Applications

Prior information

Program name:

Price: Cost-free / free trial *(less than 5€ / 5-10€ / More than 10€ / Subscription)* / less than 5€ / 5-10€ / More than 10€ / Subscription / Some functions require payment

Type of device required: Phone/mobile / Computer / Laptop / Tablet / Other

Operating system: Android / Apple / Windows / Other

Distribution platform: Online store / Physical device (CD) / Free software / Other

Language: Czech / English / French / Portuguese / Serbian / Spanish / Other

Participant profile: Autistic person / Autistic person with external support / Professional / Family/relatives

Area: Educational / Speech and communication / Social stories and social skills / Functional skills and health promotion / Entertainment and leisure time / Social network and general use

Technical mode: Free / Not free

Registration required: Yes / No

Internet connection is required to be used: Yes / No / Just for some functions

Assessment tool

Very poor (1); Poor (2); Acceptable (3); Adequate (4); Very adequate (5), Not applicable (N).

Perspective	Item	1	2	3	4	5	N
Content	1.- The content is relevant						
	2.- It has educational value to support intervention						
	3.- Improves the skills to relevant areas						
	4.- It can be personalized						
	5.- Content regularly updated						
	6.- The user gets positive reinforcement from the APP						
Technical specifications	7.- Good response time during the start						
	8.- Good response time during usage						
	9.- The information when used is adequate and not overloaded						
	10.- There are different options for the user to choose from when starting the APP						
	11.- There are instructions/guidelines for the APP which are easily accessible						
	12.- Allows you to modify the size of the buttons and the text						
	13.- Provides transcription/subtitles option/s						
	14.- The opacity – transparency can be modified (adjusted) (the color scheme can be modified, changed, adjusted…)						
	15.- The APP/platform has a simple (accessible) interface						
Pedagogical criteria	16.- The pedagogical objectives are clear						
	17.- Develops social/communicative/cognitive skills						
	18.- The APP provides an “undo” function for different actions						
	19.- The APP provides information about the time to reach the end of the task						
	20.- The APP allows the user to follow up the progress						
	21.- The language used is accessible to the user						
	22.- Allows you to connect external devices						
	23.- The application provides help support						
	24.- The user can autonomously use the APP without the support of a person with technical knowledge						
	25.- The functions of the application are intuitive						
	26.- The APP allows parental control						
User experience	27.- Allows the creation of different user profiles within the APP						
	28.- Progress control/overview						
	29.- The APP is enjoyable/fun for the user						
	30.- The APP is adapted to different motor skills						

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