FEBRUARY 2023

InTeaM4IEd Skills and Competences Model

Innovative Teaching Methodologies
in Hospitality Schools for Inclusive Education

Table of Contents

1. Introduction

One among the main issues highlighted by the European Commission is to promote inclusive and accessible education while paying special attention to facilitating the integration of vulnerable students and thus improving their quality of life.

Lack of appropriate education remains the key risk factor for poverty and the exclusion of individuals with disabilities.

Moreover, supporting social inclusion of young people with disabilities - especially students affected by Autism Spectrum Disorder (ASD) - is among the core points of the European and national policies in the Partner countries.

The following document - **"InTeaM4IEd Skills and Competences in the hospitality sector Model"** - has been developed by the InTeam4IEd Consortium, composed by a group of 6 Organizations, coming from 5 different European countries (Italy, Spain, Greece, Portugal, and Netherlands) within the frame of the *"Innovative Teaching Methodologies in Hospitality Schools for Inclusive Education"* project, co-funded by the Erasmus+ Programme of the European Commission. The project has started in February 2022 and will last 30 months in total.

This Model wants to offer the possibility to teachers, educators, trainers and also employers of the hospitality industry to learn how to deal with developmental challenges associated with ASD students, guiding them through a step-by-step approach - tailored to the individual's learning requirements and characteristics - aimed to strengthen those skills that would facilitate learners' integration within and outside the school system, resulting in the development of capable professional figures employable in the hospitality sector.

It comprises of eight sections, as follows:

1. Introduction
2. Methodology
   a. Why the Model
      i. IBL and PBL theories and approaches
   b. Research results: National interviews for the definition of sector-specific emerging skills
   c. Competence skills mapping/areas
      i. To be taught/acquired

3. Individual programme for data collection for VET

4. Definition of real-life scenarios within the hospitality sector and recommendations

5. Suggestions and recommendations

6. Conclusions

7. *Annexes*

8. *References*

What has been said calls for the development of pedagogical approaches that deploy auxiliary strategies, as a prerequisite for participation in society and to get more employment opportunities.

ASD students often present unique challenges to schools, therefore teachers and educators need to better understand ASD and how it affects learning, be aware that they have a responsibility to put in place the most appropriate strategies to encourage their students to acquire new skills spendable in the labour market, as they are required by the specific sector, i.e., hospitality industry.

Considering the above points, the InTeam4IEd Consortium duly identified and analysed in the following Model the main barriers learners with ASD in initial VET in the hospitality sector may encounter in the learning process, as well as the main challenges teachers are facing.

In particular, in **section 1.** we offer a short explanation of the first result of the project - i.e., the Model. Mainly, the European context that provides its backdrop.

In **section 2.** we explain the main needs/reasons that led to the design of the Model and give indication about the main users/beneficiaries who could contribute to its further exploitation. In addition, readers can find brief mentions of the two methodologies of approach to education on which the Model is based - i.e., **Inquiry-Based Learning (IBL) and Problem-Based Learning (PBL) -** Moreover, we also illustrate the main relevant findings of the research conducted at national level. Results supported project Partners to identify and describe the 15 most relevant emerging skills and competences required by the hospitality sector, mainly addressed to ASD students.

In **section** 3. we have included the suggested template for educators to collect data for VET regarding training/internship/employment activities, and to prepare an individual programme for each student with ASD based on the analysis of his/her profile.

In **section 4.** we propose six real-life scenarios, as an important resource to underline some possible obstacles or challenges which can come up during the daily practice of hospitality workers/trainees so that they can have some theoretical and practical guidance on how to better manage certain situations that may arise in their profession.

In **section 5.** we have summarised at a general level a suggested methodology of approach for educators.

In **section 6.** - Conclusions - we sum up what has been documented and we give evidence to specific aspects aiming to facilitate the development of tasks under the next two Project Results: PR2 - F.H.E.M.T. - Flexible and Hybrid Educational Methodology and Tools and PR3 - InTeaM4IEd App.

Lastly, the annexes in **section 7.** encapsulate and summarise the results of the activities that led to the definition of the Model (PR1-A1 Evidence-gathering on the emerging skills and competences and PR1-A2 Skills & Competences MAP).

In **section n.8** a list of the main references is provided.

2. Methodology

2.1. Why the Model

When science instruction and assessments rely on reading and writing, students with disabilities are not as successful as their peers. This trend is evident in studies of classrooms and large-scale assessments. Donahoe and Zigmond (Donahoe & Zigmond, 1988), for example, found that when science instruction and assessment were conventional, most of the students with disabilities were likely to earn a grade of D or below. In a science evaluation program for the state of New York, 69% to 75% of students without disabilities passed the test, while fewer than 50% of students with disabilities performed successfully (Cawley & Parmar, 2001). A closer look at large-scale assessments reveals another problematic trend: Students with disabilities are likely to score even lower in science and mathematics than they do in reading, vocabulary, and writing (Harnisch & Wilkinson, 1989). Overall, **traditional instruction can limit the success of students with disabilities** in their academic careers, **such as students with Special Educational Needs (SEN) e.g. diagnosed with Social, Emotional, and Behavioural Difficulties (SEBD) or Autistic Spectrum Disorder (ASD)**.

Autism Spectrum Disorder (ASD), is a lifelong developmental disorder, it is characterised by a lack of social interaction, communication, and behavioural difficulties (Dillenburger et, al. 2015). It is a spectrum disorder meaning that it is greatly complex and its effects on people vary in different degrees, being generally defined as a triad of impairments: social communication, social interaction, and social imagination (Cashin & Barker, 2009; Autism, H.F., 2011).

In this regard, InTeaM4IEd Project proposes to help teachers and tutors to face learning difficulties related to ASD students of initial VET in the hospitality sector and to support them in developing expendable skills within the education system and externally in the hospitality industry.

The overall aim is to develop a ground-breaking Flexible and Hybrid Educational Methodology and Tools (F.H.E.M.T), supported by the creation of an educational app (AI driven chatbot), for teachers to assist students in gaining new sector-specific competences, right after having investigated through semi-structured interviews with sector experts the 15 key emerging competences in the field (competency mapping).

The needs analysis, conducted by the Partners during the conceiving and preparation of the project application, highlighted that the number of former hospitality professionals focusing on other sectors looking for a more stable job is high and that the hospitality industry struggles to find employees equipped with appropriate capabilities.

Taking into consideration the above, the first Project Result (PR1) is purposed at developing a **comprehensive Skills and Competences Model mainly targeted towards ASD students within the hospitality education as future workforce in the tourism/hospitality industry**.

Such a model will be exploited by teachers, trainers and educators of formal and non-formal education and will benefit VET students, especially ASD students under disadvantaged circumstances, facilitating the creation of new forms of work and boosting cross-border opportunities.

The Model represents the starting point for developing the key project results:

▪ enhance ASD students' competences, their employability and their integration in the labour market;

▪ promote the acquisition of primary/secondary research data about needed skills sets in the hospitality sector, to be matched with VET training for ASD students;

▪ emphasise the transparency and recognition of skills and competences acquired along the project implementation.

Taking into account the main objective of this framework, the InTeaM4IEd Model intends to give end-users the opportunity to acquire or improve the 15 selected skills and competences, providing not only an exhaustive definition of each skill and competence, but also a **specific focus on Autism Spectrum Disorder**, accompanying each skill and competence with some concrete scenarios of situations usually experienced by ASD students in hotel schools and in the sector in general.

Based on the project objectives, two methodologies of approach to education were identified, **Inquiry-Based Learning (IBL) and Problem-Based Learning (PBL)**, described below. The PBL approach - which uses real-life experiences and social contexts as vehicles for the exploration, acquisition and application of skills - was then identified as a more effective match for the development of the second part of the InTeaM4IEd Model. In this sense, the second chapter focuses on the drafting of **6 scenarios, set in**

real-life contexts, useful to identify social interaction to be "addressed" and "solved" through the acquisition, development and application of competences.

Until the 1950s, most teaching and learning theories depended on drills whereby, if facts were repeated often enough, learners would learn them by memorising. Developments in cognitive psychology have made educators aware of the fact that teaching is not just about communicating facts or mechanical skills, but that it is a process of coming to understand the world (National Research Council, 2000; Borich, 2011; Linn et al., 1996; Westwood, 2008). The tendency of the instructional methods was then turned into the constructivism that all learning involves knowledge construction in one form or another. Two of the most widely used approaches are: **Inquiry-Based Learning (IBL) and Problem-Based Learning (PBL).**

Both approaches are influenced by Piaget's theory of constructivism, a student-centred approach to education involving active and authentic real-world learning, inquiry, personal experiences and collaboration, however there are some differences between them.

The Inquiry-Based Learning (IBL) is a method in which students are actively involved in their learning process by constructing knowledge about a topic or domain through conducting investigations that loosely follow the stages of the scientific method. It all starts with a question. One essential question enables teachers to cover curriculum outcomes as well as inspire student curiosity and open conversation. That is, **students explore a topic i**n order to get interested in it; **they formulate research questions and hypotheses**; they **plan and execute experiments**; they **draw conclusions** from the collected data; and they **present and communicate their findings** to others and they **engage in reflective activities** (Lazonder & Harmsen, 2016; Pedaste et al., 2015). As sharing and debating findings with others is considered vital for deepened conceptual understanding, almost all inquiry-based learning approaches make **use of small group work** (Dobber et al., 2017).

By conducting investigations following similar methods and practices as professional scientists do, students acquire not only core subject knowledge and skills, but **they also develop so-called "twenty-first century skills"** (e.g., learning and

innovation skills, complex communication and social skills, information literacy and technology skills, and self- management and development). These twenty-first century skills are deemed important, to **prepare students for participation in a rapidly changing society** (NRC, 2012; SLO, 2016). IBL is nationally and internationally recommended as an effective method to achieve learning goals concerning knowledge, skills, and attitudes in various academic domains for students in all grades of elementary education (Freeman, Eddy, McDonough, Smith, Okoroafor, Jordt, et al., 2014; Henderson, Beach, & Finkelstein, 2011; Inspectorate of Education, 2017; Olson & Riordan, 2012; Verkenningscommissie W&T, 2013).

Reviews and meta-analyses have indeed shown that, under some conditions, IBL is an effective method to achieve learning goals in various domains, such as knowledge and skills (e.g., Alfieri et al., 2011; Furtak, Seidel, Iverson, & Briggs, 2012; Minner, Levy, & Century, 2010). Yet, student outcomes appear to be dependent on careful teacher guidance and direction (e.g., Alfieri et al., 2011; Furtak et al., 2012; Kirschner, Sweller, & Clark, 2006). Specifically, unguided or unassisted IBL generally appears to be less effective than explicit instruction (Alfieri et al., 2011; Kirschner et al., 2006), but when students are provided with **adequate teacher guidance during IBL**, they have been shown to learn more than students who are taught the same content with explicit instruction (Alfieri et al., 2011; Furtak et al., 2012; Lazonder & Harmsen, 2016). The role of the teacher thus appears to be very important in actively guiding students' IBL activities.

Results of research on the effectiveness of IBL and the importance of teacher guidance conducted among typically developing students are not necessarily generalizable to specific student populations such as **students with the Autistic Spectrum Disorder (ASD)**. Students with ASD share characteristics that may adversely affect educational performance, including academic, social, vocational or personal skills. Examples of these characteristics include impaired emotion regulation and internalising and externalising behaviour problems (Furlong, Morrison, & Jimerson, 2004; Gresham & Kern, 2004; Landrum, 2011), problems in executive functioning, control of attention and memory (Diamond, 2013; VandenBroucke, Weeda, Lee, Baeyens, Westfall, Figner et al., 2018), but also difficulties in establishing and maintaining positive social relationships with school personnel and peers (Furlong et al., 2004; Gresham & Kern,

2004). Given the difficulties that these students face, it is questionable whether IBL is a suitable instructional approach for students with ASD to achieve various learning goals in terms of knowledge, skills, and attitudes and/or whether specific adjustments to IBL should be made.

IBL may be a particularly suitable method for students with ASD, having a motivating effect on students by emphasising active participation and providing hands-on experiences (Kern, Bambara, & Fogt, 2002). Traditional methods place heavy language and literacy demands on students (Parmar, Duluca, & Janczak, 1994) leading to frustration, disengagement, and sometimes even disruptive behaviour. The hands-on experiences and increased opportunities for decision-making during IBL instruction may fulfil the need of students with ASD to be actively involved in learning (Scruggs & Mastropieri, 2007), resulting in higher engagement and more appropriate classroom behaviour (Lane, 2004; Van der Worp-van der Kamp, Pijl, Bijstra, & Van den Bosch, 2014). Hence, it may also be argued that **IBL provides opportunities to improve academic outcomes for students with ASD**.

On the other hand, the Problem-Based Learning (PBL), although similar to IBL, is not the same. The main principle of PBL is based on maximising learning through investigation, explanation, and resolution by **starting from real and meaningful problems**. Therefore, PBL is the art of problem solving. PBL calls for students to **solve an authentic real-world problem** through investigation. It encourages students to experience a learning process where they investigate, test, discover and repeat when necessary in order to find a viable solution.

Problems used in PBL must be ill-structured and allow for free inquiry (Savery, 2006). Therefore, PBL starts as inquiry-based learning, but goes beyond it. The instructor constantly asks, "Why?" "What do you mean?" "How do you know that's true?" to model higher order thinking by asking questions which probe learners' knowledge more deeply (Savery et al., 2001). The instructor's role is that of facilitator and coach rather than leader. In addition, it is important to clarify what the main characteristics of the real problem are because a real problem must create a need to know. The problem-solving element of PBL requires learners to look at multiple perspectives and domains.

PBL needs prerequisite skills and knowledge for learners to succeed with this method. In the initial stages, during identification of the problem, observational skills

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10

are identified as having a high priority (Barrows and Tamblyn, 1980; Mills and Treagust, 2003). PBL requires learners to have skills of scientific literacy, to explore in depth, to test ideas and scientific processes, and to draw on skills, group working and knowledge of variables to solve problems.

PBL can provide learners with several important goals. According to meta-analysis results from Dochy et al. (Dochy, 2003), there are no studies that have reported significant negative findings about the outcomes of PBL in terms of knowledge and skills. PBL is challenging, motivating and enjoyable (Norman and Schmidt, 2000). This important outcome comes from the finding of a solution, if the solution is acceptable, in that learners can become intrinsically motivated to learn. The PBL process can construct an extensive and flexible knowledge base. **PBL also develops effective problem-solving, self-directed, lifelong learning skills**. It aims to achieve higher-order outcomes by identifying and providing learners in advance with all the steps required solving a particular problem (Borich, 2011).

Students with disabilities which affect their social or communication skills will likely struggle with project-based learning in a way their peers will not. Autistic children typically present difficulties with social communication and social interaction, and often find working in collaboration with their peers a difficult, stressful experience. However, given intense teacher support, neurodivergent students can participate in and even flourishing through collaborative learning exercises. PBL is a dynamic approach for students with disabilities as it prepares them for college, career, and life.

According to Kaltman (Kaltman, 2009), in efforts to offer students the best development from early childhood school, there is the need to include opportunities for concrete, hands-on learning themes. Scholars and psychologists have agreed that young children need to interact with their environment and can maximize on the hands-on learning experiences. Therefore, for autistic students, the **PBL approach** makes it possible, through the involvement and guidance of educators, to achieve results in terms of **engagement in learning activities** and to **improve listening, creativity, problem-solving and communication skills.**

2.2. Research results: National interviews for the definition of sector-specific emerging skills

In order to collect evidence regarding the newly emerging skills and competences in the hospitality sector through field research, **Partners collected 20 semi-structured interviews** (4/Partner Country) **with key stakeholders nationwide** – the so-called 'key players' - stakeholders with a strong interest and relevant commitment related to the Project. These key players have been identified among: Organisations active in the hospitality industry, VET providers/schools, Training centres, Experts in the fields and Organisations offering training support services to hospitality at a local/regional/national level. They also have to be involved in the hospitality sector and/or have recognized experience/expertise in dealing with ASD students with specific learning needs.

In this regard, a semi-structured interview is defined, as the research method which foresees an open debate, allowing new ideas to be brought up during the interview as a result of what the interviewee says through a set of predefined questions.

Conducting interviews gave the Consortium the possibility to collect relevant information regarding the definition of the emerging skills and competences in the hospitality sector, mainly for ASD students, at a national level. Furthermore, it also allowed Partners to get in touch with key stakeholders, this will help in creating a network of experts that can support the Consortium with the development of the whole Project and to further exploit its results.

The **result** of the field research made it possible to **identify and describe 15 emerging key skills and competences in the hospitality sector** - mainly addressed to ASD students - based on the experiences and needs of the local labour market in 5 different European countries (Italy, Spain, Portugal, Greece and the Netherlands), thus not only adding value to the project results but also ensuring their flexibility and adaptability to other national contexts across Europe.

Through this activity, the Consortium has also the possibility to spread out the Project among the main target group of the Project, who can be interested in being further involved in other activities. In this way, it will be possible to achieve the desired impact of making InTeaM4IEd a reference point in using the flexible and hybrid educational methodology and tools for addressing specific ASD learning needs.

All the data coming from the **conducted interviews have been gathered into 5 National Reports** (1/Country) in order to have a general overview at a country level of the current state of the art on skills and competences for the hospitality sector and to facilitate in-depth detailed analysis and the comparison of good results and to stimulate innovation.

2.3. Competence skills mapping/areas

To be taught/acquired

The concrete analysis and practical comparison of national results led the partners to select and agree on **15 emerging skills divided into 4 competence areas** related to the fields of communication, social emotion, self-management, and technicality.

- **Communication skills and competences:** refer to the knowledge of effective and appropriate communication patterns and the ability to use and adapt that knowledge in various contexts (Cooley & Roach, 1984). It includes skills such as:
  1. Social interaction
  2. Personal communication
  3. Interpersonal communication

- **Socio-emotional skills and competences:** involve successfully managing emotional arousal and engaging positively in social settings. It includes emotion knowledge, emotional regulation and appropriate emotion expression, social skills including perspective-taking, empathy and social problem-solving, self-management and responsible decision-making.
  4. Emotional control
  5. Problem-solving and resolution capability
  6. Self-confidence
  7. Team working

- **Self-management skills and competences:** refer to the ability to prioritize goals, decide what must be done, and be accountable to complete the necessary actions. Comprehensive self-management involves four realms: physical, mental, social, and spiritual.

   8. Flexibility
   9. Resilience
   10. Concentration
   11. Stress management
   12. Noise management
   13. Time management

- **Technical skills and competences:** refer to qualities acquired by using and gaining expertise in performing physical or digital tasks. There are many kinds of technical skills. Technical Competencies are the knowledge and abilities required to apply specific technical principles and information in a job function or role.

   14. Digital skills
   15. Green skills

3. Individual programme for data collection for VET

In order to collect data for VET regarding training/internship/recruitment activities, teachers/tutors must prepare an individual programme for each student with ASD based on the analysis of his/her sensory profile, among other things, and the difficulties he/she may have in social interactions. Similarly, educators should be responsible for preparing a document that includes the abilities, difficulties, aptitudes and skills that the student possesses in order to adapt the supports according to his/her characteristics (e.g. suggested form below).

Name of the organization

LOGO

DATA COLLECTION TEMPLATE

RESERVATION CODE	DATES OF STAY

	Check In	Check Out

FIRST NAME

AGE | >18

CONTACT DETAILS IN THE EVENT OF LOSS OR DISTRESS

VERBAL LANGUAGE

PERSONAL PREFERENCES AND INTERESTS / WHAT MAKES ME FEEL CALMED?

ALERT FEATURE / WHAT MAKES ME FEEL DISTURBED?

OBSERVATIONS

4. Definition of real-life scenarios within the hospitality sector and recommendations

In this Model, real-life scenarios are included. These scenarios are based on various situations that might occur in the hospitality sector, obstacles or challenges, which can come up during the daily practice of hospitality workers/trainees. The real-life scenarios chosen for the InTeaM4Ied Model were the following:

1. *Safe code doesn't work*
2. *No reservation known*
3. *Roundtable in class – resistance to change*
4. *Busy terrace – stimulus processing*
5. *Case solution-oriented thinking*
6. *Planning and organising, multitasking*

Considering the research done throughout the project, particularly, the series of interviews with experts in the areas of Autism Spectrum Disorder and Hospitality. In an attempt to create scenarios that were both comprehensive and realistic, we concluded that these scenarios would be the most appropriate to be integrated into the Model.

These scenarios, events that can happen in anyone's day-to-day life, aim to make an overview of a certain situation and clarify which key actors are involved in each case, as well as the area of competences addressed, the general challenges for students, the specific challenges for ASD students and recommendations for teachers, trainers, and educators. Therefore, these real-life scenarios can be used not only by students (with or without ASD) but also by their teachers, trainers or even employers. They aim to be an important resource for people in the hospitality industry so that they can have some theoretical and practical guidance on how to act in certain situations in their profession.

Many other examples could have been adopted for this Model, however, the selected scenarios also serve as an incentive for the autonomy of the students themselves, so that they research more and more on these topics.

Scenario n.	1
Title of the scenario	*Safe code doesn't work*
Short overview	The student is doing very well on his/her internship, completes all his/her tasks with excellency and goes with everything. Expectations are really high on him/her. Due to staff shortages, he/she is placed on a shift that does not fit his/her responsibility as an intern. The student didn't have a break since the beginning of his/her shift. During the closing, the code of the safe does not work and he/she meltdowns. There is panic and fear of failure because the tutor trusted him/her and he/she feels he/she did not live up to it. What should the student do? And the trainer?
Key actors involved/addressed	☐ teachers/trainers/educators x students x employers, family relatives
Competences area addressed	☐ Communication x Socio-emotional x Self-management ☐ Technical
General challenges for students	Excessive worry/rumination; Meltdowns
Specific challenges for ASD students (specific personality and potential will be considered; also, the degree of autism disorder)	An ASD student can have specific challenges depending on their specific characteristics. In this scenario, it might be very difficult for the student to manage their expectations and to communicate the problem. The student needs constant breaks and supervision during his/hers work hours. With communication and emotional management skills, the student will be more able to talk about their difficulties and challenges. The trainer should make the student comfortable to share their thoughts and needs.
Recommendations teachers/trainers/educators	The teacher needs to understand the difficulties of interpreting their students' feelings and non-verbal signals and provide them with various solutions for different types of problems – for this example: since some people with ASD have the ability to memorize musical notes, install a sound code in the safe. Make sure they have scheduled times to rest and be in their own space. Provide a guidebook with all the necessary guidelines from the establishment. With these strategies, the teacher will enhance his/her trainees' emotional management, problem-solving, stress management and time management skills.

Scenario n.	2
Title of the scenario	*No reservation known*
Short overview	Grandfather and grandmother have been married for 60 years and go out to dinner with all the children and grandchildren. They come to dinner with a group of 35 people, have reserved a separate room and come into the student's front office. The reservation is not on the list. The student starts an investigation into the missing reservation. Meanwhile, the family becomes restless: the grandmother is in tears because she arranged everything, the grandfather wants to file a complaint, the children run down the hall and the mother has to breastfeed her baby. The student starts to feel very anxious and freezes. How should the student proceed?
Key actors involved/addressed	□ teachers/trainers/educators x students x employers, family relatives
Competences area addressed	x Communication x Socio-emotional x Self-management □ Technical
General challenges for students	Sensory perception issues; Cognitive processing delays; Anxiety
Specific challenges for ASD students (specific personality and potential will be considered; also, the degree of autism disorder)	An ASD student can have specific challenges depending on their specific characteristics. For this scenario, the student might block/freeze, so he/she will benefit from a "safe space" time without any distractions. The tutor should give the student the needed time to process the situation before expecting a response. The student might also have some issues in terms of communicating a solution. Once again, the student will benefit from developing their communication and socio-emotional skills.
Recommendations teachers/trainers/educators	The teacher/trainer should organise a team who is able and prepared to support the student with ASD and should teach how to manage emotions. The teacher/trainer should teach their students communication and socio-emotional skills such as social interaction, emotional control and team-working. The teacher/trainer needs to understand the difficulties of interpreting their students' feelings and non-verbal signals, then should provide them with various solutions for different types of problems – for this example: encourage the student to apologise to the family and to give him/her a few minutes to find a solution. The teacher/trainer should also be aware of the student's personality and needs and give the students some guidelines beforehand so they know how to act and react when they face this kind of situation: check reservation data in advance, and identify potential gaps and issues which could be solved/communicated before the situation appears. This way, students will develop self-management and communication competences.

Scenario n.	3
Title of the scenario	*Roundtable in class – resistance to change*
Short overview	As a teacher, you have come up with a nice working method that has enabled you to set up the classroom differently and promote communication between students. The tables and chairs are now changed from two by two into roundtables. However, your student with ASD seems very disrupted and insists on replacing the tables and chairs as they were before.
Key actors involved/addressed	x teachers/trainers/educators x students □ employers, family relatives
Competences area addressed	x Communication x Socio-emotional x Self-management □ Technical
General challenges for students	Resistance to change; Controlling behaviours; obsessive-compulsive behaviour; Insist on the sameness
Specific challenges for ASD students (specific personality and potential will be considered; also, the degree of autism disorder)	An ASD student can have specific challenges depending on their specific characteristics. In this scenario, the major challenges for the student are experienced behaviours that can occur from an unexpected change. The student can communicate in advance the possibility of photos of how the class will be. This way, the student will get some time to process the change.
Recommendations teachers/trainers/educators	The teacher should prepare the transition plan and provide all the necessary information about the change, as well as understand the specificities of the students, especially the ones with ASD. In this scenario, we are dealing with a situation of resistance to change. Due to the behavioural, information processing and sensory aspects of their diagnosis, many people on the ASD spectrum often prefer familiar environments with a predictable routine. Therefore, in a situation of change, it is important for the teacher to plan ahead all the changes, and provide the necessary information and transition plan in order to prevent this resistance. In order to involve the students and be more aware of their challenges, it might be a good solution to ask them for ideas for a new format of the class and ask them to help change it as they prefer. This way, the students become the agents of change.

Scenario n.	4
Title of the scenario	*Busy terrace - stimulus processing*
Short overview	The weather is nice and the terrace is full. The student takes the order. A family with 2 small children arrives…children are busy, jittery and hungry… he asks what they want to drink…coke is not allowed by the mother, chocolate milk is no longer in the restaurant stock… apple juice, oh no, still orange… finally noted the order for 2 adults and 2 children. They also want to eat pizza… With the question of whether the children can have their pizza a little faster because they are starving. Meanwhile, other customers think that the student has been standing at that table a bit too long and beckon him that they also want to be helped… panic. How can the student handle this?
Key actors involved/addressed	□ teachers/trainers/educators x students x employers, family, relatives
Competences area addressed	x Communication x Socio-emotional x Self-management □ Technical
General challenges students	Social interaction. Respond to nonverbal cues. Emotional control.
Specific challenges for ASD students (specific personality and potential will be considered; also, the degree of autism disorder)	An ASD student can have specific challenges depending on their specific characteristics. Someone with ASD often needs more time to process information. With an abundance of information, it is no longer possible to organize. Students with ASD need more time to process stimuli. They react strongly to stimuli because they cannot filter as quickly. They become upset more quickly if they are exposed to too many stimuli.
Recommendations teachers/trainers/educators	In practice, that crash can be seen because someone becomes frustrated, angry or withdraws. "There is no more information available. It is then important to find peace, to look for a low-stimulus environment. Tell the student what you observe. Remove him/her from the situation to watch from a distance. Get the student out of the situation and ask the student questions. For example, ● What is happening; ● how do you feel about it; ● What is the best thing I can do now? And then… ● structure the assignment ● Help to set priorities ● 1 command at a time ● clear job description and structure

Scenario n.	5
Title of the scenario	*Case solution-oriented thinking*
Short overview	The meeting room is reserved by a company. The coffee table should be ready by 10 am. At 10.10 someone comes to you and asks where the coffee is. Research shows that the coffee was served in **another** room. Those guys had not reserved coffee and some goodies. Students mixed up the halls. Panic ensues… - does he take the coffee from the room? - leave it there (because it has already been used) and charge the costs… - where does he get other biscuits from so quickly? What should the student do?
Key actors involved/addressed	□ teachers/trainers/educators x students x employers
Competences area addressed	x Communication x Socio-emotional x Self-management □ Technical
General challenges for students	Sometimes things go wrong everywhere. Students must learn skills to deal with this. Problem-solving and resolution capability.
Specific challenges for ASD students (specific personality and potential will be considered; also, the degree of autism disorder)	Students with ASD love predictability. They have difficulty with changes, especially when they come unexpectedly. A student with ASD may become tense from "surprises" or unexpected events.
Recommendations teachers/trainers/educators	An ASD student can have specific challenges depending on their specific characteristics. Many students with ASD have good intelligence and they are often analytical. This is a strength that they can make good use of when solving problems. By using their strengths, it is possible to understand situations that they do not understand well. They learn to invent tricks to cope with social situations. They come up with alternatives if something does not work out. ASD students have Executive function problems. Learn them to invent tricks to cope with (social) situations with humour and creative solutions. In this example: Coffee will be served "there" instead, or "this way" instead, because we thought of a better room for you, and wish to offer you the best in all aspects. The ability to empathise with the feelings of others is tricky; - Being able to put yourself in the perspective of others; - Empathise and sympathise with the state of mind of another; - To respond appropriately. All three are more difficult for students with ASD than for other students.

Scenario n.	6
Title of the scenario	***Planning and organising, multitasking***
Short overview	The students work in the kitchen and prepare a meal together. one of the students has the assignment to make a salad. The students are given an assignment to make their own salad according to a step-by-step plan. All students cook the eggs and, in the meantime, get to work washing the lettuce and cutting the tomatoes and cucumber. Student x also cooks the eggs and waits neatly for 8 minutes until that assignment is completed. Result...all salads are ready to be served, except student x's salad.
Key actors involved/addressed	x teachers/trainers/educators x students □ employers
Competences area addressed	x Communication x Socio-emotional x Self-management x Technical
General challenges for students	Planning and organising are important because it provides an overview. Students need an overview so that they know what they are doing and what the situation is. In addition, students often work with a team and it is important that everyone knows where they are in the process and what needs to be done.
Specific challenges for ASD students (specific personality and potential will be considered; also, the degree of autism disorder)	Planning and organising and prioritising is often difficult for students with ASD. They don't know how to tackle a task (overview). For example, many students with ASD find it difficult to pay attention to a task. Someone with ASD also experiences time differently. It is therefore difficult to estimate how long something will take. They find it difficult to complete tasks (concentration).
Recommendations teachers/trainers/educators	Together with the student, make a clear plan with, e.g., pictogram man who can offer more overview and structure. Together with the student, you can divide the tasks into smaller sub-tasks, so that a large task is more manageable and the student gains more insight into what is involved in a task (note that these do not become too many small sub-tasks so that you bogged down). ● Indicate how much time the assignment will take. ● Work in blocks and take a break. ● Check whether the information is clear A solution for ASD persons could be; to experience or measure time differently, other ways of dealing with time can help. E.g., cooking eggs takes 3 times to wash lettuce while washing lettuce takes 1 time to sing the song "Happy Birthday to You". The formal units of time measurement and their meaning (seconds, minutes in particular) are not very convenient and/or too abstract in some cases.

5. Suggestions and Recommendations

The scenarios identified deal with situations that students with ASD are not used to (supervision situations), since there is no possibility of anticipation. It is, therefore, crucial for educators to identify and propose a general methodology for dealing with situations "outside the routine", since this clashes with one of the main difficulties of the autistic condition: broad understanding. We are not in a position to solve in a general way a situation that is extremely specific and individual, however we have identified possible recommendations for educators, resulting from the scenarios (see above).

At a general level, suggested approaches for educators are to:

a) clarify as best as possible the context in which the student is involved (overview), providing clarification if he/she has difficulty framing the situation as a whole;

b) break down and organise tasks into smaller sub-tasks, so the student gains more insight into what is involved in a task and ensures that himself/herself has understood the sequence of activities to be performed;

c) indicate a time frame of how long each task should take, providing simplified units of measurement (e.g., washing lettuce takes 1 time to sing the song "Happy birthday to you");

d) make sure that the student has moments of rest and/or moments in which to be in his/her own space while carrying out the tasks;

e) anticipate the student's needs/difficulties in handling a given situation and provide some suggestions, so that he/she knows how to act and/or react to the difficulty;

f) plan in advance any changes to the routine of tasks to be carried out, providing information and involving the student, possibly from the very beginning;

g) when problems arise:

- help to re-establish a calm state of mind;

- remove the student from the problematic environment to observe the situation from a distance;

- describe to the student your point of view regarding the problem and ask him/her to describe his/her observations;

- suggest tricks to cope with (social) situations with humour and creative solutions.

We also recommend that teachers/tutors prepare a training programme on the characteristics of ASD with the rest of the students, who are supportive figures in possible situations and scenarios. This training programme should be accompanied by the preparation of anticipation notebooks and/or social stories that collect, with visual support if necessary, the routines of the student with ASD.

6. Conclusions

In this document, we demonstrated:

a) The need for trainers to acquire the appropriate skills and competences in order to be able to interact in classes in an inclusive way with learners with disabilities, especially those with ASD, so as to create a meaningful learning environment;

b) Innovative approaches and methodologies that are best suited for teachers in hospitality schools dealing with the learning of students with ADS, in order to solve a behaviour problem with a cooperative-learning activity;

c) Recommendations for teachers, trainers, and educators who train students (with or without ASD) on how to act in certain everyday life situations in their future professional context in the hospitality sector, by analysing contexts based on likely situations that could occur in the sector;

d) The need of students (with or without ASD) to acquire/develop specific sector skills in line with labour market requirements, useful for their future profession in the hospitality sector;

e) The potential of integrating students with ASD in vocational education and training programmes as facilitated by specific training/learning tools, hence promoting education and training as a tool for social inclusion and equal opportunities.

What has been presented will lead to the development of the two next project results: PR2 - F.H.E.M.T. - Flexible and Hybrid Educational Methodology and Tools and PR3 - InTeaM4IEd App, which will include the main outcomes coming from PR1 and PR2 and is intended as one of the pivotal tools for the exploitation and sustainability of the project.

The F.H.E.M.T. will lead to actual training and learning goals, in four dimensions: a) a sector b) a special group of end beneficiaries (ASD students) and the VET trainers who comprise the teaching/learning community c) a methodology that trainers and students will use, each in their specific role in the teaching/learning community d) technology (app) as facilitating the process in terms of delivery and mode.

Then, drawing from the F.H.E.M.T, the InTeaM4IEd App, as interactive and digital tool will be developed.

Annexes

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The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

30