

AACC

1st INTELLECTUAL OUTPUT

The AAC model
for communicating/teaching
cultural heritage.



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A.A.C.C.ESSIBLE CULTURE

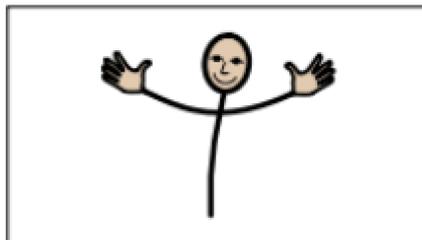
*Museums for everyone developing the
Alternative Augmentative Communication tools*

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

IO1

RESULTS

COMMUNICATIVE and WELCOMING





A.A.C.C.ESSIBLE CULTURE: Museums for Everyone Developing the Alternative Augmentative Communication Tools

AACC - IO1

The AAC model for communicating cultural heritage

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AACC - IO1

The AAC model for communicating cultural heritage

1) Project Introduction

The project "**A.A.C.essible Culture: museums for everyone developing the Alternative Augmentative Communication tools**" [AACC] deals with a theme that needs to be addressed more carefully and more deeply in Europe: the fruition of the artistic and cultural heritage by children and young people with communication deficits due to intellectual disabilities and/or with learning difficulties, including recently immigrated children.

In the EU, it is possible to estimate several million children with Special Educational Needs (SEN), including SLD (Specific Learning Disorders), language and skills deficits, non-verbal deficits in motor coordination, deficits in attention and hyperactivity, and minors under 15 of non-EU origin with little knowledge of the host language.

In museums, projects related to overcoming architectural barriers and the creation of paths dedicated to people with physical disabilities, facilitating their access to the museum, have already been active for years (e.g., tactile paths, soft areas, openings at dedicated times). Even so, little has been done to encourage the active participation of people with communication deficits and to allow them to understand and appreciate the content of cultural institutions and museums.

Meanwhile, the strategies of **Augmentative Alternative Communication (AAC)** are progressively starting to be introduced in schools. These strategies allow the use of a potentially universal language by overcoming linguistic, verbal, and written barriers.

AACC is a project that aims to support the learning pathways of minors with SEN by introducing AAC models and tools in the cultural sector. The main innovation of the project is in the objective of building a dedicated AAC model to finally allow these children the fruition of cultural and artistic heritage, favouring their development and autonomy, enhancing the emotional, relational, and cultural dimensions through art.

In this pursuit we have identified three fundamental results: 1) The creation of original codes and communication tools in AAC, 2) The creation of real and online cultural paths, to allow their fruition even at a distance; 3) The creation of an innovative skills profile for the cultural sector: a facilitator of the participation of people with SEN, capable of designing adapted fruition paths and interacting with the world of schools or associations.

AACC plans to achieve 3 Intellectual Outputs (IO) in 3 phases: A first phase of research for understanding the use and potential of the AAC model to create a European model applicable to cultural education (IO1). In the second, it plans to test the Model identified in experimental paths, also remotely, involving cultural operators and schools, validating the AAC tools created and defining the



framework of the skills and procedures required of the educational system (IO2). The third phase aims to structure the applicability of the identified AACC model in cultural systems: definition of guidelines for museums and cultural institutions (IO3). Over the 24 months, the project will take place 7 training courses for partner staff, 8 multiplier events for the dissemination of the results, and 4 transnational meetings to facilitate the implementation of AACC.

It is estimated that 40 cultural operators, 60 teachers, and educators, 600 minors with SEN plus at least another 600 peers and families will participate in research, training, and experimentation activities with schools.

After the project, it will be possible to spread AAC models for the cultural sector, potentially transferable to other fields of education for categories with fewer opportunities. The training modules will be accessible, even in e-learning mode, from any organization that requests them.

AACC will also develop a new branch of professional skills for cultural operators. It will be possible to enhance this result, through the reference networks of each partner, school, cultural organization, or association thanks to the transfer and adaptation to other regions or countries. The new standards will thus make it possible to expand the inclusive dimension of cultural organizations, demonstrating that culture is open to all of us, without exception.

2) Participating Organisations

Background and Experience

The project involves the collaboration of 7 partners from 6 European countries where the use of AAC is still not widespread (Italy, Greece, Poland, Portugal, Romania, Spain); each with different and complementary skills to achieve the objectives of AACC, including universities, publishing houses, schools of various degrees, cultural centers, and social enterprises; to which is added a network of associated public and third sector partners.

APPLICANT

SOLIDARIETÀ E LAVORO SOCIETÀ COOPERATIVA SOCIALE O.N.L.U.S (Italy)

Solidarietà e Lavoro Società Cooperativa Sociale O.N.L.U.S. (SeL) is a type B Social Cooperative active since 1989 in the North of Italy with a consolidated experience in planning, managing, organizing, and promoting cultural and tourist services. SeL operates in museums of national importance, carrying out activities of reception and assistance, guided tours and educational workshops, room control and surveillance, ticketing, front and back office, organizational secretariat and marketing and communication activities, bookshop management. SeL works actively in the field of library activities and services and collaborates with Civic and University Libraries and Library Systems and it is also involved in designing and providing tailor-made services for companies, with global services.

SeL's Education Area was set up in 1999 to meet the demand for cultural and educational spaces and activities by teachers and schoolchildren, both in museums and libraries. It develops didactic and cultural proposals interactively and dynamically, to offer the possibility to appreciate the historical



and cultural heritage mainly to children and young people through activities in the museum or the classroom, lessons-workshops for classes, training courses for teachers, both in the presence and on-line. The philosophy of the Educational Area is to be at the service of the school, transforming the museum into a field of operation in which to experience, learn and explore. SeL works with qualified staff with many years of experience in tourism, culture, and museums. These skills are complemented by participation in regular training courses to develop the capacity to design and organize activities that meet the educational and emotional needs of all visitors (students, school staff, educators, and families). Over the years, SeL has designed, developed, and promoted, in collaboration with various cultural and social realities, significant research and innovation projects for the promotion of culture in the area: Social Hub Genova, Spazio Faber, and Dialogo Nel Buio. SeL was also involved in the operational development of the national project Open Vicoli and the European project AlterEco, an Interreg Med project that aims to implement alternative tourism strategies to improve the sustainable development of local tourism.

PARTNERS ORGANIZATIONS

COMPLEXUL MUZEAL NATIONAL MOLDOVA IASI (Romania)

MOLDOVA National Museum Complex is the largest museum organization in the eastern part of Romania. Its headquarters is in the Palace of Culture, a recently restored very famous neogothic edifice, which houses four main museums: the Art Museum of Iași, which continues the mission of the first art gallery of Romania, founded in 1860 within the first modern national Romanian university, Moldavia's History Museum which has taken over the patrimony of the Antiques Museum founded in 1916 as part of the University of Iași, the Ethnographic Museum of Moldavia, whose core was set in 1943, as well as "Ștefan Procopiu" Science and Technique Museum, whose collections were organized starting with 1955.

Also, in the Palace of Culture operates the Heritage Research Center, which has scientific investigation and restoration laboratories adapted to the different types of materials composing the exhibits: stone, ceramic, wood, metal, textiles, paper etc., and which in 2015 celebrated 40 years of existence. MOLDOVA National Museum Complex also includes in its structure several satellite museums: the Union Museum of Iași, "Mihail Kogălniceanu" Memorial Museum of Iași, "Poni-Cernătescu" Museum of Iași, "Alexandru Ioan Cuza" Palace of Ruginoasa, the Archeological Reserve-Museum of Cucuteni and the Wine and Vineyard Museum of Hârlău.

The PR and Cultural Projects, Programs and Marketing Department is subordinated directly to the Manager of the organization and serves all museums that are part of it, coordinating and implementing communication and education events addressed to all age categories.

MOLDOVA National Museum Complex has experience in implementing educational and cultural projects aimed at disseminating knowledge on cultural themes and in raising awareness as for the importance of intercultural understanding and transmission of cultural history, promoting social



inclusion and non-discriminatory behavior. Apart from the identification, collection, restoration-conservation, storage and display of cultural heritage, the partner organization has integrated into its scope of activities the cultural education of its public, of the community in which it implements its activities.

UOVONERO Edizioni snc (Italy)

Uovonero is a publishing house born in 2010 in Crema (ITALY) specialized in inclusive, highly legible books that promote a culture of diversity.

The main purposes of the publishing house are two: to give to all the children, included those with various kinds of reading difficulties the pleasure to read and share the same books; to spread a culture of diversity as a resource, to stimulate curiosity and acquaintance instead of fear and suspicion, through picture books, novels, and essays.

The publishing house has many years of experience in publishing books on the symbols of AAC, both original and adapted as in the case of the Camilla Books described above. In addition, the publishing house has the thirty-year of experience in the field of its founder Enza Crivelli, who as a clinical pedagogue was among the pioneers of the use of AAC in Italy. The book in symbols is seen as an organic whole in which each part must contribute harmoniously to the reading experience: for this reason, the books in symbols of the "talking fish" series are printed on cardboard pages specially shaped to be easily browsed even by children with fine motor difficulties, according to the Sfogliafacile® model, studied and tested by the publishing house. In recent years, Uovonero's specialists have carried out an intense training activity in the field of communication in symbols and the adaptation of cultural spaces and contents on behalf of schools, libraries, museums, exhibition spaces and cultural associations, including the Palazzo delle Esposizioni in Rome, the Biblioteca degli Intronati in Siena, the Area Onlus Documentation Centre on accessible books in Turin and many others.

PLATON M.E.P.E (Greece)

Platon school is a modern educational institution that pursues with great interest and a creative mind the developments in the field of education; it constantly sets new goals holding at the same time an outstanding position in the educational scene. Through the use of the most up-to-date facilities, a diverse curriculum, experienced and skilled teaching staff and most importantly, through consistency on principles and respect towards pupils and parents, the school has been striving for the accomplished education of its pupils. Platon School has also been a licensed Long life Education Centre and is running its own adult education projects.

Through the newly founded Research and Innovation Department, Platon school pursues its participation in international programs of design, implementation and assessment of innovative pedagogical methods and materials. The Centre of Research and Innovation actively involves itself in the design of advanced educational materials, both conventional and electronic. The main aim is the exploitation of state-of-the-art technologies in the education process so as to enhance teaching and learning. The tools developed within the framework of educational programs are the result of



cooperation and joint efforts amongst specialists from a variety of academic fields, with a major focus on information technology, teaching and learning studies.

DOMSPAIN SLU (Spain)

DomSpain (DS Formacio) is a Training and Consulting Company active on a national and international level.

It offers a variety of services to the public and private sector of Spain and actively participates in international schemes through a well-established network of partners abroad. DomSpain is engaged in the EU Pact for Skills.

The Training department of DomSpain develops educational programmes in four main directions:

- courses/workshops for adult learners, including foreign languages, ICT, and personal growth classes
- VET: ICT, foreign languages, employability, work-based learning
- trainings for educators focusing on improving foreign language competencies, use of digital tools and new teaching methods, blended learning
- extracurricular activities for school children and parents, including foreign languages, robotics, coding, and internet safety

The courses and training are implemented in our own premises as well as at 10 civic centers and 5 primary and secondary schools of the Tarragona province. We employ 40 educators and count around 1400 students each academic year.

In the ICT field, DomSpain has acquired experience through many years of protection of informatics infrastructures to offer to organizations, businesses, public bodies, and other entities integral solutions, which help them guarantee cybernetic security. DomSpain provides guidance and support to entities such as educational centers, public bodies, social enterprises, and NGOs in digitalising of their internal working processes.

Also, DomSpain has a highly qualified team of information technology that has implemented various national and international projects, which included the development of educational platforms. DomSpain is a member of the International E-Learning Association, an international network of e-learning professionals, researchers, and students.

SZCZECINSKA SZKOŁA WYŻSZA COLLEGIUM BALTICUM (Poland)

SZCZECIŃSKA SZKOŁA WYŻSZA COLLEGIUM BALTICUM founded in 2000 is continuously ranked as one of the best private universities in northern Poland. It is characterized by great human capital and huge development potential. School authorities have managed to build an institution that gives its students a solid education and thus a great start to their professional life. It is desired to provide young adults with knowledge comprising many fields so that they can receive an interdisciplinary education providing them with a better chance on the difficult labor market both in Poland and internationally. Current educational offer includes following faculties: educational science, dietetics, national security, IT at BA, MA levels as well as post-graduate studies in teaching methodology, business, management.



A significant part of research work is the dissemination of the institution's output and the exchange of experiences through conferences and seminars.

Institution's mission is to provide excellence in education as well as attractiveness and marketability of proposed programs. Educational offer is constantly adjusted to requirements of the market. It ensures the development of the intellectual potential of students and shapes their interpersonal, leadership, teamwork, and problem-solving skills. It develops discipline, creative thinking, effectiveness, flexibility and entrepreneurship. We created our university Cooperation with Business Center because we believe that only cooperation science with business is the most effective.

Collegium Balticum is situated in western Poland, in the city of Szczecin that presently displays a growth potential and splendid prospects of becoming attractive to various investors, although the employment rate is 7,6% in the city and 13,1% in the whole Westpomeranian region. Moreover, Szczecin is an important research center that enjoys a good reputation in the world. Its immense scientific potential exerts a direct influence on science development in the country. Collegium Balticum plays an important role in the local educational market in terms of additional thematic courses for disadvantaged groups i.e people from socially and economically disadvantaged areas, unqualified adults and others. The institution has around 30 students with different impairments.

Collegium Balticum's intention is also to cooperate with local authorities in order to provide thematic workshops and seminars and to attract target groups. When it comes to project management, administration and dissemination Collegium Balticum has a great experience in European educational projects. Institution participated or is participating in different international projects.

APEL – ASSOCIAÇÃO PROMOTORA DO ENSINO LIVRE (Portugal)

The Escola da APEL school (Associação Promotora do Ensino Livre), catholic school, was founded on July 21, 1978, but it only started its activity on October 1, 1978. It was created, in the mid-70s, to respond to the urgent need for the existence of a private education establishment of complementary level, it is currently a secondary school, where students who finished the 3rd basic cycle of education can continue to apply for private education.

It is a non-profit legal person, recognized as a public utility, with pedagogical parallelism, accredited and covered by the Law of Patronage. Different in the options, Excellent in the solutions! Educational quality in a Single Shift.

Initially, the Escola da APEL school was only dedicated to the general courses for further education; currently it also develops its activity in the professional slope taking into consideration the young people of Madeira Island who are not oriented for higher education, and choose to enter the labor market, considering as well, the constant adaptation to the demands of the labor market.

The Escola da APEL school has been innovative in the different areas of teaching since it adopted the teaching of the professional courses for both active and people looking for their first job.

Yet, it was one of the first schools to start the thirteen-year professional courses, cooperating this way with the Regional Secretary of Education for the vocational training of the youth in the autonomous region of Madeira (RAM), who, for any given reason, did not continue on studying.

In addition to all the students that enter into the university every year, there is an amount of countless young people that got into the labor market as a result of the training received in our institution.



An educational project of quality with great pedagogical options:

- Personalizing/humanist approach of education, which define a sympathetic citizenship
- Merging among life, culture and faith;
- Participating and cooperating as fundamental dynamics of educational activities of the community;
- Educating in the change and for the change required by the new challenges of the twenty-first century;
- An education of excellence in the context of a cultural school.

ASSOCIATED PARTNERS

The project can also benefit from the support of 11 Associated Partners, to establish a solid network of collaborators to ensure that similar conditions could be replicated in each country involved to effectively analyze and test the planned actions. This is possible thanks to the presence, in each reference territory, of other organizations, public or private, of the world of education and culture, interested in the experimentations and measuring the benefits of the project results, involving their operators. This will also allow greater effectiveness in the phases of validation and dissemination of results.

It was also considered of the utmost importance to be able to involve associations for the protection, care, and representation of the main types of disabilities or SEN to investigate specific needs, check the correctness of the paths, and open links with other categories of potential beneficiaries.

A wider network can also make it possible to come into contact, especially in the initial phase, with other realities that may have already had the opportunity to experiment with further solutions in previous projects. AACC will thus be able to focus precisely on the necessary and useful actions, avoiding duplication and waste of resources.

AACC can count on the support and involvement of:

- Museum and cultural realities:
 - 1 Palazzo Ducale di Genova Foundation (one of the main Italian cultural and exhibition centers)*
 - 2 Municipality of Dion-Olympos (including several museums, EL)*
 - 3 Muzeum Historyczno-Archeologiczne w Stargardzie (permanently organizes events dedicated to children with physical and mental disabilities, PL)*
- Educational institutions of various grades:
 - 4 Istituto Comprensivo Teglia (primary and lower secondary school, IT)*
 - 5 Institut Escola Pi del Burgar (kindergarten and primary school, ES)*
- Protection organizations:
 - 6 A.N.G.S.A. Liguria (National Association of Autistic Parents, IT)*



- 7 Associació de familiars de persones amb discapacitat intel·lectual TALLER BAIX CAMP (ES)*
8 ANPEDA "Virgil Florea" National Association of Teachers for the Hearing-Impaired Persons (RO)
9 FAST Italia (Fast Italia- foundation for Angelman syndrome therapeutics Onlus)

- In addition, two organizations that have implemented two European projects that are very close to our project in terms of themes and methods of approach, have also joined as associated partners, giving two solid foundations to support the AACC project:

10 IL CERCHIO Social Cooperative (Ravenna, IT): leader of the E + AAC @ school for social inclusion project

11 Central European Initiative (Trieste, IT): leader of the Interreg CU COME-IN! Cooperating for Open access to Museums - towards a wider Inclusion.

3) Project Description

3.1 Priorities and Topics

AACC was presented in the horizontal priority **"Skills development and inclusion through creativity and the arts"**.

In the educational path, starting from primary classes, the support given by experiential learning activities to traditional lessons in the classroom is well-established. This approach allows students to benefit from the effectiveness of direct, sensory, emotional, cognitive relationship with the testimonies of human civilization all around us. Museums, galleries, and theme parks, which preserve the signs of human creativity, have always been a source of personal and collective knowledge.

Enjoyment of the historical, cultural, and artistic heritage is an essential support to the learning processes, but it can also be an unattainable goal for all those who do not possess that degree of cognitive or expressive autonomy to comprehend the communicative codes usually used in cultural spaces.

Our partnership acknowledges this priority, translating it into a path of development and implementation of tools and resources for the benefit of the European exhibition system, promoting its function of inclusion, and supporting employment by the formation of new specialized professional figures. AACC takes obviously into consideration also the ongoing effects of the pandemic: for this reason, it will also work in parallel on the development of dedicated digital solutions, to expand the possibilities of fruition beyond the physical barriers.

AACC is also in line with the priority of **School Education "Tackling early school leaving and disadvantage"**: the project focuses on the priority of reducing the conditions of isolation, delay in personal development, and risk of early school dropout which, according to European statistics, is increasingly high for minors with disabilities or fewer opportunities. We believe that the development of AAC systems for approaching art and cultural heritage is part of the holistic approach necessary to strengthen their growth and independent participation in social life.



The third priority is "**Supporting educators, youth workers, educational leaders and support staff**". We consider it a priority to intervene in the school sector because in the development of AAC systems the school system can act as a driving force for families and associations. Teachers and support teachers, for their central role in the process of inclusive growth, and those who can activate these paths of cultural learning are the primary recipients of the project. The support is also addressed at operators/educators specialized in the creation of educational paths or workshops within cultural services and museums since they are a crucial interface for schools to ensure the stable introduction of AAC.

3.2 Context and objectives of the project

The project is designed and structured to support pupils with fewer opportunities from the preparatory phase, before the visit to the museum or exhibition, during the visit itself, with the support of specially trained staff, and finally with the provision of tools which remain available to them and the teachers. Before the visit, computer aids or other forms of support will be provided to the school, so that pupils can become familiar with the methods and symbols that will be used during the educational experience. At the museum or exhibition center, 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. The final objective is that everyone can learn and express opinions and feelings about the experience. 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 sediment the memory of the visit, and to maintain the learning of the specific AAC symbols possible for future activities.

The pandemic emergency we are currently facing is increasing the schools' difficulties in taking care of the most fragile people. At the same time, it is generating changes, like the ongoing evolution of digital, distance, or integrated learning, which can open unprecedented scenarios also for the school's usage of artistic and cultural heritage.

3.3 Needs & Targets

AACC 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.

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 limited knowledge of the language of the host country.

Lacking up-to-date official EU statistics on the extent of this broad spectrum of cases, one can rely on the 2016 EASIE European Agency Statistics on Inclusive Education report, which measures (out of 31 European countries) children with SEN to be, on average, 4.75% of school-age children between 7 and 15 years old, or about 3 million children (out of 27 EU states). Data from Eurostat (2011) and the EASIE itself confirms that 90% of this age group are enrolled in learning paths, although it varies a lot



depending on if it is in the ordinary system (as in Italy) or special schools (prevalent in northern or eastern EU countries).

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.

In particular, in the EU children with Autism Spectrum Disorder (ASD) account for about 1 out of 150 (530 thousand); children under 15 from outside the EU account for about 1,400 thousand, among whom SEN can be accentuated.

AACC aims to support the learning paths of children with SEN by introducing the strategies of Augmentative and Alternative Communication to facilitate their participation, also online, in the fruition of cultural heritage.

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, and 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 invest in new professional skills, to strengthen their position in the job market of these services.

Among the main target groups of the cultural knowledge and learning activities proposed in the AACC project will be pupils, more precisely class groups and schools where there are pupils who have difficulties in using traditional communication channels, from oral to written language.

We consider a range from 6 to 15 years. In most cases, these are congenital or acquired pathologies as a result of trauma or illness, which cause more or less severe cognitive deficits. Among the congenital ones, the most common are rare diseases involving communication disabilities (Angelman syndrome, Rett syndrome, Lowe's syndrome, etc.), autistic spectrum disorders, infantile cerebral palsy, multisensory disabilities. The acquired disabilities that most often require AAC intervention among young people are severe cerebral injuries (trauma), cerebrovascular diseases (ischemic or hemorrhagic), brain neoplasms. Furthermore, AAC can also be used temporarily, for students who are transiently unable to speak and write, but who, once the acute phase has been resolved, could return to their previous abilities. Finally, children who do not understand the language of the country in which they are studying (foreigners, immigrants, refugees) can be involved in the use of AAC.

Since communication is a reciprocal process that needs at least two subjects, AAC interventions are not only aimed at students with severe communication difficulties but also at their communicative partners, which are fundamental: classmates, teachers, educators, and family.

3.4 Participants

The participants in this project are:



- 1) The cultural workers, educators, and researchers of the operating partners, involved in all the planned activities
- 2) The cultural workers, educators, and managers of associated partners in the cultural sector, involved in the training activities and local experiments
- 3) The teachers, not only of the associated partners, involved in the activities
- 4) The minors, children, and young people with SEN directly involved in the experiments of AAC for Culture
- 5) The minors, students without disadvantage, involved as peers in accompaniment
- 6) Operators of the associated partners and other stakeholders who will contribute to research, staff training, and accompaniment in local cultural activities
- 7) Families of children with SEN and operators of associations involved in the support of the experimentations and monitoring personal results.

3.5 Results

AACC expects to achieve in 2 years 3 results as Innovative Intellectual Outputs (IO), centered on the implementation and development of AAC models applied to the fruition of cultural and artistic heritage, in particular by students with SEN:

IO1) The AAC model for communicating/teaching cultural heritage. It's the result of research to define which AAC models and tools can be enhanced among the existing ones, or created from scratch, for optimal use in this context, taking into account the variety of artistic or museum forms of expression and fruition.

IO2) Handbook for teachers for the use of AAC in cultural education. An operations guide supporting teachers and cultural educators to organize the participation of students with SEN in activities and to enhance their results in educational pathways.

IO3) Guidelines for cultural institutions for the use of the AAC. A reference tool to introduce the AAC system and to implement standard visit routes.

AACC plans to achieve these results through 3 progressive phases, in a sequential logic:

- The 1st level of **research**, starting from the understanding of the use and potential of the AAC strategies to create a European model applicable to cultural education. In this phase, we will also analyze the tools available at the moment and study the required competencies.
- The 2nd phase is to test the innovative Model in **experimental paths** involving cultural operators and schools together, **validating** the new tools created in the AAC system and defining the framework of competencies and procedures required by the educational system. Verifying the results for disadvantaged minors, beneficiaries of the experiments.
- The third phase, having demonstrated the effectiveness for learning, is to structure the **applicability in the cultural systems**: capitalizing the work done in the experiments in Guidelines for museums, and cultural institutions, to promote the availability of AAC tools, and to define the profile and organization of operators competent to use it with children and young people, supporting educational systems.



4) Accessibility guidelines

International guidelines on Accessibility

The Disability Intergroup of the European Parliament (with the European Disability Forum (EDF) acting as its secretariat) has been defending the rights of people with disabilities since 1980. In the 1980s, there was also a very lively dialogue regarding the definition of obstacles that could limit the accessibility of public places, especially those linked to cultural institutions.

In Italy, for example, the **Ministerial Decree of the Ministry of Public Works n. 236 of 14 June 1989, defines Architectural barriers as:**

- "1) **physical obstacles** that are a source of discomfort for the mobility of anyone and in particular of those who, for whatever reason, have a permanent or temporary reduced or impeded motor capacity;
- 2) **obstacles** that limit or prevent anyone from the comfortable or safe use of parts, equipment, or components;
- 3) the lack of precautions and reports that allow the **orientation** and recognition of places and sources of danger for anyone and in particular for the blind, the visually impaired, and the deaf "

In 1993 the United Nations defined the **Standard rules for achieving equal opportunities for people with disabilities**. We quote, due to the particular relevance to the themes of the project, what is reported by the rules n. 5 and 10:

- **Rule 5 "Accessibility"** recommends that States recognize the central importance of accessibility in the process of achieving equal opportunities in every sphere of social life and, therefore, introduce action programs to make accessible - to persons with disabilities of all kinds - physical environments
- **Rule 10 "Culture,"** asks States to promote the accessibility and availability of spaces for cultural events and services, such as theaters, **museums**, cinemas, and libraries for people with disabilities.

In 2001 the World Health Organization developed a revision of the International Classification of Impairments, Disabilities and Handicaps (ICIDH) published in 1980. The **International Classification of Functioning, Disability and Health (ICF, 2001)** shifts the focus through a new definition of disability that takes into account not only physical disability but as "**the consequence of a complex relationship between the state of health of an individual and the context in which he lives.**"

At the beginning of the 2000s, the importance of the concept of Universal Design in favoring access to information to the public began to be mentioned. The term **Universal Design** was coined in 1985 by architect Ronald L. Mace, who defines it as "the design of products and environments that can be used by everyone, to the greatest extent possible, without the need for adaptations or special aids".

The concept of Universal Design was subsequently developed through the formulation of the 7 principles identified by the Center for Universal Design of the University of North Carolina (USA):

- 1) **Fairness** - fair use: usable by anyone;



- 2) **Flexibility** - flexible use, adapts to different skills;
- 3) **Simplicity** - simple and intuitive use: use is easy to understand;
- 4) **Perceptibility** - transmitting the actual sensory information;
- 5) **Error tolerance** - minimize risks or unwanted actions;
- 6) **Containment of physical effort** - use with minimum fatigue;
- 7) **Sufficient measures and spaces** - make the space suitable for access and use.

The 2003 Declaration of principles on "**Building the information society: a global challenge in the New Millennium**" states for example: " The sharing and consolidation of global knowledge for development can be improved by removing barriers to equitable access to information on economic, social, political, health, cultural, educational, and scientific activities and by facilitating access to information in the public domain, including Universal Design and the use of assistive technologies".

A fundamental guideline to keep in mind when carrying out projects aimed at the theme of accessibility and inclusiveness is the **United Nations Convention on the Rights of Persons with Disabilities (CRPD)** in force since 2008.

Here are some of the fundamental passages of the Convention:

- **(Preamble)** - Disability is **an evolving concept** that is the result of the interaction between people with disabilities and attitudinal and environmental barriers, which prevent their full and effective participation in society on an equal basis with others.
- **Art. 1 (Purpose)**, par. 2, - **criteria for identifying persons with disabilities** (those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers can hinder their full and effective participation in society on an equal basis with others)
- **Art. 4 (General obligations)**, par. 1, f) States are required to undertake or **promote the research** and development of goods, services, equipment, and equipment universally designed according to the definition set out in Art. 2 and to encourage **universal design** in the development of standards and guidelines.
- **Art. 9 (Accessibility)** - access to the physical, social, economic, and cultural environment, transport, information, and communication, including systems and technologies of information and communication, and other equipment and services **open** or provided to the public
- **Art. 21 (Freedom of expression and opinion and access to information)**
 - a) make available to persons with disabilities information intended for the general public in accessible forms and through technologies **suitable for different types** of disabilities, promptly and at no additional cost;
 - b) accept and facilitate in official activities the use by people with disabilities of sign language, Braille, **augmentative and alternative communications** and any other means, methods, and accessible system of communication of their choice;
- **Art. 30 (Participation in cultural and recreational life, leisure and sport)**
Calls on States Parties to recognize the **right of persons** with disabilities to participate, on an equal basis with others, in **cultural life** and to take all the appropriate measures to ensure:



- access to cultural products in accessible formats;
- access to places of cultural activities, such as theaters, museums, cinemas, libraries, and tourist services, and, as far as possible, access to monuments and sites that are important for national culture.

The Convention in Art 4 emphasizes encouraging Universal Design but above all makes explicit reference to Augmentative and Alternative Communication as a strategy to support communication and give access to information.

In the following years, the debate on accessibility continued and took the form of dedicated policies and indications at an international level. The **Council of Europe Strategy on the rights of people with disabilities** for the period **2017 - 2023** includes Accessibility as one of the five priority areas with an explicit reference to Articles 9 and 21 of the United Nations Convention on the Rights of Persons with Disabilities. Universal Design is indicated among the transversal themes of the Strategy.

5) The Research

During the research phase we found, on one hand, a great investment of professionalism and resources to make museums, libraries, theatres, and cinemas more and more accessible from a physical and sensorial point of view, but on the other hand, we observed that those who cannot use ordinary communication channels are often excluded from the real understanding of contents. Imagine being alone in a foreign country, where everyone speaks a different language, where everything is written in an incomprehensible way, where even gestures do not have the same meaning. The AACC project was born from this thought. AAC provides a set of strategies, techniques, tools, technologies that contribute to breaking down the communication barriers. If those strategies

are known and shared by the various subjects who pursue inclusiveness in culture, they will be able to make museums, cultural heritage, and all our achievements really "open" to all.

We have selected and analyzed 77 projects in the world involving the use of AAC to overcome communication barriers in different fields: from healthcare to catering, from sport to education, and of course culture. The results were very interesting and confirmed the need to systematize the many good practices that emerged in the various areas analyzed.

5.1 Search setting

The research on the AAC models existing in the world took place over four months and, in the first phase, was done independently by the researchers of each partner. The research was carried out by dividing the reference models into two main categories: the experiences in non-cultural environments (WP1) and those in the cultural field (WP2).

Before proceeding with the research, all the partners together identified and agreed upon the guidelines, the macro-areas of interest, and the data collection methodologies. In this regard, a shared database on a Drive was created to allow each researcher to insert the collected data.



The fillable fields were structured in 5 areas:

- 1) **Data of the compiler** (who is the one filling the database)
 - 2) **Information about the identified project** (title, place of implementation, area of interest, creators and promoters, duration, and status, etc.)
 - 3) **Accessibility strategies and AAC** (type of AAC, AAC guidelines, aids, Media, and digital aids/support/app)
 - 4) **Info and sources** (Contacts, website /newspaper/media, related link)
 - 5) **Symbol** (Type, position, colour, font, text ratio, additional strategies)
- At last, was left a space dedicated to eventual notes from the researchers.

Not all project partners have had expertise in AAC strategies, and therefore some guidelines and suggestions have been identified to facilitate and rationalize the research methodology.

The methodology used for researching AAC models worldwide was defined as follows:

- 1) Discuss together what looking for while searching for structured projects, not private initiatives, aimed at a broad target of users, projects that included all possible aids for overcoming communication barriers, not only just AAC;
- 2) Start researching AAC models in each partner's home country by using first the mother language of the country and then by repeating the research in English;
- 3) Do not use the acronym AAC but the complete words Alternative Augmentative Communication (we have to point out that in some countries AAC is known by other names, therefore sometimes it is not enough to directly translate Augmentative Alternative Communication into other languages);
- 4) Add keywords related to the different possible areas (for example, museum, library, park, hospital, restaurants) or the scope like accessibility, inclusive/inclusivity, disability, communication deficit, etc. (ex. Alternative augmentative communication in the park...at the hospital, in restaurants);
- 5) Specific sites and blogs are very useful to start (associations that work with disabled people, professional forums, special needs teachers' groups, institutional sites of the different countries dedicated to disability, etc.);
- 6) Browse sites and blogs dedicated to the different targets of potential users of the AAC (people with autism, Angelman Syndrome, stroke sufferers, etc.);
- 7) Repeat research also on social media and blogs. For example, there are many AAC-specific pages and discussion groups on Facebook;
- 8) Put the source and the website page link;
- 9) Report one/two projects by type, those which seem to be more complete and better developed (put the link of the other projects of interest in a different file for reference, not directly on the shared drive);
- 10) It is not mandatory to fill in all the fields, but you have to put the information in the Drive cells only if you are sure of the relevance to the project aims.

5.2 Quantitative and qualitative analysis of research



The projects selected to be analyzed were more than 120, those included in the research sheet were 77, those considered most exemplary of their area.

At the end of the research phase, the data shared on the Drive were rearranged and analyzed by the researchers according to established criteria: NUMERICAL, GEOGRAPHICAL, AREA OF INTEREST, TYPE OF TOOLS, and UTILIZED STRATEGIES.

Total **NUMBER OF PROJECT** in the research sheet: **77**

- 18 for WP1 non-cultural areas: The research took into consideration the activities of daily life, the places where they take place, and the related services.
- 59 for WP2 cultural area: The research includes all the activities related to the world of culture and education, the spaces dedicated to it, the places of historical and artistic interest, and the related services.

5.3 Most significant examples (WP1)

GEOGRAPHICAL ANALYSIS: For what concerns the European area, it is interesting to note that most of the projects belong to the Mediterranean area. For what concerns projects worldwide, most are from English-speaking territories. In particular, from all the research projects those from the USA have shown us that they pay particular attention to issues relating to overcoming the barriers associated with cognitive and communication deficits.

17 out of the 18 projects were implemented in large and medium-sized cities, one in the countryside.

IN EUROPE: **11** (5 ITALY, 4 SPAIN, 1 GERMANY, 1 UK)

OUTSIDE EUROPE: **7** (3 USA – 1 CANADA – 1 SOUTH AFRICA REP. – 1 BRAZIL- 1 ARGENTINA)

AREA OF INTEREST:

EVERYDAY LIFE: n. of project 4

ANALYZE AN EXAMPLE: OTTAA Project (ARGENTINA)

It's an AAC platform using environmental data, an artificial intelligence algorithm, and a pictogram-based communication code to enable users to create sentences. This software suggests the user the most appropriate pictograms according to the environmental context, their daily routines, and their most used phrases and can also send messages to another device. The algorithm learns from the pictograms a user frequently chooses and suggests related ones, enabling the user to quickly and effectively create and voice out a complete sentence.

Strengths of the project: Artificial intelligence is the core of the project's innovative AAC software. The platform uses data points such as the time of the day, user age, gender, location, and previous



usage to preselect 4 pictograms from a database of 18,000 pictograms.

[OTTAA Project - Le devolvemos la voz a aquellos que la perdieron](#)

HEALTH: n. of project 3

ANALYZE AN EXAMPLE: UFRGS Universidade Federal Do Rio Grande Do Sul creates alternative communication boards for hospitalized patients (Brazil)

During hospitalization, some patients may use mechanical ventilators or undergo procedures that limit or prevent verbal communication. Thinking about it, a multidisciplinary group from UFRGS developed alternative communication boards intending to help these patients to express their needs. The boards use graphic symbols to allow the patient to communicate feelings, elaborate simple questions, answer questions asked by family members or health staff and make requests. The cards will also be available online, for free download and printing, on the university website and the International Society of Alternative [and Augmentative Communication Brazil \(ISAAC Brazil\)](#) [page](#). There are two versions, with one or two boards, and in different languages: Spanish, English, Italian, French, Portuguese, Chinese, Spanish and German, application widespread in other states of Brazil and adaptation to mobile platforms,



Strengths of the project: built-in multidisciplinary way, accompanied by explanations for users, two-way communication - give information and receive information, available in many languages.

[Pranchas CAA Hospitalar | \(ufrgs.br\)](#)

TOURISM: n. of project 2

ANALYZE AN EXAMPLE: VLC Valencia: Tourism pictograms for persons with cognitive impairment (Spain)

More than 60 different pictograms help identify the main tourist attractions and services: tourist offices, gardens, museums, theatres, beaches, hotels, restaurants, and more all have their own pictogram, making any location or resource easily accessible. They have also been placed on the map of the city. The new pictograms represent a new tool for planning a trip to València, downloadable for free.

Strengths of the project: symbols well organized by categories, available for free download, and with the addition of QR code technology.

Weaknesses of the project: it is not enough to have a dictionary of symbols available to activate communication between the parties. Tools, cards, schemes, should be proposed to make the best use of symbols.

[Tourism pictograms for persons with cognitive impairment \(visitvalencia.com\)](#)



LEISURE AND SPORTS: n. of project 3

ANALYZE AN EXAMPLE: AAC Camp Alberta (Canada)

A weekend family camp for children, aged between 6 and 19 years old, who use robust multimodal AAC systems and their families, to enjoy camp activities while practicing social communication. AAC Camp activities include sport, games, music & movement, arts & crafts, and more, all designed to encourage communication and interaction between campers. There are also special sessions for siblings to connect with each other and learn more about AAC. Parent/caregiver sessions include a mix of presentations by AAC experts and opportunities for Q & A and networking.

Strengths of the project: a playful and fun context where everyone expresses themselves in the same way. Useful for children and for the whole family to learn more about the use of AAC in everyday activities in a non-school or therapy environment.

Weaknesses of the project: organized only once a year.

[Augmentative and Alternative Communication Camp | Communication Sciences and Disorders \(ualberta.ca\)](http://ualberta.ca)

BAR AND RESTAURANTS: n. of project

2

ANALYZE AN EXAMPLE: At the bar and restaurant, I choose! (Italy)

A placemat illustrated with AAC symbols can solve many problems: what to order, ask for information on products, express preferences, etc. On the placemat there are all the images relating to drinks, everything relating to catering and the illustrations of the primary gestures, which are used to communicate their needs to the waiters: again, that's enough, help me, please, bathroom, thank you, I like/dislike.



Strengths of the project: a simple idea, easy to implement, low budget, simple to replicate and disseminate, useful for many targets including foreigners.

[“Al bar e ristorante scelgo io!”, le tovagliette illustrate che rendono i locali accessibili a tutti - Gambero Rosso](#)



CIVIL PROTECTION: n. of project 1

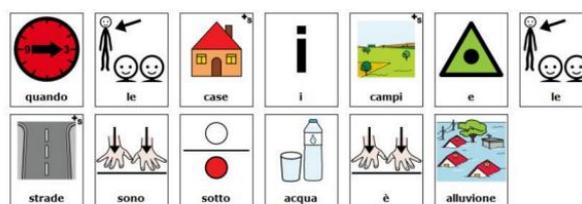
ANALYZE AN EXAMPLE: "I don't risk!" (Italy)

Cards designed by the Italian Civil Protection for children to teach the rules of behaviour in case of danger (earthquake, flood, volcanic eruption, etc.) supplemented by AAC symbols.

Strengths of the project: very important treated argument, an indispensable tool for caregivers.

Weaknesses of the project: little diffusion for a very useful project, the version in symbols only for flood topic (it would also be necessary to implement it for other emergencies), not downloadable, available only on request.

[Homepage - Io non rischio \(protezionecivile.it\)](http://protezionecivile.it)



BLOG: n. of project 1

ANALYZE AN EXAMPLE: "PrAACtical AAC" (USA)

A very popular blog in the USA and all over the world, with hundreds of contents, videos, information, news on the world of AAC, continuously updated and shared on all the main social channels (Instagram, Facebook, Youtube, Pinterest, Twitter, etc). The blog intends to support the community of professionals and families who are determined to improve the communication and literacy abilities of people with significant communication difficulties.

Strengths of the project: a very rich information archive and widespread distribution on the main social channels.

[PrAACtical AAC](http://PrAACticalAAC.com)

UNIVERSITY: n. of project 1

ANALYZE AN EXAMPLE: Postgraduate Degrees CAAC (SOUTH AFRICA)

The Centre for Augmentative and Alternative Communication at the University of Pretoria offers a range of formal training options like Honours and Masters degree in AAC. The 2 years degree has been developed for teachers and therapists who wish to enhance their knowledge and skills in the field of AAC, students can choose between the research-oriented and course work-oriented options.

Strengths of the project: For many therapists and teachers supporting children with severe communication disabilities to participate in a range of activities that will create greater independence can be daunting, a structured post-graduate course allows them to properly deepen the techniques and tools of the AAC.

[UP | University of Pretoria](http://UP.ac.za)

APP: n. of project 1

ANALYZE AN EXAMPLE: LetMeTalk free APP



A free AAC talker app with more than 9,000 images from ARASAAC communication symbols, it's also possible to add images from the device or take new photos with the device camera. LetMeTalk doesn't need an internet connection to work, it can be used everywhere.

Strengths of the project: free app supporting more than 15 languages, unlimited and flexible creation of new categories and adding new images, sharing profile easily with other devices.

Weaknesses of the project: very laborious creation of complex tables, it is not possible to duplicate pages. Structure too fixed: a collection of symbols predefined and only in color, the position of the text not selectable.

www.letmetalk.info

AAC TOOLS AND STRATEGIES:

COLLECTION OF SYMBOLS: 8 ARASAAC - 3 WLS - OTHER 7 (PICTOGRAMS, MULTIPLE, ETC.)

The ARASAAC symbols system is widely used, especially where the download of the material is foreseen as they can be used for free and are not subject to copyright. Pictograms are preferred to give little simple information, such as indications or prohibitions.

AIDS: 11 projects use printed or downloadable material (cheap, easy to make and to share), 6 also use APP or IT tools (flexible and easily adaptable, cost-effective to maintain), 2 signals or static panels (expensive and with high environmental impact).

5.4 Most significant examples (WP2)

GEOGRAPHICAL ANALYSIS:

IN EUROPE: 49 (12 ITALY – 9 PORTUGAL - 8 POLAND – 5 GREECE - 5 UK - 3 SPAIN – 2 NETHERLANDS - 2 FRANCE – 3 ROMANIA)

OUTSIDE EUROPE: 10 (8 USA – 2 BRASIL)

Medium and big size city: over 80% of the project. As understandable, many of the projects analyzed take place in the countries belonging to the AACC partners.

AREA OF INTEREST:

MUSEUM AND CULTURAL HERITAGE: n. of project 48

EDUCATION: n. of project 6

THEATRE: n. of project 3



LIBRARY: n. of project 2

For this WP, dedicated directly to the cultural field, we have decided to have as the main focus in the analysis of the results, not the area of interest, but instead the strategies and tools used in the various selected projects, as detailed below.

AAC TOOLS AND STRATEGIES:

COLLECTION OF SYMBOLS: 7 ARASAAC - 7 WLS - 6 PCS - 1 MAKATON - 23 OTHER PICTOGRAMS, MULTIPLE STRATEGIES AND SYMBOLS TYPE, ETC.

The ARASAAC symbol system is widely used as it is free and not subject to copyright, the symbolic systems PCS are widely used in the world of education and WLS in publishing and libraries.

AIDS: most of the projects with AAC strategies use *printed or downloadable material*, 6 use also *APP or IT tools*, 2 signals or static panel

The tools identified during the search can therefore be summarized in the following list:

- Printed materials
- Caption/panel
- Checklist
- Sensory map/ Bag
- Social guide/story
- Operating instruction
- AAC kit
- Special openings
- Games/Challenges
- Visit online
- Social/YouTube
- App/QR code
- Web Database
- Downloadable files

Some tools and strategies have been selected and will be further analyzed in the training phase and tested later in the trials. The criteria for choosing the tools were: adaptability to different contexts, easy implementation, and replicability, suitability for a high number of different targets, compatibility with the world of culture and its complexity.

SELECTED TOOLS EXAMPLES:

CHECK LIST: It helps you decide where to go, read information about the different galleries to learn about the types of art in the museum, and express needs. 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 trip 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.

SOCIAL GUIDE/NARRATIVE: 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 historic site. It will help prepare people for the visit and will cover important things to remember, such as museum rules, opening 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 you understand visiting time and pictograms to express needs and opinions.

Check List - Metropolitan Museum New York

SE VOGLIO ANDARE IN BAGNO PRIMA DI INIZIARE LA VISITA POSSO CHIEDERE DI ESSERE ACCOMPAGNATO.

ALZARE LA MANO BAGNO

DURANTE LA VISITA CERCHERÒ DI ASCOLTARE IN SILENZIO QUELLO CHE LA GUIDA CI RACCONTERÀ.

SE VOGLIO FARE UNA DOMANDA POSSO ALZARE LA MANO.

LA VISITA SARÀ FINITA QUANDO LA BARRA SARÀ TUTTA VERDE.

If I designed a [My Met Tour](#) (PDF), I can follow my checklist. I can also change my tour and choose to see different things.

There will be security guards everywhere in the Museum. They are there to help people and to keep the art safe.

If I get lost and can't find my family, I can tell one of the security guards.

Some areas of the Museum are loud and some are quiet; some are crowded and some have fewer people. My family can look at the [Tips for Parents](#) so we know about these different spaces. We can find these spaces on the [Sensory Friendly Map](#) (PDF).

Social Narrative - Museo di Cuneo

Social Guide - Metropolitan Museum



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. These spaces—some of which are quieter and less crowded and others that are overly stimulating—are 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.

strengths of the tools: knowing in advance what could be disturbing or potentially causing anxiety improves the visit and makes it easier to understand what you are observing. Normally these tools (**social map, social guide, visual checklist**) can be downloaded from the website as they are designed to prepare the visit in the days preceding the visit. However, they can be made available at the entrance for those who need them, they are most commonly used by visitors with a cognitive and sensory processing disorder.



Sensory map –
The Children's Museum of Indianapolis

SENSORY BAG: a collection of items that may help calm over-stimulating situations, normally containing tools to reduce the impact of potential sensory disturbances such as changes in light, temperature, room size, and sounds. These bags can include noise reduction headphones, simple communication cards, light reduction glasses, fidget/relaxation toys, a guide to preparing the child for a visit, and other tools to make the museum more accessible and comfortable.

strengths of the tool: each structure can compose the kit according to the different needs and characteristics of the visit itinerary. It is a very versatile and useful tool that can easily be made available to the public in ticket offices.



Sensory Bag –
Children's Museum Indianapolis



SHOW, ACTIVITY AND EVENTS: proposing to visitors inclusive shows, activity and events allow them to enjoy culture in a different and engaging way. It is possible to conceive: sensory visits, shows where symbols are placed side by side with mime or music, create workshops with the support of AAC kits, propose experiential events where the ways of living the culture of people with communication disorders are experimented. It is very important to communicate in advance all the potential sensory stimuli that may be present in the event, what materials will be used, how many people will be present at the activity, anything that can potentially create disturbance or stress for the participants.

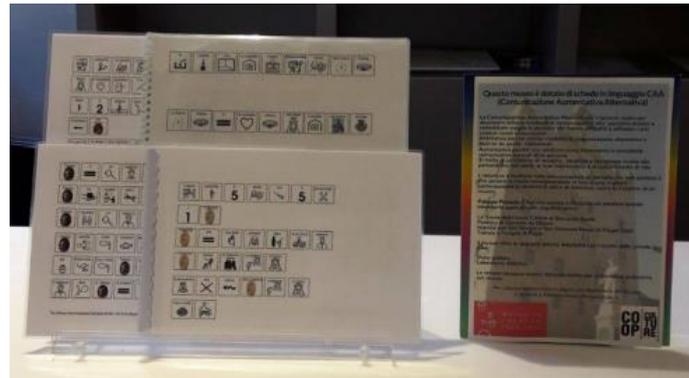
strengths of the tools: combining the explanations in symbols with manual activities, readings, shows, music, games increases the interest in the contents and the joy of living the culture. Events are moments of aggregation and dissemination of methodologies.



Les Soeurs Lampions - Mimo France

PRINTED MATERIAL, PANEL AND CAPTION: 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. 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 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.

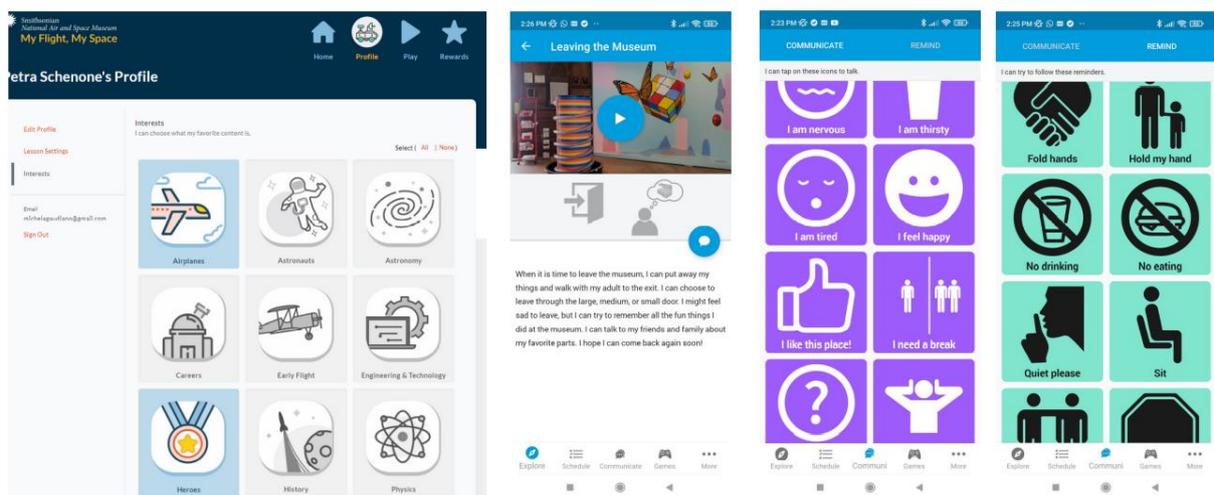




APP/ ONLINE CONTENTS: Many companies developing innovative technology to help people with disabilities communicate and express themselves in everyday life activities, museums have also started providing mobile apps to help visitors have as stress-free an experience as possible. It can be found in special sections with accessible content in the **app** designed for the general public or specific apps for people with communication disorders, these tools make it easier for them to access education and culture. In the app, you can find downloadable guides, sensory maps, communication tools such as pictograms, games, interactive activities, fun quizzes, useful information such as temperatures and noise levels, schedules of events, and an opportunity to buy tickets and skip lines to special exhibits.

strengths of the tool: Apps are easily updatable, intuitive, and enjoyable and have no impact on the exhibition path.

An interactive portal can make online learning accessible to all. It can be found: customizable video lessons rewards for meeting learning goals, digital resources, podcast, storybook, etc. These online experiences have been designed to engage and excite learners also with SEN and disability while aligning with their educational needs.

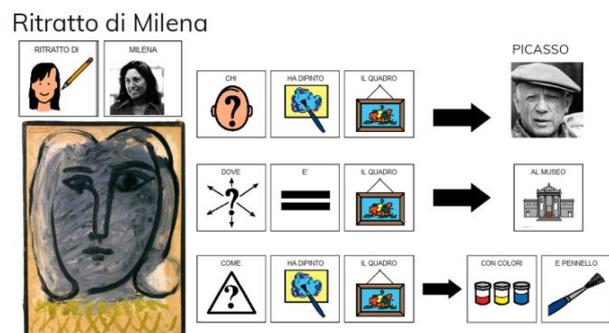


Infinitech.com - web space and app for Museum



SOCIAL/YOUTUBE AND VISIT ONLINE: The online mode has spread widely during the emergency due to the covid 19 pandemic. Social channels, platforms like zoom or meet and YouTube, are widely used also by cultural institutions to share online experiences like tutorials, stories, games, reading, and lessons. Content adapted with AAC strategies or other communication aids are usually shared for free, online lessons, learning lab, virtual tours for school are agreed and booked in advance and may be subject to charges.

strengths of the tool: multimedia contents and technological devices can be very useful not only for the periods when the structures are not accessible for all but also for overcoming architectural and sensory barriers during the on-site visit.



Creative tutorial - Solidarietà e Lavoro

6) AAC

6.1 Accessibility and inclusion

Although the two terms are often used synonymously, *accessible* is not the same as *inclusive*. It is not enough to make something accessible for it to be inclusive if the aspects that make it accessible for some end up hindering or discouraging access for others. This creates a new divide, a new division on a different level, which will still have the ultimate effect of not promoting inclusion.

A quick review of the principles of inclusiveness in books, which are also applicable to other dimensions of life, may help to give an idea of the main issues to be addressed in order to achieve real inclusion through accessibility.

1. **functional:** allowing access for all



2. **executive**: flexibility of use, without rigid rules, providing a variety of uses
3. **aesthetic**: the importance of beauty and the quality of materials
4. **communicative**: avoiding explicitly connoting books
5. **playful**: make use fun and enjoyable
6. **economic**: to have a cost equal or comparable to traditional books
7. **educational**: to allow access to and understanding of content
8. **welcoming**: inviting use, without useless filters (rules, premises, etc.)
9. **autonomy and self-esteem**: allowing autonomous access with the least possible effort
10. **cultural**: showing (not explaining) diversity and its characteristics.

(Source: Sante Bandirali, *Fumo sull'acqua. Libri accessibili e inclusione*. Uovonero, Crema, forthcoming).

6.2 The AAC strategies

Augmentative Alternative Communication (AAC) is a set of knowledge, techniques, strategies and technologies designed to simplify and increase communication in people who have difficulty using the most common communication channels, with particular regard to oral language and writing. It is defined as **Augmentative** as it is not limited to replacing or proposing new communication methods but, analyzing the subject's competencies, it indicates strategies to increase them and is **Alternative** as it uses strategies and techniques other than language.

The main recipients of visual communication are:

- people with complex communication needs (autism, learning disorders, language disorders, dyslexia, deafness ...)
- people who have visual thinking
- children with reading difficulties
- preschool children (who cannot yet read)
- foreign children and adults whose first language is not the language national of the country

Among the various strategies and techniques used in AAC, the use of logograms commonly indicated as "**symbols**", linked to the alphabetic text, is one of the best known and most widespread and takes on different forms and methods depending on the objectives set. in various cases.

6.3 Tools

There are many tools used in AAC to support the communication of people who have some kind of impairment in it:



- communication tables
- task analysis
- environment adaptation
- time scans
- use of communicative objects
- strategies based on narrow interests
- other tools

Although symbols are the best known and most widely used AAC tool, they are not necessarily part of all communicative tools. In the list, for example, symbols are generally used in the construction of communicative tables, task analysis, environmental structuring and time scans, while they are not necessarily used in the others.

6.4 The different collections of symbols

Symbols and icons are all around us, from the instructions on a household appliance to signs at foreign airports.

They give us immediate information that might otherwise be too difficult or time-consuming to obtain. A road sign in text, for example, would be useless for someone who cannot read the language or too long for someone who understands the language but needs to have the information in a short time.

Some general considerations on symbols: Symbols require learning and are not a language on their own. Symbols are determined culturally, historically, geographically, according to the recipients, according to communicative urgency, and by the type of communication desired

The most commonly used symbol collections in AAC are as follows:

- **PCS (Picture Communication Symbols)**
- **WLS (Widgit Literacy Symbols)**
- **Arasaac (Aragonés Sistemas Augmentivos y Alternativos de Comunicación)**

BLISS

The Bliss symbols, or Blissymbolics, are an auxiliary language created to facilitate communication between people of different languages. Charles Bliss, their creator, wanted a written language that did not correspond to any sounds, so that it would be possible to communicate between different languages using the same writing system; he published his major work Semantography in 1943, in

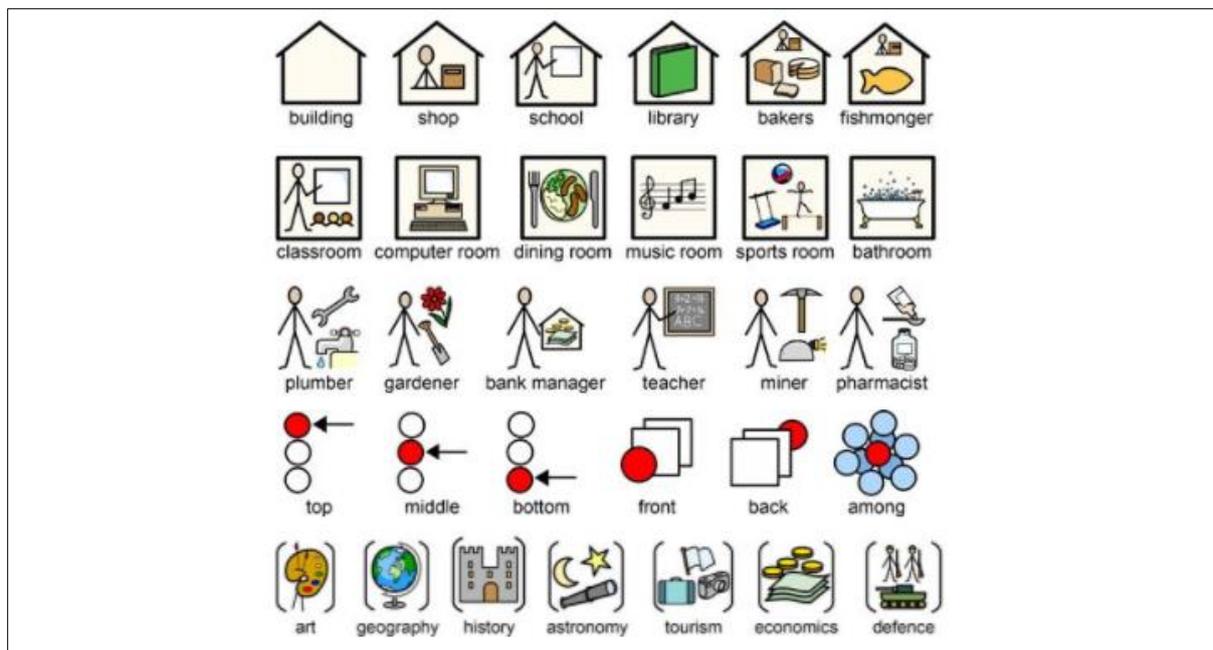


which he presented the principles of language functioning. It was only in the 1970s that, on the initiative of a Canadian Center for disabled children, Bliss symbols began to be used as an aid for people with communication disorders, thus giving rise to AAC.

Bliss symbols are based on a few dozen basic symbols that, combined with each other and with specific indicators and qualifiers, can represent any concept or word. They have a very high degree of syntactic and graphic consistency but are poorly transparent.

WLS

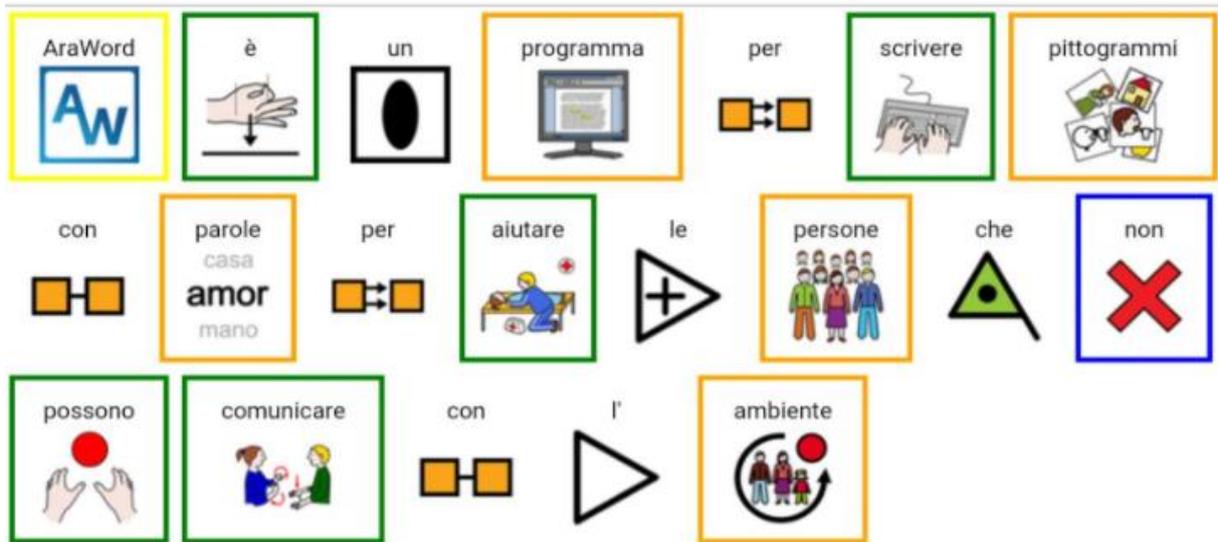
The WLS were created in the 2000s to facilitate the understanding of written texts. For this they include all linguistic functors, tenses, quantities of nouns and also provide indicators for pronouns and superlatives. It is a symbolic system with a good level of graphic and syntactic coherence, which has an affinity with Blissymbolics, but not very transparent due to the high number of ideograms it includes. The developer company, Widgit, also constantly updates the collection on request, which currently amounts to about 20,000 different symbols. Their use is subject to the payment of royalties.



ARASAAC

Born from a project by the Aragonese government for inclusion, they are symbols with characteristics similar to WLS, with respect to which they have greater transparency, albeit with less graphic and syntactic consistency. Available for free online, the symbols in the collection are about 10,000 and receive updates without precise regularity.

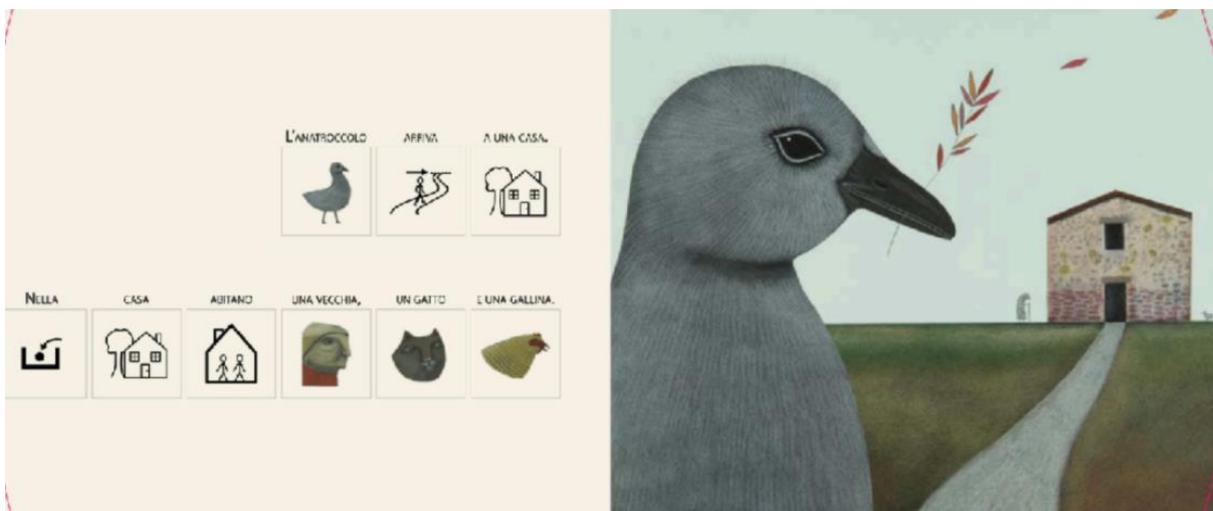




PCS

PCS are symbols developed since the 1980s for daily communication in multiple contexts, domestic and otherwise. The collection currently includes around 45,000 symbols. PCS are very transparent symbols, mostly pictograms and with a small part of ideograms. They foresee the presence of a few linguistic functors; they do not offer the possibility of indicating the tenses and the number of substances.

The collection has a low degree of graphic and syntactic consistency. These characteristics make them unsuitable for symbolizing texts, although with some small forcing it is possible to use them in short and simple texts. Symbols are updated regularly. Use subject to the payment of royalties.



(Source: Enza Crivelli, Arianna Papini, *Il brutto anatroccolo*. Uovonero, 2018)

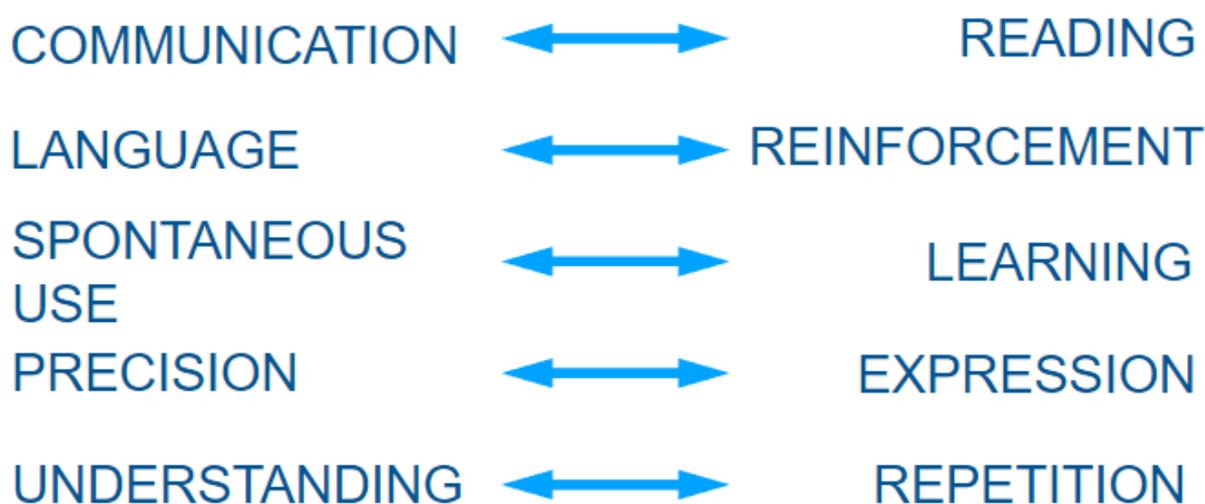
6.5 Collection's selection

The main variants concern the specific collection of symbols used and the quantitative relationship between symbols and text and, as in any other form of communication, are determined by the specific use for which they are intended. The methods of use depend in particular on a series of choices to be made on the basis of multiple factors ranging from the characteristics of the recipient to the environmental context, through various considerations.

In particular:

- do you want to favor the reading of a text or interpersonal communication?
- do you want more spontaneous use or use mediated by a learning phase?
- is communication requiring more technical precision or more literary expressiveness?
- is it more aimed at obtaining a mechanical repetition of the text or an understanding of it?
- Finally, the most important difference: are symbols considered a real language or a simple support for understanding the language?

Preliminary choices in the use of symbols



For the AACC project, given its cultural nature and its objective linked to accessibility, the choices were to favor the reading and understanding of a text; an expressive component is allowed in the description of works of art, while precision is required on practical and logistical details; learning is

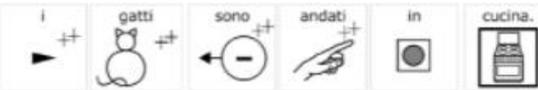
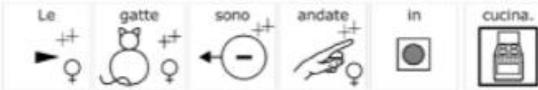


provided for symbols related to cultural content; finally, symbols are always used as a visual aid to verbal communication.

The characteristics of sufficient transparency, good consistency, constant updating and the ease of obtaining new symbols make the WLS the most suitable for the development of the AAC model, as they easily allow adaptation to different museums and to an audience of users with specific characteristics. True inclusion also means thinking about people who have no problems.

For the AAC project, given its cultural nature and its related accessibility objective, the choices were made to favor the reading and understanding of texts. In the description of the works of art an expressive component is needed, and at the same time precision is also requested for the analysis of the details of practical and logistical order. For symbols linked to cultural contents are foreseen specific learning activities. Symbols will be used, as always happens, as a visual aid to verbal communication.

PCS and WLS in comparison

PCS	Il gatto è andato in cucina. 
WLS	Il gatto è andato in cucina. 
	Il gatto è andato in cucina. 
	Il gatto è andato in cucina. 
	i gatti sono andati in cucina. 
	Le gatte sono andate in cucina. 

"spurious" WLS



6.6 An overview of the possible applications and methods of use of AAC

Symbols are continuously employed around us in daily life as a simple and straightforward system of communication. You don't necessarily have to have a hard time learning, linguistics, or communication to benefit from the use of symbols.

Thanks to the evident evocative capacity, the symbols are a simple, immediate, and transversal means of communication that goes beyond any differentiation of language and culture.

7) Development of digital tools to facilitate AAC application in cultural services

According to the points analyzed during the research and in our LTTA, and concerning the digital tools to be developed, we can establish the following conclusions:

The tools that should be used in this project are those which can facilitate communication and the application of AAC strategies. As for the use of symbols in our trails, we propose the use of the Symwriter application (a word processor for writing texts with symbols and for creating didactic activities), which we analyzed during the training; and as a complementary application, we propose the Hemingway Editor (we will specify some characteristics below).

The first issues to take into account in the development and application of these tools are, mainly, the following:

- Establish guidelines to standardize the use of the program,
- Limiting, in the learning phase, the number of pictograms to use per concept/term. We propose to create a sort of single glossary that would be used as a help for the future training program for teachers and museum operators. It could also be used in the finalizing phase of the project so that any professional involved can use it as a reference while learning how to create a dossier or whatever type of display, or how to apply it in cultural services.
- Minimize the number of words to the most essential with the intention of reducing space and facilitating both its elaboration and its reading.
- Simplify the grammatical structures of sentences to optimize their comprehension.

These last two points are the reasons for using the Hemingway Editor, as a complementary tool to the software first mentioned. This tool will help us achieve both things that are essential for the understanding of the materials for the target group of this project.

Contents and structures should be adaptable to printable material and also for online use as both are important for different reasons: one person may prefer the first or the second one, for others it could be easier to understand one or the other.

In conclusion, in the AACC project, we are going to use these already designed and working tools, but at the same time, we will work on adapting and making them a little bit ours by defining the first



glossary and maybe a style guide to create also a sense of cohesion through all the material that can be created during and after our project.

8) New profile for teachers/cultural operators

Definition of the new profile

The new profile required concerned cultural operators specialized in the creation of educational paths, activity or workshops within cultural services and museums since they are crucial to interface with schools and ensure the stable introduction of AAC. A museum specialist is aware of the special needs of persons with communication disabilities, aware of how communication should be designed in order to reach every audience.

Starting from Sel's thirty years of experience in the cultural sector, it has been observed a general lack of preparation to respond to the communicative needs of all guests and visitors with disabilities or disadvantages, even temporary, and in parallel a growing demand for tools and solutions by associations, families, and schools. Museums have already been working for many years on projects related to overcoming architectural barriers and creating dedicated routes for people with disabilities to facilitate their access to the museum (tactile routes, audio guides for the deaf, soft zones, opening hours), but little has been done to allow real cultural enjoyment, i.e. allow people with communication deficits to understand the contents and encourage their active participation. This lack of long-term structured planning has also been found in the rest of Europe, as confirmed by the operational and associated partners.

Our partnership intends to form a cultural operator able to translate the project contents into a path of development and implementation of tools and resources for the benefit of the European exhibition system. We also intend to promote its function of inclusion and support employment by the formation of new specialized professional figures.

It is our duty to be prepared and know how to react when the situation arises. The museum specialist needs to adapt the communication to the understanding skills of the end-user.

A recent study, *The Promise of Assistive Technology to Enhance Activity and Work Participation* (2017) has gathered interesting data about the need and usage of AAC instruments and tools in the USA. On page 210 it is shown that around 4 million Americans (1.3% of the USA population) cannot use natural speech for their communication needs (cf. Beukelman and Mirenda, 2013) and that the higher the age, the more advanced the difficulty in making use of natural speech (Yorkston et al, 2010). It has also been noted that quite often other disabilities are accompanied by communication disorders (Lawthers et al. 2003, Perry et al. 2004).

The role of AAC systems is to ensure functional communication in those cases where natural speech is not functioning properly or satisfactorily.



There are Unaided Communication Systems and Aided Communication Systems. Unaided Communication Systems refer to those cases where a person uses his/her body (gestures, sign language, facial expressions) to deliver the messages. Aided Communication Systems are those which use tools external to the user's body to complete the messages. These can be more or less technological features, such as software, but also pencils, boards, symbols that help the communication process.

(apud The Promise of Assistive Technology to Enhance Activity and Work Participation (2017), pp. 211, 236)

Training needs

Museum professionals will need specific training: from the design of very simple text that can be reasonably transposed into symbols to the use of this software will be necessary.

An overview of the possible applications and methods of use of AAC, also concerning the different prevailing types of SEN disadvantage, for the main cultural exhibition systems (art, ethnographic, scientific, historical museums, theme parks, etc.);

The capacity to identify reference tools to introduce the AAC system and to implement standard visit routes;

Recognition of the necessary conditions to work with young people with fewer opportunities in a cultural context (attitudes of the operators, rules of workshop management, communication skills, pedagogical skills, observation skills);

Learning to use AAC tools to stimulate pupils who cannot express themselves conventionally to communicate in alternative ways;

The tactics to encourage the participation of children with SEN; Training will help to broaden the understanding of how persons suffering from communication disorders see the world, what is their typical behaviour/behaviour to expect in the museum environment, what could be their reactions to some elements that can cause external stress (music, lights, etc)

Need to be trained to:

- use the worksheets and application tools and how to create ad hoc tools, such as personalized worksheets, rest notebooks, and vocabulary.
- construct and update the support material (vocabulary, exercise books, worksheets) in relation to the needs of the moment
- facilitate texts for disabled and foreign students who do not have total mastery of the country's language in an inclusive perspective.
- set up a dedicated app with standard contents (description of museum and works, map of works and services);



- use tablets (or other video support) with standard contents and how to communicate non-accessible museum spaces (in case of architectural barriers or temporary closures, many pathologies present cognitive and physical disabilities at the same time);
- develop games with the used and learned museum AAC symbols, so that they become acquired and remain "active" for possible subsequent visits.
- activate distance learning in case of facilities closure or impossibility of schools to go out: how to "translate", adapt museum contents, tutorials, promotional videos of all materials with AAC symbols. Deepen the distance learning proposed to schools usable for AAC users.

Roles of museum operators

Museum specialists, be they curators, educators, communicators, have the task of facilitating the transmission of the museum message to the end-users, including to those suffering from various communication disorders.

The way museums can help in creating/ contributing to the well-being of the persons suffering from communication disorders can be crucial, as they can largely improve the experience, while learning how to adapt to the everyday discourse.

At the same time, museums can contribute to the self-esteem of these persons, often still discriminated against within society. Having an open positive attitude, museums can improve this situation.

Museums, galleries, libraries, and theme parks, which preserve the signs of human creativity, have always been a source of personal and collective knowledge but also a key economic sector in Europe. If the enjoyment of the historical, cultural, and artistic heritage is an essential support to the learning processes, it can also be an unattainable goal for all those who do not possess that degree of cognitive or expressive autonomy to comprehend the communicative codes usually used in cultural spaces.

The cultural operator must be the connection point between operators of the school sector, of associations of disabled people and their families, and the cultural world, and be able to involve all to get new ideas and methodological applications, developing expertise, contents, and methods of intervention in their respective roles.

The cultural operator must reach new standards to broaden museum or exhibition organization's inclusivity, to demonstrate that the museum is open and a sociocultural catalyst for all, without preclusions.

The cultural operator has to be able to share the baggage of practical knowledge and application tools, including digital ones, of the AAC field through the creation of new models and tools for specific use in support of the use of cultural and artistic heritage by people with disadvantages within the vast framework of SEN.



The cultural operator must share with teachers an innovative approach in widening the cultural fruition system. The whole group of experts/workers sharing the project must be involved together in designing the activities.

The development of dedicated digital applications will allow us to expand the fruition possibilities beyond the physical barriers.

9) Learning, Teaching, Training Activities and needs

Definition of the new profile

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.

Talking about the strategic importance of using AAC strategies, the teacher of the partner School of APEL acknowledges that their students with SEN can all read and understand verbal language but that they have students who are experiencing difficulties in adapting to the Portuguese language, as it is their non-maternal language. The school for example is dealing with the issue of giving mandatory classes in Portuguese to students from different nationalities.

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 effectively and ethically communicate with these people.

The educational 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 have to 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.

Training needs

Teacher training specific to AAC is absolutely a key factor to successful student outcomes. Educational specialists need training that shows how to use symbols, gestures, and items to communicate. If the project decides that we will use the WLS system it is certain that the teachers who are going to use it will have to go through a specific training period. Having always in mind that these teachers have already been trained to work with students with IDD otherwise they will need to go through such training as well.

Although our research suggests WLS has many advantages, being flexible and user friendly, trainers in AAC should have in mind that teachers and students can already use different systems. In this situation, the trainer must evaluate to what extent it's an advantage to use WLS or the actual system selected by the user.

Teachers will also need the training to prepare and encourage them to search for new ways of communication and also which shows them how to cope with the challenge of alternative communication.

Roles of teachers

Various factors are affecting the implementation of AAC services by teachers including preparation time, team collaboration, and support from para-educators and Speech-Language Pathologists (SLPs). Successful implementation of AAC systems in the educational field takes time, effort, and commitment.

Teachers can take a very important part in the implementation of AAC strategies in the educational field. They are the role model for students, especially the young ones; their openness and readiness to use alternative ways of communication are the best foundation to build new, excluding-free educational fields.

Teachers should be prepared to analyze and evaluate the tools which are used to educate people with communication disabilities. They should be also prepared to break down the

communication and medical barriers.

Moreover, teachers have to be given the particular, useful, and simple tools they can use to work in favor of people with communication disabilities. They also should be able to create or find new tools, ways, and ideas which can help to work with people with communication disabilities.



10) Next steps

At the end of the analysis and systematization phase of the results, we will begin the training phase which is essential to experiment and exploit what we have highlighted.

The collaboration of the various Stakeholders will be essential before, during, and after the experimentation phase.

Associations, family members, schools, teachers, and cultural institutions will initially be involved to report their needs and those of their children and students.

Teachers, educators, cultural operators will be actively involved in the experiments to define together a protocol for the management of the activities and identify the tools necessary to prepare and carry out the visit.

After having agreed on these elements with all the subjects involved, it will be possible to carry out the first experiments with the class groups thanks to which it will be possible to verify in the field the effectiveness of the selected methodologies and tools.

It will also be asked to give feedback on the performance and the results of the experiments. Above all, it will be of the utmost importance to be able to have feedback on the perception and enjoyment of the children during the course of the visit.

The impact of IO1 can be transferred to all the European research, training, publishing, and care organizations, as well as naturally to the organizations for the protection of disabled and disadvantaged people to allow the setting up and development of new intervention paths, similar to those which will be tested here. It will also serve the international organizations which supervise and regulate the AAC reference models, to update and expand the range of contents and tools which can be inserted in all the applications, textual and digital.



Sitography

1) [Project Introduction](#)

1. aaccproject.eu

2) [Participating Organisations](#)

1. [Solidarietà e Lavoro Società Cooperativa Sociale O.N.L.U.S.](#)
2. [DomSpain](#)
3. [Escola da APEL](#)
4. [Platon Schools](#)
5. [Collegium Balticum](#)
6. [Uovonero](#)
7. [Complexul Muzeal Național Moldova Iași](#)

3) [Project Description](#)

3.3 Needs & Targets

1. [European Agency Statistics on Inclusive Education \(EASIE\)](#)

4) [Accessibility guidelines](#)

1. [United Nations. Standard Rules on the Equalization of Opportunities for Persons with Disabilities](#)
2. [World Health Org. International Classification of Functioning, Disability and Health \(ICF\)](#)
3. [Council of Europe Disability Strategy 2017-2023](#)

5) [The Research](#)

5.3 Most significant examples (WP1)

1. [OTTA Project - Le devolvemos la voz a aquellos que la perdieron](#)
2. [Pranchas CAA Hospitalar | \(ufrgs.br\)](#)
3. [Tourism pictograms for persons with cognitive impairment \(visitvalencia.com\)](#)
4. [Augmentative and Alternative Communication Camp | Communication Sciences and Disorders \(ualberta.ca\)](#)
5. [“Al bar e ristorante scelgo io!”, le tovagliette illustrate che rendono i locali accessibili a tutti - Gambero Rosso](#)
6. [Homepage - Io non rischio \(protezionecivile.it\)](#)



7. PrACtical AAC
8. UP | University of Pretoria

9. www.letmetalk.info

5.4 Most significant examples (WP2)

1. my-met-tour.pdf (metmuseum.org)
2. https://www.comune.cuneo.it/fileadmin/comune_cuneo/content/amm_organiz/cultura/museo_civico/storia_sociale/StoriasocialeMuseosito.pdf
3. social-narrative-children.pdf (metmuseum.org)
4. Sensory Resources | The Children's Museum of Indianapolis (childrensmuseum.org)
5. Sensory Friendly | Children's Museum, IL (childrensdiscoverymuseum.net)
6. Les Soeurs Lampions
7. PANELES ACCESIBLES VILA JOIOSA (ALICANTE) – Aula abierta de ARASAAC
8. Welcome! - My Flight, My Space (infiniteach.com)
9. Musei di Savona: dipingiamo come Picasso - YouTube

6) AAC

6.4 The different collections of symbols

1. Blissymbolics Communi
2. Widgit
3. ARASAAC
4. PCS

