

AACC

2nd INTELLECTUAL OUTPUT

Handbook for teachers for the use of AAC in cultural education



Co-funded by the
Erasmus+ Programme
of the European Union

A.A.C.C.ESSIBLE CULTURE

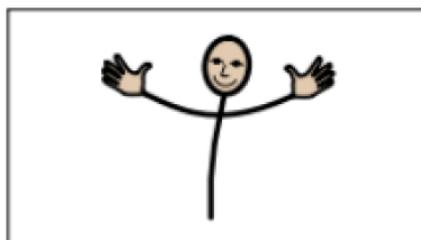
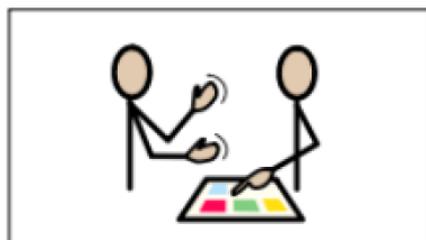
*Museums for everyone developing the
Alternative Augmentative Communication tools*

Project Reference: 2020-1-IT02-KA227-SCH-095549

102

RESULTS

COMMUNICATIVE and WELCOMING





Teacher's handbook for AAC



AACC - IO2

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1. Introduction

This Handbook is an operational guide for teachers for the use of AAC strategies, supporting them and cultural educators to organize the participation of students with SEN and communication difficulties in extracurricular activities and to enhance their results in educational pathways. In this Handbook, you will find information, advice, and useful tools for the design and implementation of inclusive educational paths by establishing a fruitful collaboration with cultural institutions.

What is INCLUSIVE EDUCATION?

A successful education system must ensure quality learning for all students. An Inclusive School focuses on meaningful learning, respect, and value, correcting asymmetries, and developing the maximum potential of each student. The International Framework of Inclusive Education defined in the *Education 2030, Incheon Declaration and Framework for Action, Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UNESCO, 2016)* has as its goals to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. To measure these goals the Declaration defined some indicators, such as

- Indicator 4.5: By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations.
- Indicator 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

“(...) ensure that all children, young people, and adults gain the knowledge and skills they need to live in dignity, to fulfill their potential and contribute to their societies as responsible global citizens (...) education, a fundamental human right, is the key to global peace and sustainable development”

Irina Bokova, Director-General of UNESCO

The European Agency for Special Needs and Inclusive Education (European-agency.org) is an independent organisation that acts as a platform for collaboration for the ministries of education in our member countries. Its work focuses on supporting the development of inclusive education

systems to ensure every learner's right to inclusive and equitable educational opportunities. This enhances learners' life chances and possibilities for actively participating in society. The Agency member countries' shared ultimate vision for inclusive education systems is that all learners of any age are provided with meaningful, high-quality educational opportunities in their local community, alongside their friends and peers.

1.1. A.A.C.cessible Culture project - short description

The project **"A.A.C.cessible Culture: museums for everyone developing the Alternative Augmentative Communication tools" [AACC]** deals with an almost overlooked topic in Europe: the difficult fruition of the cultural and artistic heritage that affects both children with communication deficits and young recently immigrated people.

Lacking precise data, in the UE can be estimated several million children with Special Educational Needs (SEN), including SLD (Specific Learning Disorders), language or nonverbal motor coordination deficits, attention and hyperactivity problems, and minors under 15 of non-European origins with very limited knowledge of the language of the host country.

For years, museums promoted projects aiming to overcome architectural barriers and to create paths for people with physical disabilities (e.g. tactile paths, soft zones, openings at dedicated times), but not enough has been done to enable people with communication deficits to understand the content of cultural structures and encourage their active participation.

The main innovation of the project is to build a model of AAC specifically dedicated to allowing these children to enjoy cultural and artistic heritage, encouraging their personal growth and autonomy, and enhancing the emotional, relational, and cultural dimensions that art can give.

We pursue three fundamental results:

- 1) The creation of original communicative codes and tools in AAC;
- 2) The realisation of on-site and virtual cultural paths, digitised to guarantee even remote usage;
- 3) The creation of an innovative skill profile for the cultural sector: a facilitator for the participation of people with SEN, able to design and adapt fruition paths and to interact with the world of school and associations.

AACC thus responds to the needs of:

- Students with SEN, and their families, to reduce isolation, and to make them participate actively and with the maximum efficacy to the experiential learning;
- Teachers, in particular support teachers, putting at their disposal new tools suitable to guarantee this new kind of didactic, also at a distance;
- Cultural institutions, to reaffirm their public role by innovating the offer of qualified services, and guaranteeing new methods of fruition for this considerable wide audience;
- Cultural operators and educators, to invest in new professional skills, to strengthen their position in the job market of these services.

Various training sessions (called C) were carried out during the project, to give all the figures involved the necessary knowledge and operational skills for the correct planning, design and management of the activities. The courses were carried out in two ways: classroom training and field experimentations (C4 - C7).

1.2. Analysis data of the four experimentations carried out (C4- C7)

The same training scheme was tested in 4 different countries (Greece, Portugal, Romania, Italy) that have been identified as prevalent for the experiments of visits and workshops with children with SEN and communicative needs at selected museums or other cultural structures (in the hands of the operational or associated partners).

Main goals of experimentation:

- a) Test the local conditions of the feasibility of cultural education paths with AAC,
- b) Support the recognition of skills and the preparation of cultural educators to work with disadvantaged young people
- c) Develop the skills for the conception of a specific intervention method with AAC, and consolidate local networks for the experimentation of new educational paths.
- d) To improve the analysis of the different museums' strengths and weaknesses. To develop the ability to intervene and manage resources aimed at the effective use of spaces and contents of the museum's collections
- e) To develop, implement and promote a project and know how to evaluate it.
- f) To be able to offer a cultural service with AAC for schools and associations assisting people with SEN.

These goals helped to improve educators' personal skills and the management system for visits and workshop activities.

During the 4 experimentations, moments of training and brainstorming alternated with field trials of the AAC tools, thus making it possible to observe different local realities and carry out experimentations thanks to the involvement of schools, teachers, and students.

In April 2022 the C4 course was organized in Genoa by Solidarietà e Lavoro Società Cooperativa Sociale O.N.L.U.S. For the first field experimentation of the AACC project, we decided to test the effectiveness, the modalities of predisposition, and adaptability of the tools identified in the previous phases through the analysis of 3 different structures for setting and content: Castello D'Albertis - Museum of World Cultures, Palazzo Ducale (SUPERBAROCCO exhibition) and Acquario di Genova. In addition to the project partners, the activities also involved teachers, educators, and students invited to experiment with a new way of inclusive visits.

In May the project partners met in Katerini in Greece where the effectiveness, methods of preparation, and adaptability of the tools were tested with the involvement of teachers and students of Platon School in the three development phases of an inclusive visit: before, during, and after. The C5 included several classroom activities with the students and a visit to the DION Museum and the archaeological area.

In June, the School of APEL received in Madeira the partners for the C6 activities, experimenting cultural visits with AAC strategies. The C6 included: Visit The City of Sugar Museum and the Frederico de Freitas House Museum with students from the HBG and APCM Schools; visiting the Funchal City Hall; the sharing experiences with the Accessibility and Technical Assistance Division of the Regional Directorate of Education and, finally, storytelling by people who use augmentative and alternative systems of communication to help us understand their points of view and their needs.

In July we held the C7 in Romania, the last field experimentation of the second phase of our project. The training included visits to the Palace of Culture and post-visit activities with AAC strategies with the students from the Association "Suntem Diferiti" (We are Different), students and Ukrainian children from the Association Lukaut, and the students with special needs from the "Ioan Holban " High School. On the last day at the Kogalniceanu Museum we had the chance to meet and talk with the school psychologist Mihaela Grosu from the School "Constantin Paunescu" of Iasi, review the activities carried out, and collect feedback to plan the next steps for the implementation of the AACC project.

2. Augmentative Alternative Communication (AAC)

2.1. What is it?

Alternative and Augmentative Communication (AAC) is a collection of different strategies and methods used to support the communication of people with verbal speech disorders. Research shows that almost 1% of the world's population has some kind of communication problem. Thanks to the development of AAC, and its availability for people with various disabilities, it was possible to break the barrier between a person with communication difficulties and the outside world.

AAC can be divided into three categories: no-tech AAC, low-tech AAC, and high-tech AAC. The oldest form is no-tech communication, which focuses on body language, gesture interpretation, or facial expressions. This category consists of the British MAKATON® language program and sign language. In the low-tech AAC category, we distinguish printed books and communication boards containing symbols and inscriptions that help people understand each other. High-tech AAC requires the use of electronic devices such as tablets or smartphones with special software that supports user's communication. Software such as CoughDrop® recreates the text assigned to a symbol by a speech synthesizer. The first form of Alternative and Augmentative Communication introduced to people with SEN is the first two categories – due to the high availability of materials and the possibility to use with different kinds of disabilities.

2.2. The different collections of symbols

Among the various communication techniques and strategies, pictograms are the most common form of communication for people with disabilities. Symbols represent a specific thing or activity, combined with text to help convey the message. Pictograms deliver the message in a way that is clear and understandable to many. Various symbol databases are available, the most common ones being PCS, WLS, BLISS, and ARASAAC.

2.2.1. PCS (Picture Communication System)

The Picture Communication System (PCS) was created for people on the autism spectrum in order to teach them a spontaneous and functional form of conversation using symbols. The implementation of PECS communication (Picture Exchange Communication System) consists of 6 phases. In the first phase, the child exchanges a picture in order to ask for the desired thing - this is supported by a real thing (e.g. a favorite toy). The second phase focuses on developing spontaneity by increasing the variety of communication partners and the distance the child has to cover to

communicate. The third phase is called picture discrimination - the student has to choose from the communication board the things he or she does not want. The fourth phase is the sentence building phase - the child selects the present and absent elements by arranging the sentences on the bar (e.g. I want + the desired thing). In the fifth phase, the child answers the adult's question "what do you want?" by selecting the appropriate symbol. The final phase focuses on expanding vocabulary and answering questions.

There are over 45,000 symbols in the PECS database. A person communicating using the picture exchange system most often has their own book with symbols and a sentence strip at the bottom of the book. The message is transferred by sticking symbols to the sentence strip and passing it on to the interlocutor.



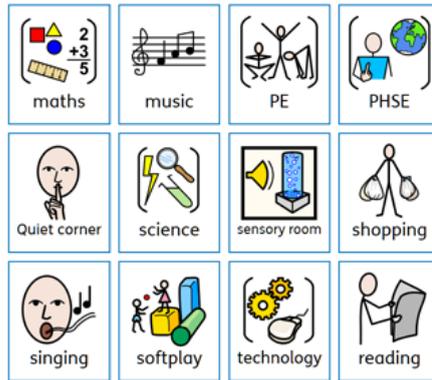
Communication book with PECS

(source:

<https://cdn.pecs-poland.com/wp-content/uploads/2022/03/04162716/Pyramid-Products-Communication-Books.png>)

2.2.2. WLS (Widgit Literacy Symbols)

The WLS (Widgit Literacy Symbols) system was created in 2000 to improve the understanding of written text. It is most commonly used by people with learning disabilities. This base is distinguished by the application of grammatical rules by adding a specific "sign" over the symbol. They help determine the tense and pronoun, as well as ordinal numbers or the gradation of superlatives. WLS is graphically very coherent, but due to the number of ideograms, it is sometimes not very transparent. Pictograms are designed to represent exactly what they are meant to convey. The WLS system is suitable for the symbolization of texts. Currently, there are 20,000 symbols that are constantly updated. Widgit Symbols are used all around the world since they support 17 different languages.



WLS symbols

(source: <https://www.widgit.com/images/sectors/home/linda-slider.png>)

2.2.3. Blissymbolics

BLISS or Blissymbolics is an auxiliary language designed to facilitate communication between people using different languages. The creator of the system, Charles Bliss, sought to create signs that do not correspond to any sounds, in order to enable the understanding of the written language for people using different languages. He published his first book, ‘Semantography’ in 1943, presenting the principles of the functioning language. In 1970, a center for children with disabilities in Canada decided to use Bliss' system to facilitate and enable communication for children with communication difficulties - thus starting the AAC. The Bliss system is based on dozens of basic symbols that combined with each other or with a specific indicator, can represent any concept or word.

Each Bliss - character has a specific semantic meaning,



Bliss symbols

(source: Characteristics of Blissymbolics Presentation at ISAAC research seminar Pittsburgh, 2012, Margareta Jennische, Associate Professor Uppsala University, Sweden)

2.2.4. ARASAAC (Centro Aragonés de la Comunicación Aumentativa y Alternativa)

The Aragonese Assistive and Alternative Communication Center (ARASAAC for short) is a pictogram database created in 2007 in Spain. In recent years, this system was popular mostly in

European countries but now is also used worldwide. This system is translated into more than 20 languages and is available under a public license (BY-NC-SA). As a result, these symbols are often found in schools, hospitals, and other public places. This database is similar to the WLS, it is characterized by high transparency of symbols, but less graphic consistency. Currently, over 10,000 characters are available and are constantly updated.



Communication board (source: <https://static.arasaac.org/images/aac-usage/16.jpg>)

2.3. Who is it for?

Due to the complex structure of the human body, we can distinguish many causes of problems in verbal communication. Common AAC users include people on the autism spectrum (ASD), those with learning disabilities, after a stroke, and people with locked-in syndrome. Alternative and augmentative communication is also used in progressive neurodegenerative diseases such as Parkinson's, amyotrophic lateral sclerosis (ALS), and dementia. It's also very useful for non-native speakers and preschool children.

Professionals have been studying AAC strategies for years, so we've learned a lot about how AAC helps people communicate, but there are still some common concerns about using it. For example, approaching the AAC for the first time could be seen as difficult, someone might worry that AAC could slow down language development or wonder how to apply it in classes that have both students with and without communicative difficulties. During this project we noticed that:

- **Practice:** AAC, as with all new ways of communicating, works better with practice. The more you engage with the student who uses AAC, the easier it becomes! The same applies to the

use of AAC in extracurricular activities with students.

- **Age, Skills, and Timing:** AAC helps people of all ages (even those younger than 3 years old or senior citizens with language or memory issues). We can start using AAC very early. There are no thinking skills, test scores, or other milestones that you need to reach before AAC can help.
- **Talking and Motivation:** A lot of people wonder if using AAC will stop someone from talking or will slow down language development. This is not true, as it was shown that AAC can actually help get accustomed to spoken and written languages. People who use AAC can also learn how to read and write. AAC can be used as a tool to learn a new language, for example helping children that don't know how to speak or read the language of the country they are living in.
- **Movement:** A person can use AAC even if she has trouble moving their arms and hands. There are many ways to use an AAC system besides touching it. It's necessary to find the best way for each person to use their AAC system.

2.4. How to communicate with non-verbal children?

When starting to introduce alternative methods of communication, teachers have to consider many factors. We should start by making connections with our students. The position must be adjusted to the children, allowing eye or other contact adapted to the student (e.g. touch). The language must be adapted to the needs of the children, the messages must be short, and the most important words should be emphasized by pointing to the appropriate symbol. We can also support the transmission of the message with a gesture or indication of a specific object.

It is important to ensure the best conditions for the child's initiative. The teachers should respond to the child's behavior (like gestures or body movements) and messages. They should give every verbal or nonverbal message meaning, saying out loud what the child wanted to say. Students should be offered a choice, and their needs should be fulfilled to show the kid that the message they say is important.

In order to establish a dialogue, it is important to build a common field of attention with a child. Teachers should be active in the conversation. It is important to organize social situations in which the students would have a chance to notice the changes that they can introduce with the message they say.

2.4.1. How to model conversation using symbols?

Modeling in AAC is showing symbols to emphasize what we are trying to say. The main goal of modeling is to show the child what his device /communication aid is for. Modeling helps the child understand what the message is about. When providing information, the therapist or educator should emphasize the keyword by showing a symbol, object, or gesture. Then we need to recognize the child's desire and name what we see (e.g. I see that you are looking at the ball, do you want to play?). The next step is to ensure that the student has the opportunity to answer the question asked – they can reach for a given item, indicate a pictogram, show a gesture, or reach for a helping hand. It is important to wait patiently for the student's response - it allows the child to understand that what he communicates makes sense and has a real impact on the situation.

Modeling should be done all the time. It is also used to inform the child, explain, and name actions and things that might be interesting for the child. The teacher should use pictograms as often as possible, in repetitive and routine situations, in order to expand a child's vocabulary. The form of symbols depends on the needs of the student, modeling on a tablet is just as important as modeling on printed symbols or real objects.

2.4.2. How to facilitate texts using AAC?

In addition to modeling, we can facilitate the use of AAC and enrich a child's dictionary in a variety of ways. One is room labeling. Marking a box with toy cars with the symbol "car", the bookcase with the symbol "book" or describing drawers by using the symbol "sock" or "underwear" allows the AAC user to quickly find the item and helps to get to know the symbol.

The choice-based play strategies are conducted in order to let the child decide what activity will be next, using two symbols. Give the child a choice, and then play with what the person has chosen. It gives the child decisiveness.

Activity plans are often used in therapeutic facilities - schools and kindergartens. Showing kids symbols representing routine activities during the day, such as "breakfast", "walk" or "nap", is important to introduce the most necessary symbols. In addition, such an activity plan increases the child's sense of security, because he knows what activities and duties await them during the day.

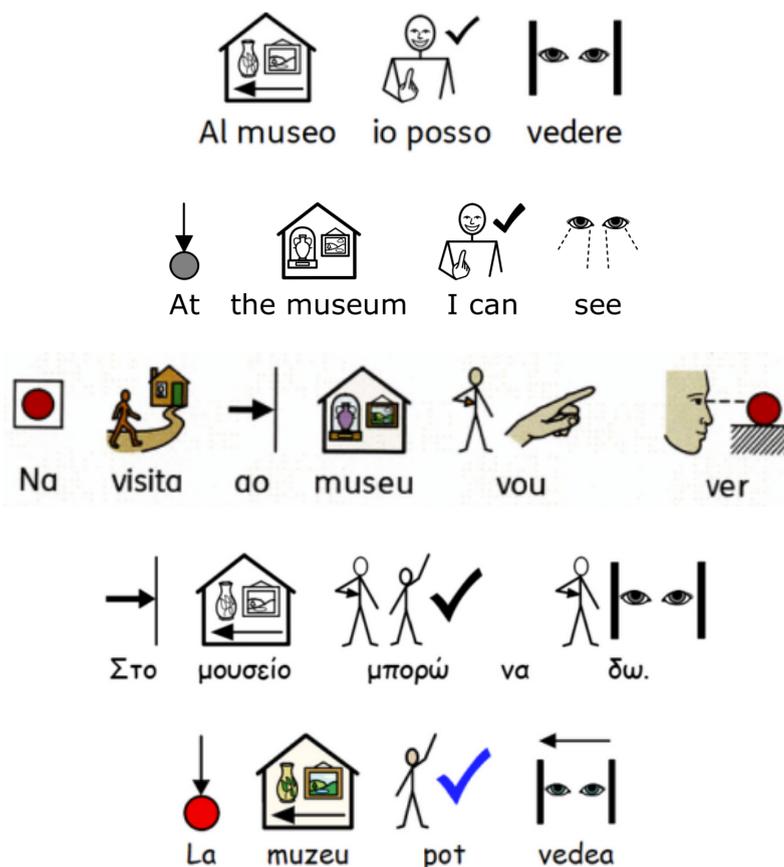
Symbols can be categorized according to three levels of complexity:

- 1) Transparent (nouns, verbs, reproduce what they represent);
- 2) Learned or translucent (must be learned to be understood);
- 3) Abstract (have no immediate meaning).

While defining a text with symbols it is preferable to use transparent symbols as much as possible. Symbolizing a text is not a translation. To symbolize, you need to select the main concepts, define short sentences, and avoid as much as possible abstract concepts such as time and units of measurement.

As for the selection of symbols in black and white or in color is essential to keep in mind the readability of the text. In our activities we preferred the use of black and white, using the colored symbols only to focus attention on particular ones. During the training, students were asked if it was easier for them to use the symbols in black and white or in color and almost all of them chose black and white. Those who selected the colored version said that to them that version seemed more visually pleasing but less legible in meaning compared to the black and white one.

Symbolization allows you to work with texts in different languages. During our experimentations, we had the opportunity to try the symbolization in WLS in the languages used by the project partners (Italian, Portuguese, Spanish, Polish, Romanian, Greek), as well as English and French. Starting from the same text, we tried to evaluate any differences in terms of the use of symbols, colors, or changes in structure due to the peculiarities of the syntax of each language. Simplifying the phrases to symbolize helps to reduce the gap between languages while simplifying the process of symbolization at the same time.



3. AAC in school

Introducing alternative communication in schools is crucial for students with communication problems. The ability to express their needs enables students with disabilities to achieve a quality of life that would be unavailable for them without the ability to communicate.

In order to effectively participate in classroom activities, students with complex communication needs must have a way to:



3.1. How to engage students with and without SEN?

A good communication partner uses several skills and strategies to facilitate communication and engage people with and without SEN. Watching, waiting, and listening are key elements to motivate a child to communicate with you. They enable the interaction to begin effectively. If we are attentive with the child we will begin to notice his initiatives, if we follow him we will learn to respond to them appropriately. It is important to catch the repetition of the child's behavior in certain situations in order to give them communicative meaning.

A student with communication problems that require the support of AAC should be provided with such care, have access to his communication tools at all times and possibly, carry a badge with brief information on how to communicate with them. Teachers should be supported by speech therapist, parents, and the entire therapeutic team in order to choose the best AAC tool for these specific children.

The use of Augmentative and Alternative Communication (AAC) by kids with complicated communication requirements is a common task for educators and speech-language pathologists. This could take the form of a high-tech speech-generating device or a low-tech visual communication system. When working with this diverse group of students, we often start by teaching them to request because they are already motivated to get the things they want. Since it's crucial for children to have their basic needs and wants to be addressed, we occasionally find ourselves in this situation. Learning that they have that particular ability through communication is fantastic for students but we need to go further. Our aim should be for kids to express emotions and experiences, participate in social behaviors, request and respond to questions, get attention, make comments, direct actions, and reject and refuse as they develop and learn.

The AACCC project pays particular attention to involving the whole class group in the activities, paying particular attention also to the involvement of children without special educational needs. To do this, it is necessary to set goals and define involvement scenarios according to the grade of the class and the age of the children involved (preschool, primary, secondary).

Among the main objectives we can mention:

- Familiarize students with AAC strategies and thus allow them to learn a new way of communication;
- Get to know the exhibits of a museum or a cultural institution and learn about them;
- To practice teamwork;
- To sharpen the students' imagination and creativity.

For primary and secondary school students, there are several online software to organize and plan games and educational activities (like "smile and learn" and Kahoot). In these activities, symbols can be useful tools for the didactic purposes of the activities. To put technology at the service of education is very useful and motivating for students, especially in consideration of the great diffusion of these tools following the pandemic period.

ENGAGE STUDENTS WITH SOFTWARE AND GAMES

1. Create a learning game or trivial quiz on any topic, in any language

2. Host a live game with questions on a screen or share a game with remote players

3. Join the game and answer questions in class or on your device

3.2. How to harmonize AAC with curricular activities?

When planning activities for your class, focus on expanding the students' communication functions or reasons to communicate. Making activities exciting will enable participants to use them as motivators. Additionally, pay close attention to activities that involve science investigation, theatrical play, and snack time as these frequently provide more possibilities for communication.

Young kids' language skills can be developed through repetition. Using the same words or phrases while carrying out particular actions aids in solidifying a student's comprehension of the language, which encourages them to use the terms. Calling roll each day and having the children react with "I'm here" or "hello" is another strategy. Students will eventually start utilizing the word on their own to finish the sentence or song that they keep hearing it.

Modeling is one of the most powerful tools to teach language and should be provided in all environments and natural contexts. AAC is the only form of communication we expect students to learn without immersion. It's important for students to be exposed to language in order to learn to use it effectively. The same is true for our AAC users.

Simply said, modeling involves using the student's communication system to demonstrate to them how to use their AAC device or tools to communicate various things. To achieve this, you don't need to be familiar with every word's location on the gadget. Choose a few essential expressions to practice modeling throughout the day and in many contexts. Good, like, enjoyable, and not like are some excellent examples of teaching young children to comment. It will be beneficial to discuss your actions and thoughts while you demonstrate on the student's AAC device. Try to demonstrate to the learner several ways to use the gadget for communication during the modeling process. For instance, use the device to demonstrate feeling words to convey emotions or question words to demonstrate curiosity.

Providing wait time is one of the most crucial and effective pieces of advice to keep in mind. AAC users require some time to comprehend the language being used around them, organize their ideas, and then send a message on their device using those ideas. Give them enough time to complete it all because this takes longer than verbal communication does. A well-placed pause might also be effective. This can be used to promote commenting. For instance, you can say "I see..." or "I like..." when gazing at a book, followed by an expectant pause. We, teachers, are frequently tempted to speak in the void. Instead, let your kid fill it.

TIPS FOR IMPLEMENTING AAC THROUGHOUT THE SCHOOL DAY

1. Start with small goals. Try choosing one core word to practice for the week. Once you feel confident with this word add another one
2. For AAC users, use their AAC system to model what you want to say by saying the words as you show the symbol or press the corresponding buttons on the device.
3. Use 'Think-Alouds' strategies to talk about what you are doing and what you are looking for
4. Model key language that is relevant to an activity (e.g. concept words, verbs)
5. Interpret and respond to the students' communicative attempts even when these are accidental or in play
6. Wait! You may need to allow for increased processing time for the students to process your request and formulate a response
7. Encourage the students to bring their AAC system with them between activities and between classrooms at school
8. Ensure all staff are aware of the communication strategies for the students
9. Model, expand and stretch. Remember to model a range of language functions including commenting, protesting, questions...
10. Embed use of the AAC strategies into daily routines

3.3. How to involve classmates and enhance the presence of caregivers and reference figures of students (family members, associations)?

All the actors in the communication process (teachers, classmates, museum operators, and families) should be trained and informed about accessible culture's principles and goals.

The development of communication strategies for a child who cannot talk requires the active participation of the family. A family that has been unable to establish effective communication with their child could feel resentful and worn out by numerous unsuccessful exchanges, and they frequently feel burned out. The process of integrating supportive communication interventions into family life is difficult. Families should be systematically and gradually involved in the development of the child's communication ability. They should get concrete guidance in order to solve the problems they encounter.

CRITERIA FOR EFFECTIVE AAC INTERVENTIONS IN THE FAMILY ENVIRONMENT

EMOTIONAL READINESS (It takes time to accept that a child is unable to communicate through speech and to accept the associated limitations)

RECOGNIZE A CHILD'S INDEPENDENCE (Recognizing a child's right to express their own will allows you to think of your child as a separate individual)

RECORDING (Consent to the recording of communication support activities can be an important support for verifying development)

RECOGNISE THAT AUGMENTATIVE COMMUNICATION REQUIRES ADHERENCE TO RULES AND CONSISTENCY IN THE IMPLEMENTATION OF AAC STRATEGIES

READINESS TO INVEST PERSONAL RESOURCES IN THE PROCESS OF BUILDING A COMMUNICATION SYSTEM FOR THE CHILD

RECORDING BY THE PARENTS OF THE HOME INTERVENTIONS THAT SUPPORT THE CHILD'S COMMUNICATION

REGULARITY OF MEETINGS, REGULARITY AND CONTINUITY OF INTERACTIONS

INTRODUCING COMMUNICATION STRATEGIES INTO EVERYDAY FAMILY LIFE

At first, the parent is taught by an AAC specialist how to identify the child's spontaneous communicative activity and how to react properly. The AAC specialist then introduces him or her to manufactured, predetermined scenarios that educate (both the child and the parent) on communication skills. Repetition of these events is the foundation for the acquisition of new competencies. In these circumstances, the parent and the AAC specialist have the same understanding of the child's communicative behavior. In a communication profile that the parent and therapist build for the child, all of the child's behaviors are listed along with their most likely functions. As the child's communicative skill increases, these exercises are spaced apart and the communication profile is modified.

The AAC specialist also uses video records to train the parent to be a communication partner. The parent observes the child's behavior, then considers and talks about it. He or she implements the changes during subsequent interactions with the youngster in terms of communication. The video recordings are a crucial component of the documentation of the child's development of communicative skills.

Considering that communication is one of the most important tools to get to know new people or ask for something, classmates should also get involved in AAC. The AAC specialist should explain how to communicate with this child, and encourage classmates to find their own ways to become communication partners.

For example, it could be a good practice to make students more accustomed to the idea and use of augmentative communication, not as an obligation, but as a further possibility of communication. For example, teachers can use different strategies, such as:

- Using AAC pictograms in the different school areas;
- Propose a treasure hunt using AAC pictograms;
- Compose a repository of videos (ex. YouTube channel);
- Invite specialists in AAC for a conference in school;
- Invite other AAC users to tell a story using speech-generating devices.

4. AAC outside school, the case study of the museum

4.1. The phases of an inclusive visit (The protocol)

The A.A.C.essible Culture project is working to define all the necessary conditions for inclusive visits to welcome all students and make them actively participate in cultural activities. To do this, it is necessary to consolidate relations with all those involved in order to be able to use shared and coherent strategies.

The protocol is an extremely important tool as it connects the world of schools and cultural institutions to share the elements necessary for the implementation of an inclusive visit designed according to the needs of the specific class, the educational path in progress, and the structure selected for the visit. In this process, all the other fundamental reference figures involved are also taken into consideration (classmates, teachers, cultural operators, educators, associations, and family members)

The protocol consists of several sections, each necessary for the correct implementation of an inclusive visit. The activities defined by the protocol can be summarized in 5 steps:

- First step: Indications on how to manage the first contact between the school and the cultural institution (to define the needed information, the needs of the students, the topics to be analyzed, and to identify the right tools and strategies).

- Second Step: Planning the visit and extracurricular activities by coordinating the settings of the selected tools
- Third Step: Management of the visit and activities
- Fourth Step: Management of post-visit activities
- Fifth step: Report to verify the results obtained and the feedback collected

It's important that the educational community is sensitive to this subject, with the appropriate mindset to engage with greater interest in the activities carried out.

Once students, parents, and teachers are informed about the importance of cultural accessibility, the time has come to organize a visit to a cultural institution (e.g. a museum) that is prepared to provide an experience of using AAC.

An inclusive visit to a particular museum or cultural institution comprises three phases that must be prepared in advance: before, during, and after the visit.

Before the visit, all the figures involved and the pupils must have at their disposal the main information on the visit and the structures and become familiar with the methods and symbols that will be used during the educational experience. At the museum or exhibition center, **during the visit**, they will find the same tools prepared for them, so that the contents of the museum collection, and the different services of the structure can be accessible and understandable. **At the end** of the in-presence experience, the cultural guide operators will share with the school the necessary tools to keep the learned concepts alive, to have feedback on the visit, and to maintain the learning of the specific AAC symbols possible for future activities.

The final objective is that everyone can learn and express opinions and feelings about the experience.

4.2. How to prepare an inclusive visit?

To prepare for an inclusive visit is crucial to preview teachers, educators, and those who will accompany the students, with all the elements that can possibly create some kind of disturbance, information available consulting the social guide (see 4.2.1). Is also essential to provide indications and advice regarding which kind of devices can be useful to reduce any sensory stresses (headphones, glasses, etc.), the path to follow, and areas where it is possible to stop for a break (see 4.2.3).

Some tools listed below are useful for starting to deepen the cultural contents before the actual visit (4.2.2) and selecting the topics more interesting for the didactical aim of the activity, so requesting them in advance is essential to prepare a visit.

Remember that it is always possible to improve the knowledge of the place or collection object of the visit by consulting the related websites or social channels. Finding as much information as possible on content and accessibility considerably reduces the risk of unforeseen events during the visit.

In the preparatory phase, it is important that the class group is involved. In fact, activities and tools are proposed to be used at school before the visit, so that children can become familiar with the symbols and tools, as well as on the topics and on the collection of the cultural institution they will visit. The proposal of AAC activities before the visit, such as the creation of Crosswords and research and storytelling activities, helps to involve students, to introduce the collection and the topics to be studied.

4.2.1. Social Guide

The Social guide is a visual story, a step-by-step description with photos and text that describes what visitors are expected to experience while visiting a museum or a historical or cultural site. As a first element, it could be useful to introduce the students to a museum and how it works. It will help prepare targeted groups for the visit and will cover important things to remember, such as museum rules, how to behave, contents, services, openings or events times. In the guide, for example, you can find photographs that help to familiarize yourself with the environment, recognize the staff and the different services. You can also find graphic elements to help understand visiting time and pictograms to express needs and opinions. The social guide can also inform you if a sensory bag is available in the structure or suggest to visitors to bring their own tools with them in case of sensory solicitations.



4.2.2. Check List

The Visual Check List is a useful tool in all phases of the visit: during the preparation, the development, and the final re-elaboration. It helps you decide where to go, read information about the different galleries, learn about the types of art in the museum, and let users to express their needs. It consists of a part showing the photographs of the highlighted contents of the place to visit, a Check List Scheme, and a card with AAC symbols useful for expressing requests regarding the basic needs that may arise during the visit.



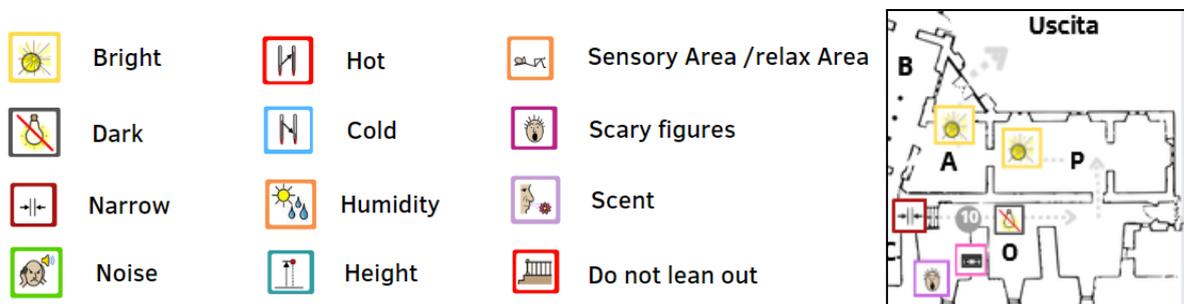
The checklist can be composed in different ways, in general, it is used as follows:

- 1) Before the visit, you can print out the checklist and the picture cards to plan your visit to the museum.
- 2) When you've decided which areas you want to visit, cut out the corresponding cards and attach them to your checklist.
- 3) You can use picture cards to say when you need to take a break, sit down, use the restroom, etc.
- 4) You can leave some boxes on the checklist empty so you can add them to your tour while you are at the museum.
- 5) When you are at the museum and have completed a stop on your tour, check it off with a pencil in the "All Done" column.

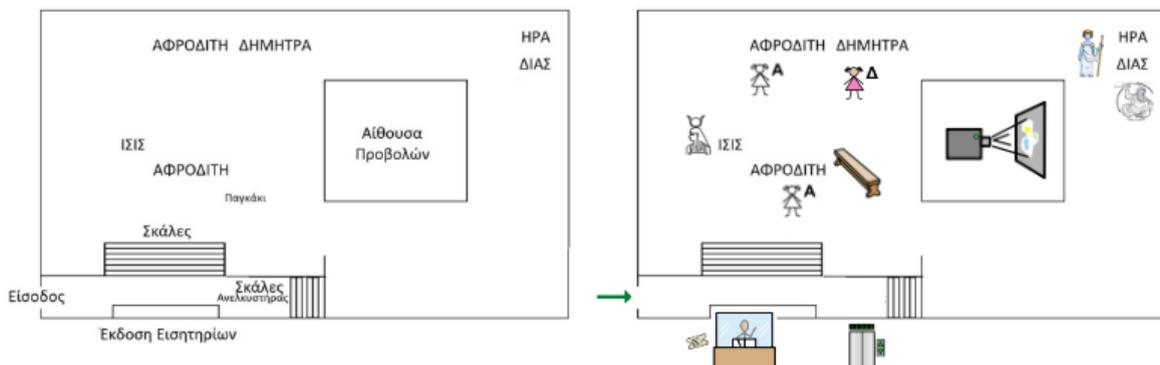
During the experimentations, we verified that the Checklist is an extremely useful tool even after the visit because it helps to remember what has been done and to consolidate the notions learned.

4.2.3. Sensory map

The Sensory map shows the path to follow during the visit, a path that should be as clear and linear as possible. It indicates the general layout of the route and of the exposition, in addition to the elements that can create a disturbance and the areas where it is possible to stop for a break. The legend of the map, set thanks to the use of symbols in AAC, brings together also all the symbols that may indicate a danger (e.g. risk of falling). The symbols used on the map correspond to those used in the guides and in the other tools proposed, in order to ensure consistency and facilitate understanding and learning.



Indicating the order of the works on the map facilitates the preparation and conduction of the visit, both for students and for those who have to explain the item exposed while using the guide in symbols.



On the prepared map, for example, the insertion of the symbols would have facilitated the understanding of the spaces and the works on display also to those who are not able to understand the greek written language, not only to those with communication disabilities.

The Sensory map is important for informing visitors what sensory challenges they may face while visiting an unfamiliar location. There are some spaces that people with cognitive disabilities should be aware of during their visit (e.g. places with colored/strong lights, luminous intensity

fluctuations, noises, stairs and other infrastructure elements that require special attention, location of the main facilities, etc.). These spaces, some of which are quieter and less crowded and others that are overly stimulating, will be indicated on the map. This tool helps decide which spaces can be visited and which to avoid, it helps to identify crowded areas, very dark or overly lit rooms, the presence of potentially disturbing installations, temperature variations, etc.

4.3. How to actively participate in an inclusive visit?

After the preparatory phase, in which the tools have been developed and the activities set up with the coordination between the staff of the school and the cultural institutions, the visit can be conducted. The preparation of the visit will have enabled teachers and cultural operators to share the main methods of managing the visit and activities and to agree on suitable strategies to be used.

The museum or cultural institution staff will be trained to carry out the activities and will conduct the visit according to the agreed methods. Participants, especially those with communication difficulties, will be equipped with the necessary tools to carry out the visit and activities.

Once in the cultural structure, before starting the visit, the operator who will conduct the visit will give indications to the participants and their accompanying person on the correct use of the tools and on the general setting of the visit (for example: how many works we will discover together). Even though this information has already been defined in the preparatory phase, the repetition helps the children to focus attention on the tools at their disposal and on the spaces, they will go through.

Usually, the presence of a conductor may be preferable, although the number of operators involved will depend on the type of activity and the number of participants. For some types of activities, it may also be advisable to involve small groups.

4.3.1. Sensory bag

With the tools indicated in the preparatory phase we can verify the presence of any sources of disturbance before arriving in the structure. While checking those tools is possible to identify if any precautions are necessary for sensory solicitations, for example by analyzing the elements shown in the sensory map (Where are headphones needed?) or checking in the social guide if a sensory bag is available in the structure.

A sensory bag is a tool containing various devices to use to reduce the impact given by possible sources of disturbance (e.g. lights, noises, sources of stress). The sensory bags shall include

at least devices such as: headphones, glasses, anti-stress hand balls, and cards with pictograms. The symbols placed in the sensory bag also include those to express feelings or ask questions.



4.3.2. Guide in AAC

The guide in AAC describes the main exhibits in simple and logical phrases, focusing on the main topics, ideas, and on the most relevant exhibits. While preparing the guide we need to keep in mind the key points of symbolization: Choose only the most relevant exhibits and topics to describe and be careful to simplify the sentence as much as possible.

To ensure the legibility and comprehensibility of the symbolization, excessively long sentences or the use of multiple pages on the same topic should be avoided. One solution is to proceed by setting short sentences, which can be rendered in symbols on a single line to avoid confusion.



The guide in symbols is a useful tool because it helps to focus the student's attention during the explanation. To do this, it is important that the operator conducting the visit always pays attention to the guide, showing the right page and indicating the symbols of what they are explaining at the moment.

Using symbols to accompany the verbal explanation helps the students to recall and maintain the information according to the time they need. The use of visual communication reduces the level of stress and anxiety, as it offers information in a more understandable and lasting form compared to the word.

4.3.3. AACCC Box and tools

The AACCC box is a versatile tool that allows you to deepen some concepts and at the same time facilitates the relationship with the students. Inside the box you can find, for example, the materials with which the objects on display are made, facilitating contact and understanding of the collection. Being able to touch materials and shapes increases the possibility of relating by promoting concentration by creating games and riddles, for example.

A very common tool that can be easily created and left available to the public is paper guides with the symbolization of cultural content, works of art, paths, stories, etc. Among the most common paper tools you can find thematic tables in symbols (about colors, positions, sizes, etc),

multi-choice summary cards and game cards (families of objects and memory games). Often these tools may be required to use them in class to consolidate the recalling and understanding of the visit.



More difficult and expensive to produce and place are permanent panels or the symbolization of captions. In most cases, the panels with inclusive contents are made for the description of particularly important contents and exhibited in a maximum of one or two rooms. It is difficult to have space for panels that cover the entire itinerary, and it is often difficult to harmonize large panels with previous the set-up choices. Panels and captions with AAC symbols are often present together with other accessibility strategies such as Braille language and high readability, in many cases, they are part of projects financed by sponsors or associations.

A tool increasingly used for its versatility and the least impact on the museum set-up is the QR code technology. It is sufficient to have a device with a QR reader to be able to access a whole series of additional information compared to those entered in the traditional path.



4.4. Post-visit activities

4.4.1. Activities to be carried out in class with students with and without SEN

After visits students should have practical activities in class. Classes are held at the desks. Each student has a set of materials intended for carrying out tasks. During the classes, students make artworks that relate to the theme of the exhibitions they visited. Students with SEN have a companion to help them understand the work. They also have special AAC materials. These post-visit

activities are crucial because it is important to succeed in building a long-lasting relationship between the target groups described above and teachers and museum facilitators. These activities must take place over time and cultural institutions should ideally become a second home for these audiences.

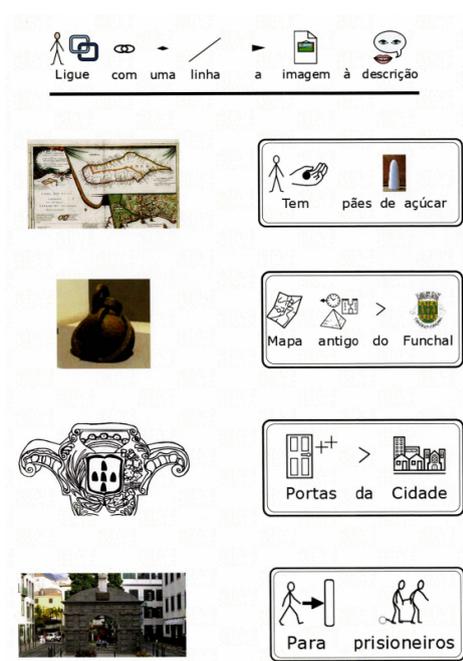
Designing activities that are exciting will allow those experiences to serve as motivators. In addition, pay special attention to science exploration, dramatic play, and snack-time activities, as these tend to offer more opportunities for communicating.

Organizing space and time for the activity helps the student to understand and reduce stress; use work schedules, timers, activity calendars and appropriately organized and delimited spaces.

It is important not to let too much time pass after the visit to propose consolidation activities. During the activity, use all the material (AAC and not), received at the facility visited. Where it was not possible, photos and information can be found on websites and social networks. Images are always useful to retrace the salient stages of the visit and fix the memory, they can be cut out and used to build tables, scrapbooks, and games.

Post-visit activities can mainly be:

- manual activities (for example, reproducing an artwork seen in a museum in the classroom, working on techniques and materials;
- storytelling (starting from outdoor experience and building a "story" with words, images, and sounds, colors, etc.);
- consolidation/revision (reorganize the collected material, create scrapbooks, work with images, symbols, cards, etc.).



5. Conclusions

The benefits of using AAC in school and extracurricular contexts

AAC focuses on the convergence of two well-established elements of education systems: the inclusion of children with Special Educational Needs (SEN), and the use of educational outings and cultural visits as a supplement to traditional classes. School-age children with SEN fall into three sub-categories: disability, specific developmental disorders, and socio-economic, linguistic and cultural disadvantages. Specific developmental disorders include: SLD (Specific Learning Disorders), language deficits, deficits in non-verbal skills, motor coordination deficits, attention deficits, and hyperactivity.

For students, the educational value of discovery, of direct contact with the artistic heritage of different countries is undoubted: visiting a museum, looking at a work of art or a cultural / history exhibit, or an event up close is an accelerator in learning processes, not only from a cultural point of view, but with emotional, relational, social and civic awareness value.

There are many students with communication disorders who require appropriate support and services to fully participate in everyday activities. Students with intellectual and developmental disabilities (IDD) are a heterogeneous group, with ranges of speech, language, intellectual, motor, and sensory skills. For many students with limited or no speech, acquiring at least one means of symbolic communication is critical.

The new profile concerns the teachers and educational fields and the pedagogical and educational work with people with communication disabilities. The new profile is aimed at increasing the awareness of special needs of persons with communication disabilities and the knowledge of how to communicate with these people effectively and ethically.

The educational and cultural fields are supposed to be available for everyone, also for the people with disabilities, including communication disabilities.

Teachers are supposed to work and educate children, teenagers, and adults in a way that allows us to create a better world – better every day. It is impossible if some people are barred from the educational fields because of their disabilities. Moreover, in a world that increases and develops many ways and tools of communication, we should be able to create new, effective, and safe communication spaces for people with communication disabilities. Hence, teachers and other specialists from the educational fields must be prepared to use alternative ways of communication and to communicate with people with communication disabilities.

One of the common supports provided to students with IDD is augmentative and alternative communication (AAC) systems. AAC systems can be categorized as aided and unaided modes. Unaided AAC modes involve the use of the person's body to communicate, including using gestures, eye gaze, and sign language. Aided AAC modes require tools and or equipment beyond the person's body, ranging from pictures and communication boards to switches and speech-generating devices.

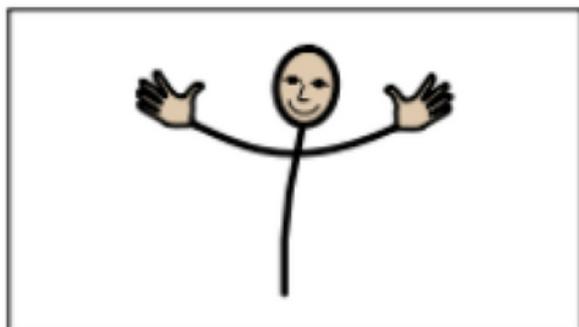
What are the benefits of using AAC in school?

The use of AAC is beneficial as it:

- Provides a means to communicate with others;
- Supports the development of social skills;
- Supports the development of verbal skills;
- Supports the understanding and use of core language;
- Supports the development of language comprehension;
- Supports participation in the classroom setting.

We hope this handbook will be useful for you and for your students. All the tools and strategies described in this document are adaptable to the different needs of the students, to the didactic needs, to the cultural contents, and to the different languages. You can get more information about the project at the following contacts. On the website, you will find the handbook in other languages and other information about AAC, and on our Facebook page, you can follow our activities and proposals. We would be delighted if you could share your experiences and suggestions with us.

COMMUNICATIVE and WELCOMING





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