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Questionnaire for technology experts in training digital skills and coding to individuals with autism

This survey is within Erasmus+ project Designing Educational Materials and Teaching Digital Literacy to Individuals with Autism-DEMTeDLIA.

The general objective of the project is to train educators for individuals with autism to become capable for teaching individuals with autism digital literacy and coding and be able to provide guidance for enhancing the potential interest for STEM careers and employability of these individuals, thus enhancing the capacities of the education and training settings that support the individuals with autism so they can acquire relevant skills for the labour market in the future.

This questionnaire aims to gather insights from educators on their experiences, challenges, and best practices in training digital skills and coding to individuals with autism. Your responses will help improve teaching strategies and develop more effective resources.

1. **How many years of experience do you have in teaching coding or digital skills?**
   - Less than 1 year
   - 1-3 years
   - 4-6 years
   - More than 6 years

2. **What is your primary area of expertise in technology education?** *(Select all that apply)*
   - Coding and programming
   - Computational thinking
   - Digital literacy and online safety
   - Assistive technologies
   - Other (please specify)

3. **Have you worked specifically with individuals with autism?**
   - Yes, extensively
   - Yes, occasionally
   - No, but I have worked with neurodivergent learners
   - No, I have not

4. **What challenges do you think individuals with autism face when learning coding and digital skills?** *(Select all that apply)*
   - Sensory overload from digital environments
   - Difficulty with abstract concepts in programming
   - Trouble with structured learning approaches
   - Challenges with collaboration and teamwork

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- Other (please specify)

5. **What strengths do you think individuals with autism bring to coding and computational thinking?** *(Select all that apply)*
   - Strong pattern recognition skills
   - Attention to detail
   - Logical and structured thinking
   - Ability to focus on specific tasks for extended periods
   - Other (please specify)

6. **How important do you think digital literacy is for individuals with autism in today's job market?**
   - Extremely important
   - Very important
   - Somewhat important
   - Not very important

7. **How well do you think current training programs prepare individuals with ASD for employment in the digital economy?**
   - Very well prepared
   - Adequately prepared
   - Poorly prepared
   - Not prepared at all

8. **How likely are organisations to offer internships or apprenticeships for individuals with ASD in digital roles?**
   - Very likely
   - Likely
   - Neutral
   - Unlikely
   - Very unlikely

9. **Do you believe individuals with autism can excel in coding and computational thinking?**
   - Yes, absolutely
   - Yes, with appropriate support
   - Maybe, depending on the individual
   - No, I do not think so

10. **What teaching approaches do you find most effective for individuals with autism?** *(Select all that apply)*
    - Visual-based learning (e.g., diagrams, color-coded instructions)
    - Step-by-step guided instructions

- Hands-on, project-based learning
- Gamification (e.g., learning through interactive games)
- One-on-one coaching
- Other (please specify)

11. Do you modify traditional coding curriculums for individuals with autism?

- Yes, extensively
- Yes, but only slightly
- No, the curriculum works as it is
- I do not teach coding

12. What learning environments are most effective for individuals with autism?

- Individualized, self-paced learning
- Small group settings
- Large classroom settings
- Online learning platforms
- Other (please specify)

13. How important is hands-on, project-based learning in teaching coding to individuals with autism?

- Extremely important
- Very important
- Somewhat important
- Not important

14. Which coding tools or platforms have you found most effective for individuals with autism? *(Select all that apply)*

- Scratch
- Blockly
- Python-based educational platforms (e.g., CodeCombat)
- JavaScript-based platforms (e.g., Khan Academy, Code.org)
- Other (please specify)

15. How often do you integrate real-world applications when teaching digital skills to individuals with autism?

- Always
- Frequently
- Sometimes
- Rarely
- Never

16. Have you used assistive technologies (e.g., text-to-speech, visual coding interfaces) to support individuals with autism in learning digital skills?

- Yes, frequently
- Yes, occasionally
- No, but I would like to try
- No, I have not

17. What assistive technologies do you think are most beneficial for individuals with autism learning coding? *(Select all that apply)*

- Speech-to-text and text-to-speech tools
- Visual programming interfaces
- AI-driven personalized learning tools
- Sensory-friendly coding environments
- Other (please specify)

18. Do individuals with autism struggle more with understanding coding logic or applying coding skills?

- Understanding coding logic
- Applying coding skills
- Both equally
- Neither

19. What are the biggest barriers to employment for individuals with autism in tech-related careers? *(Select all that apply)*

- Lack of mentorship opportunities
- Difficulty with job interviews and social expectations
- Limited workplace accommodations
- Bias from employers
- Other (please specify)

20. How well do current digital literacy and coding programs prepare individuals with autism for employment?

- Very well
- Somewhat well
- Poorly
- Not at all

21. What changes should be made to coding curriculums to better support individuals with autism? *(Select all that apply)*

- More adaptive learning tools
- More focus on real-world applications
- Increased sensory-friendly options
- More individualized learning paths
- Other (please specify)

22. How important is mentorship for individuals with autism in digital education and careers?

- Extremely important
- Very important
- Somewhat important
- Not important

23. Have you designed or modified coding curriculums specifically for individuals with autism?

- Yes, extensively
- Yes, but only minor modifications
- No, but I would like to
- No, I follow standard curriculums

24. Do you think traditional text-based coding (e.g., Python, JavaScript) is more challenging for individuals with autism than visual programming (e.g., Scratch, Blockly)?

- Yes, text-based coding is much harder
- Somewhat, but both have their challenges
- No, individuals with autism can learn both equally
- Not sure

25. What coding concepts do you find most challenging for individuals with autism to grasp? *(Select all that apply)*

- Abstract concepts (e.g., variables, functions)
- Debugging and problem-solving
- Logical flow and sequencing
- Working with data structures
- Other (please specify)

26. What strategies help individuals with autism in team-based coding projects? *(Select all that apply)*

- Clear role assignments and structured tasks
- Asynchronous collaboration options
- Using online collaboration tools (e.g., GitHub, Trello)
- Avoiding group work altogether
- Other (please specify)

27. How accessible are digital skills training programs for adults with autism?

- Very accessible
- Somewhat accessible
- Not very accessible
- Not accessible at all

28. What are the main barriers that adults with autism face in digital skills training? *(Select all that apply)*

- Lack of adaptive learning materials
- Social anxiety or difficulty with group learning
- Sensory overload in learning environments
- Difficulty with job placement after training
- Other (please specify)

29. Which learning formats are most effective for adults with autism learning digital skills? *(Select all that apply)*

- Self-paced online courses
- One-on-one mentorship programs
- Small group workshops
- Hybrid learning (online + in-person)
- Other (please specify)

30. How can companies better support ASD employees in tech roles? *(Select all that apply)*

- Flexible work environments and remote work options
- Providing quiet workspaces with minimal distractions
- Offering mentorship programs
- Training managers on neurodiversity inclusion
- Other (please specify)

31. Would you be interested in teaching or mentoring adult ASD learners in digital skills training programs?

- Yes, definitely
- Maybe, depending on availability
- No, I don't have the experience
- Not sure

32. Would you be interested in participating in workshops or training programs for improving your teaching skills on digital literacy and coding for individuals with autism?

- Yes
- No
- Maybe

33. What types of educational materials do you currently use when teaching digital literacy and coding to individuals with autism? *(Select all that apply)*

- Printed worksheets and guides
- Digital interactive tools (e.g., apps, websites)
- Video tutorials
- Step-by-step coding exercises

- Gamified learning platforms
- Hands-on activities (e.g., robotics, physical computing)
- Other (please specify)

34. What features do you think are most important in educational materials designed for individuals with autism? *(Select all that apply)*

- Clear and simple instructions
- Visual supports and diagrams
- Interactive elements (e.g., drag-and-drop, gamification)
- Step-by-step structured learning paths
- Customizable content for individual needs
- Audio instructions or text-to-speech options
- Other (please specify)

35. What challenges have you encountered with existing educational materials when teaching digital literacy and coding to individuals with autism? *(Select all that apply)*

- Lack of autism-friendly resources
- Overly complex instructions
- Limited engagement or motivation from students
- Materials not adaptable to individual learning styles
- Insufficient interactive or hands-on components
- Other (please specify)

36. Have you been involved in the development of educational materials specifically designed for individuals with autism?

- Yes
- No, but I would like to be
- No

37. How would you like to contribute to the development of educational materials for teaching digital literacy and coding to individuals with autism? *(Select all that apply)*

- Providing feedback on existing materials
- Sharing best practices and teaching strategies
- Helping design new educational materials
- Other (please specify)

38. What additional support or training would you need to effectively use or develop educational materials for teaching digital literacy and coding to individuals with autism? (Select all that apply)

- Training on how to adapt materials for autism-specific learning needs
- Access to a repository of autism-friendly digital literacy and coding resources
- Guidance on using assistive technology in digital skills education
- Collaboration with specialists to co-create resources

- Other (please specify)

Thank you for your participation.