A Project to Foster Behavioural Monitoring in the Field of ADHD

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Abstract

The WHAAM (Web Health Application for ADHD Monitoring) project has been funded with support from the European Commission in the context of the LLP – KA3 Measure.
It is aimed at sustaining the learning processes of teachers, parents and health personnel to practice monitoring techniques in the context of the CB approach to tackle problematic behaviors in ADHD pupils and young adults (age 7-18). This action may be deemed as part of the LLL process of teachers and adults, also with a relevant spillover effect on the lives of the ADHD pupils.
Moreover, the project seeks to improve the home-school collaboration in the field of ADHD, promote a stronger awareness of the importance of creating a skilled social network around ADHD pupils and diffuse the use of CB monitoring as the best way to collect data and to plan effective and shared interventions.

1. Rationale

The main motivation behind this project is the impact of behavioral disorders on the LLL process for pupils and young adults. One of the headline targets agreed by the European Council is to reduce the percentage of early school leavers to less than 10% and to ensure that at least 40% of the younger generation have a tertiary qualification or equivalent (COM (2011) 18 final, 31.1.2011). The Attention Deficit Hyperactivity Disorder (ADHD) is among the factors correlated with low scholastic achievement and the rates of early withdrawal. The ADHD, together with the frequent comorbidity with conduct, anxious disorders and learning disabilities, make students more likely to be suspended and expelled, and to have a high probability of drop-out [1] [2]. For these reasons, ADHD, and the associated diseases, has been the object of many studies involving researchers, clinicians and educators. Regarding the incidence of this disorder in the school population, the most recent estimate was 6.8% (95% CI: 5%-9%), with an incidence threefold greater for males with respect to females (9.2% vs. 3%). The diagnosis and treatment services for ADHD are not uniformly distributed in the different European countries. As a consequence, many children who do not receive the correct diagnosis and appropriate treatment may manifest disorders related to substance abuse, mood disorders, social and relational problems during adolescence.

In order to address this issue, the WHAAM project is designed to set out specific actions aimed at improving teacher and parent skills in the observation of ADHD subjects (aged 7-18), and to design a multifunctional tool to recognize trigger events and/or the consequences that are reinforcing and maintaining the undesirable behaviors, according to cognitive-behavioral strategies. By means of these actions, the project may contribute to tackling many relevant problems in this area, such as scholastic achievement and social inclusion.

The choice to focus on parent and teacher training arose from an analysis of many studies on ADHD that have highlighted the need to move school and family from helpless victim mode to observer mode. However, currently there is an evident mismatch between certain educational practices, directed towards the typical "student with ADHD", and the need for a pedagogical action, using ICT and innovative educational environments, which takes into account the diversity between subjects.

The project topic is consonant with the development strategies of the partners involved and relevant to national and international policies, concerning inclusion and special needs in education.

Besides, the project rationale will refer to relevant international policies such as the International Consensus Statement on ADHD [3] and the results of the European Interdisciplinary Network for ADHD Quality Assurance – EINAQ [4]. The latter aims to fix quality standards of clinical practice throughout Europe, improving specialists' medical care and harmonizing it in Europe. Moreover, the

need for more professional development for teachers in relation to special educational needs and inclusive education [5] [6] [7] is internationally accepted, as is the need to provide school staff with appropriate training in meeting the challenges of teaching with ADHD pupils [8] [9]. So, the lifelong learning and training of teachers, parents and caregivers will be another focus of this project.

2. Innovative character

Attention Deficit Hyperactivity Disorder (ADHD) is the most common psychiatric disorder in childhood. Several studies demonstrate that the optimal approach to tackling it is the Multimodal Treatment of ADHD (MTA), including behavior therapy, medications, and a combination of the two.

A key role in the Cognitive-Behavioral (CB) approach for young ADHD pupils is played by monitoring carried out by teachers, parents and relatives of the pupil with ADHD. It is useful to disclose the purpose or function that a particular behavior serves. As a consequence, it has a key role in planning effective interventions aimed at modifying antecedents or triggering behaviors and/or the consequences that are reinforcing and maintaining the undesirable behaviors. This type of system is called behavior management or modification and it has been found to work well with children and many adults with ADHD.

Traditionally, the behavioral monitoring is performed using specific monitoring charts. Although frequent monitoring is really helpful, educators and parents are often reluctant to drawing up charts. In fact, it could be felt as a long and complicated procedure.

Ideally, to be effective, MTA should involve patients, teachers, family and peers and provide them with psycho-educational contents such as information about symptoms and impairment, the prevalence of the disorder in children and adults, the most frequent comorbidities, the heritability, the brain dysfunctions involved, as well as the treatment options.

The involvement of the patient's social network has proved to be an invaluable element in the treatment process. Unfortunately, creating a link between the most important people around patients and promote dialogue and sharing is a very difficult task. The lack of a network support could be crucial for treatment results. In fact, literature highlights a strong need to further develop structured psycho-education programs with specific attention to monitoring techniques and to home-school collaboration for promoting behaviors that lead to scholastic and social success.

Starting from these considerations, the WHAAM Project aims to support the delivery of MTA through ICT.

2.1. Objectives

The main goal of the WHAAM project is to contribute to fostering competitiveness and convergence, in line with the Euro Plus Pact (EUCO 10.1.11 Rev.1). It is focused on training teachers, involved with ADHD students, to practice monitoring techniques in the context of the CB approach. This training course may be deemed as part of the LLL process of teachers and adults, also with a relevant spillover effect on the lives of the ADHD pupils.

Moreover, the project seeks to improve the home-school collaboration in the field of ADHD, promote a stronger awareness of the importance of creating a skilled social network around ADHD pupils and diffuse the use of CB monitoring as the best way to collect data and to plan effective and shared interventions. To accomplish these goals, the project aims to construct a common framework involving educational research centers and some important public and private agencies engaged in the sector of learning and training. This action could increase the awareness of these agencies regarding the possible impact of the technology in the future of ADHD monitoring. To obtain this result it is important to consider the international research results but also to take into account the different local contexts, both at national and regional level.

To address these aspects the project has defined the following concrete aims:
- to develop a Framework for ICT-based interventions for students with ADHD. This framework aims to define a common theoretical background within the partnership;
- to develop a Web Application focused on supporting an ICT-based multimodal ADHD intervention;
- to design parent and teacher training paths aimed at providing teachers and parents of ADHD pupils with behavioral modification techniques and the Web Application developed in WP3;
- to design and deliver an e-Learning module on ICT-based interventions for students with ADHD.

All these actions are aimed at harmonizing the policies and spreading good practices in CB monitoring, and support the idea that ICT can play an important role in making the multimodal approach a time-efficient strategy for managing students with ADHD, without singling out or stigmatizing the child. In particular, the project intends to explore the opportunity offered by the mobile devices as tools to allow monitoring in real life situations, timely and easily.

The project is oriented to create the conditions for efficient and effective growth in teachers and parents' abilities in CB monitoring, assuming that this benefits *all* pupils, not just the pupil with ADHD. Classwide interventions can have a positive effect on the learning and behavioral difficulties frequently associated with ADHD.

3. Project's products

The outputs of the project are mainly directed at defining a web application for monitoring ADHD students and enriching the competences of teachers and parents of students with ADHD and consequently at reducing their withdrawal. In pursuing these outputs, we intend to deliver the following products:

The Framework for ICT-based interventions for students with ADHD. It represents a theoretical and methodological tool aimed at guiding the main actors involved in ADHD monitoring and treatment. The results of this work will be diffused to researchers and associations by means of specialized publications, international conferences, and using the project web site.

The Web Application, accessible through both personal computers and mobile devices, will provide teachers and parents with features to easily monitor subjects' behaviors in a specific, measurable, attainable, realistic and timely way. Using the data gathered through the monitoring, the project Web Application will allow health personnel, parents and teachers to share observations, define together the best intervention plan for pupils and learn the most suitable strategies for the management of ADHD learning and behavioral difficulties.

The training course, dedicated to parents and teachers with ADHD students/children, will be held in 3 countries (IT, PT and UK). The parents and teachers will be selected by the Italian, Portuguese and English partners, by means of schools and health services.

The e-Learning module is directed at students of medical, psychological and educational science faculties, besides teachers and health professionals, interested in improving their knowledge and skills of the treatment of behavioral disorders, using a CB approach and ICT. This module will be open to any European higher education institution that is willing to recognize a certain number of ECTS-credits.

4. Expected impact

The teachers and parents of students/children with ADHD are the main project target group. Using schools and health care services in which the subjects with ADHD are registered it will be possible to contact and recruit them. The main outcome for this group will be teaching them new strategies to monitor the behavior and learning difficulties of ADHD pupils, thus improving their skills in managing the many difficult behavioral aspects both at home and at school.

Another relevant output is expected in the organization of schools which have ADHD pupils, pushing them toward more inclusive policies, and improving the collaboration home-school. Furthermore, the use of ICT will permit to spread good practices and new theoretical results throughout the whole community engaged to manage these disorders, at national and international level. The project will make easier to access to some interventions, and to share results and efficacy practices. Finally, the dissemination activity should contribute to the diffusion of a new awareness about the social and economic costs related to these disorders, and the necessity to spread a multimodal approach, also using ICT, for the treatment of them, so improving the life of families with children with ADHD

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