



Total Communication and Technologies to Interact with People with Severe Intellectual Disability Addressed to Train Healthcare, Education and Interpreting Professionals

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Abstract

Most of the programs and systems created to help disabled people are targeted to subjects who have certain abilities. People with severe intellectual disability are really at risk of being the most ignored since approaches devoted to cater for successful communication are not generally present in their everyday life scenarios. EC+ European project developed a mobile app to cater for the communication with this group of subjects and to empower professionals from various disciplines with the necessary tools (scientific materials on syndrome characteristics and intervention, multimodal resources and sign language) when they need to interact with intellectually disabled subjects in their professional environments. The interdisciplinary approach of total communication adopted as methodology for the EC+ project proved to have a promising outcome with different professionals. Specialists from the educational field who are obviously the groups who usually should lead the knowledge for intervention with special needs subjects put forward valuable suggestions and feedback. However, since training activities were offered to university students and professionals from the fields of healthcare, education and interpreting, it should be highlighted that the engagement of community interpreters and healthcare professionals was also really remarkable. This was manifest both in dealing with the contents and strategies of training courses and in their eager compromise to practice with disabled population in workshops.

Keywords: Apps, interpreting, education, healthcare, total communication;

1. EC+ project outline

Attention to vulnerable population is one of the priorities of European Program Erasmus Plus under which our project was outlined and developed following the *European Disability Strategy 2010-2020* [7]. People with severe intellectual disability are among these vulnerable groups. The research groups of the EC+ project Consortium [11] developed both scientific guidelines for healthcare and intervention purposes and an application for mobile devices using the total communication approach (Artigas et al 2013) [2]. This application is user-friendly (Chicano and Luque, 2017) [4]. Previous research works (Mulfari et al, 2015) [6] state that technologies for communication must be user-friendly whether they are used by professionals or disabled users. Educational professionals have traditionally led the use of total communication approaches and related technologies. Healthcare professionals normally experiment the stressful situations due to lack of time and shortage of staff, so it is an additional effort to learn how to use devices. However, our project meant to engage the three groups of professionals in the use of a mobile application in order to communicate with people with severe intellectual disability by means of total communication approaches (Griffiths and Smith, 2016) [5] and multimodality (Wentzel, J and van der Geest, 2016) [10]. Interpreters faced a novel experience since for all it was the first time both to receive training and to engage in workshops. For healthcare staff it was a way to put in practice communication in their hospital where many intellectually disabled users attend consultations. They voluntarily engage in training so as to provide a better attention and to improve their professional qualifications. Previous studies on communication in healthcare settings pose problems both for interpreters and healthcare staff (Parrilla Gómez, 2018) [8] where mental disability is not a problem. Furthermore more specialized research works (Bot, 2015) [3], (Acar and Blasco, 2016) [1] (Postigo and Parrilla, 2018) [9] emphasize the need to train healthcare staff and interpreters when working with intellectually disabled people and in mental health contexts.

Unfortunately for this lack claim, very few efforts have become visible. EC+ project has been an innovative attempt to promote an interdisciplinary initiative to introduce communication resources for intellectually disabled in university training together with other stakeholders such as professionals, associations and non-professional carers.

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The project has developed several activities. First, we will focus on EC+ communication resources. Second, we will focus on training activities and students' interest and commitment and third, we will describe activities such as mobility workshops and networking collaboration.

The website of the project offers different free materials to download. There is an academic portal that hosts all the resources of a free mobile device application and can be used in computer devices and it is available for Android and IOS operating systems. The academic portal offers guidelines for syndromes in four languages (Spanish, Catalan, Dutch and German) and papers with general information on communication, multimodality, sign language, hearing impairment, disability and disruptive behaviours.

A list of words is displayed in alphabetical order and each term is linked to a video with sign language and real photo of concept and a pictogram. This way the disabled person can choose the resource which is most meaning for him/her.

Nouns and verbs are the most frequent grammatical categories. Adjectives are also present to describe moods, colours, temperatures etc.

Verbs are mainly displayed with a video resource of the action instead of photograph besides the aforementioned sign language video. Additionally there is a list of advanced words which includes prepositions, adverbs, articles and other similar words that could be perhaps helpful for certain users.

The same resources can be downloaded in mobile devices or tablets from Google Play. Once the application is started a display of all pictograms for disable users appears for them to easily choose the ones they need to communicate without the help of another person.

Several training courses were offered using EC+ resources and scientific materials. The outcome of courses was really positive.

2. Interpreters and healthcare staff implication in training

More than 300 people have engaged in the training activities so far. They belong to the three disciplines (education, healthcare and interpreting) and also many disabled people non-professional carers or relatives registered and have completed the courses.

In the Spanish institutions around sixty healthcare professionals were involved in the courses. About forty interpreters also participated in the training activities. A scientific questionnaire, an intervention questionnaire, sign language and satisfaction questionnaire were required from healthcare professionals. Interpreters were asked to complete the same questionnaires with the exception of the scientific one which was substituted by another on multimodal communication, community interpreting and code of ethics. Both groups provided useful feedback and reasons for their interest. Namely, healthcare staff consider the application resources and acquired knowledge on disability would reduce stress and anxiety when working with intellectually disable patients. Interpreters value scientific information in the app as a valuable documentation they would need they would improve their professional skills.

2.1 Mobility program and workshop with disable users

The EC+ project offered the possibility to organize a mobility activity with students from the Consortium institutions at the University of Malaga. Students have participated in applied activities focused on interdisciplinary total communication approach. The experience proved that after a short comprehensive training upon the foreign students' arrival to our institution they were in disposition to effectively interact and communicate with intellectually disabled subjects in several workshops organized in day care centers. Their performance was successful both due to the received training and to their strong commitment although some of them do not belong to discipline such as Psychology or Education. Their feedback provided by individual reports after the mobility program offers a promising outcome of their professional skills and interest.

3. EC+ project dissemination and networking

One of our key aims is to disseminate the objective and resources of EC+ for the improvement of quality of life both for intellectually disabled people and for the professionals that work with them. In order to achieve that a good many of scientific publications have already been released and they are mentioned in the project webpage, online training activities have been organised and are still offered until the end of the project. Each member of the Consortium has disseminated the project resources locally and nationally to disabled associations and university departments. Likewise the aforementioned mobility activity gathered students from four institutions to work on the project aims. An International Conference held in December 2017 assembled more than thirty presentations on



disability and communication issues. The event attracted participants from reference international centres devoted to research on disability and mental health.

Networking has been a key aim for our research. We started networking collaboration in 2016 with The Finish institution *Communication and Technology Centre Tikoteekki* Finnish Association on Intellectual and Developmental Disabilities (FAIDD) when we found out that this prestigious institution also shared our interest to provide interpreters for disabled people. For the last two years we have shared information and make several exchange visits to settle academic agreements.

Surveys to be completed after testing the resources and namely the app for mobile devices have been issued and are providing useful feedback. Future research lines after finishing the project life span could be extended to more syndromes or other impairments such as aphasia or any other communication problems due to unexpected brain injury.

4. Discussion

Our research has proved that initiatives to enhance the quality of life of intellectually disabled people can be better achieved if we make future professionals conscious of the need to gain skills to communicate with these groups of people who really will benefit from quality communication and train them properly. Interdisciplinary will certainly be an asset to train potential professionals gathering technologies, total communication approaches and scientific and intervention guidelines. User-friendly technologies would also help both groups, professionals and disabled to interact successfully making communication barriers less intricate and thus both of them can experience less stressful situations in daily routines, healthcare consultations, leisure activities or any interaction related to the intellectually disabled person's legal or vital issues. Commitment and interest of future professionals proved to be very positive both in their practical performance and in individual written reports.

References

- [1] Acar S, Blasco PM. Guidelines for Collaborating With Interpreters in Early Intervention/Early Childhood Special Education. *Young Exceptional Children*. Thousand Oaks: Sage, 2016, 1096-2506 <http://journals.sagepub.com/doi/abs/10.1177/1096250616674516> [Retrieved: 15-10-2017].
- [2] Artigas-Pallarés J, Guitart M, Gabau-Vila E. The genetic bases of neurodevelopmental disorders. *Rev Neurol* 2013;56 (Supl. 1):S23-S34
- [3] Bot, H. Interpreting in mental health care. Mikkelson H, Jourdenais R (Eds.), *The Routledge Handbook of Interpreting*. New York: Routledge, 2015, 254-26.
- [4] Chicano, F. Luque G., "[A Mobile Application and Academic Portal to Support Professionals Working with People Having Severe Intellectual or Developmental Disabilities](#)", *Procedia - Social and Behavioral Sciences*, Volume 237, 21 February 2017, 568–575.
- [5] Griffiths, C. and Smith, M. Attuning: "A Communication Process between People with Severe and Profound Intellectual Disability and Their Interaction Partners". *J Appl Res Intellect Disabil*, 2016, 29: 124–138. doi:10.1111/jar.12162
- [6] Mulfari D., Celesti, A. and Villari, M. "A computer system architecture providing a user-friendly man machine interface for accessing assistive technology in cloud computing", *Journal of Systems and Software*, Volume 100, 2015, Pages 129-138, ISSN 0164-1212, Retrieved:(<http://www.sciencedirect.com/science/article/pii/S0164121214002325>)
- [7] European Disability Strategy 2010-2020 Retrieved: <http://eur-lex.europa.eu/legal-content/ES/TXT/HTML/?uri=CELEX:52010DC0636&from=ES>
- [8] Parrilla Gómez, L. Códigos éticos: formación para intérpretes. In Postigo Pinazo, E. (Ed.): *Nuevas tecnologías, procesos cognitivos y estrategias para la optimización de las competencias del traductor e intérprete*. Berlin: Frank&Timme. 2018 (Forthcoming).
- [9] Postigo Pinazo, E. and Parrilla Gómez, L. Protocolo de comunicación con el paciente discapacitado: colaboración entre personal sanitario e intérprete. In Postigo Pinazo, E. (Ed.): *Disability and Communication: Scientific Analysis, Total Communication, ITCs Tools and Case Studies*. New York: Mc Graw Hill. 2018,(Forthcoming).
- [10] Wentzel, J. and Geest and van der Geest, T., Focus on Accessibility: Multimodal Healthcare Technology for All. In *Proceedings of the 2016 ACM Workshop on Multimedia for Personal Health and Health Care (MMHealth '16)*. ACM, New York, NY, USA, 2016 45-48. DOI: <https://doi.org/10.1145/2985766.2985769>



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