Report

Global Challenges in Assistive Technology-2

AAATE pre-conference event, Budapest, 9.09.2015

Following the success of the first **"Addressing Global Challenges in Assistive Technology"**-event, held in Vilamoura in 2013[1], the board of AAATE has organised the second edition in this biannual event on the 9th of September 2015, during the AAATE conference in Budapest.

The event was promoted in collaboration with the WHO. Different to the 2013 edition which was a seminar format, in 2015 it was an international network event, held in the afternoon immediately after the high-level expert meeting[2] on "the research agenda in AT". It was supported by the WHO in the framework of the GATE[3] initiative.

In the evening there was an informal working dinner allowing for interaction among the participants. Representatives of international organizations and high-level experts made short 5 minute speeches, sharing their view on the strategic aims for the AT sector and a roadmap for realising these aims.

The chair of the evening, AAATE president Evert-Jan Hoogerwerf, invited the participants to contribute to the writing of a "State of Play document" by writing on "post-its" *achievements*, *challenges*, *actions needed* and available and needed *resources*. The "post-its" collected at the end of the evening (reflected in the bold text below) form the basis of this report.

[1] http://www.aaate.net/content/meeting-2013-09-18

[2] Participation in this meeting was only upon invitation.

[3] http://www.who.int/phi/implementation/assistive_technology/phi_gate/en/

Achievements

Technology
A first area where achievements were reported was technological development. Someone stated: **"There is AT!"** Over the years thousands of AT solutions have been developed and this process of innovation is still going on. Another participant reported that there is even an **increasing interest in funding research and development of new AT**.
The large availability of technologies has led to a situation where **low and high-tech multimodal devices and interfaces can be combined and reassembled** in different configurations, allowing for **appropriate personalised solutions for the individual**.
Also the process of **digitalisation** has had an important impact on the sector. The **application of Universal Design concepts within the ICT infrastructure** has made **universal access in computer and mobile operating systems** possible. **Mainstream devices**, such as smart phones, with **built in accessibility** have boosted the opportunities for people with disabilities to participate in daily life activities. There is further attention for making **interfaces more user friendly**.

Awareness and knowledge
An important achievement reported is the fact that there is **increasing general awareness about the need for assistive technology**. Also **the knowledge about AT has increased including** what it can do for people. The **reference to AT** in the Convention on the Rights of Persons with Disabilities (**UNCRPD)** adopted by the United Nations in 2006, has definitely helped to get AT higher on the agenda of policy makers.
In recent decades the cultural perception of disability in many countries has changed and this is reflected in policy. For example the passage in 1990 of the Americans with Disability Act (ADA) has brought a shift in **expectations towards community based and independent living**. Also **events like the Para-Olympics 2012** have brought the needs of the disabled into the public arena.

Markets
As a consequence **markets for AT products have increased**, while built-in IT accessibility has led to the **wider usage of mainstream technologies** by people with disabilities, which, on its turn, has led to a further **cost reduction** of assistive solutions.

Availability and services
The availability of AT and the political willingness to provide solutions to persons with disabilities has led to the situation that **in an increasing amount of countries provide basic AT** with limited or even no cost for the users (e.g. Brazil).
Further there is substantial awareness that **AT is not only about products, but also about services**.
Compared to the past nowadays there is **more focus on the complexity of the implementation procedure of technology, on the service delivery process and on the importance of end user involvement**.
Also the **development of WHO wheelchair service delivery guidelines** was mentioned as an important achievement.

Education
In the area of education there were important achievements reported as well. There are in increasing number of countries where **AT has been introduced in the educational system**. Some countries even have an official **accreditation? for AT professionals**. There are an **increasing number of dedicated journals** and there is **better access to research publications**. Developing countries achievements were reported, such as

the introduction of **barrier free design & accessibility courses in vocational and academic curricula in Egypt**. Other examples of achievements in this area are the **WHO training packages**.

Collaboration at all levels and initiatives
The **increasing global collaboration between stakeholders** is perceived as an important achievement, as well as **the development of broad and strong disability networks**. There was specific mentioning of the existence of networks such as the International Society of Wheelchair Professionals (**ISWP**) and **AFRINEAD** (**the African Network for Evidence-to-Action on Disability)** which exists to ensure that research contributes to a better quality of life for people with disabilities in Africa.
The **GATE programme of the WHO** is considered a huge step forward because of its drive **to unite people from all over the world and from different fields to collaborate on the global AT agenda**. In this framework someone labelled the **work on the AT essential list** and **the cooperation between the WHO and ISO on terminology and consistent definitions** as important steps forward.

Challenges

Technology
A highly interesting outcome is that none of the participants reported challenges related to technological development. This shows a broad awareness that the state of development of technology is not the main challenge, although **the need for more and better standards** was mentioned, as well as the need to build a **data exchange infrastructure** for the implementation of large scale remote support services.
The main challenges perceived are related to the deployment of AT and the barriers for its uptake.

Cultural and communication barriers
Participants mentioned the need to **further raise awareness, also among people with disabilities** and to **shift mind sets**. For some the very same link between AT and disabled people should be challenged: **AT is for all!** For others the diffusion and acceptance of AT is hampered by the **low expectations society has about people with disabilities**.
Some were self-critical with the AT community for not being sufficiently good in **translating research and theory into practice** and to reach out to other stakeholders. We should "**stop talking among ourselves".**
More should be done to get **wider recognition of the importance and benefits of AT,** especially in specific domains, such as **cognitive products**.
At policy making level increasing support should be gained **to treat AT as a service/science that deserves planning, evaluation and development** and not just charity or donor funding.

Access barriers
The lack of awareness and information is also perceived as an important barrier to access AT products, services and training opportunities. The participants acknowledged that there are **big differences among countries in the world** and even within countries. These **diverse contexts should be taken into account** while analysing the existing access barriers.
Someone wrote "At least **equity within countries** should be achieved"..

Improvements in service provision

According to some participants a major challenge in service provision is **the need to have qualified and motivated staff**. Someone argued that **the lack of "allied" health personnel** in some countries might hamper the implementation of AT services.
Service delivery should further be appropriate, for example by **defining service provision needs/requirements across the spectrum of AT** though **avoiding the tendency to look for quick solutions**. Further all should be done to ensure that **consumers receive adequate follow-up services and ongoing support** to sustain the benefits they get from AT. Finally the need for **more evidence based practice** was highlighted.

Training and Education
Many participants reported challenges in the field of education and training, both related to **the preparation of professionals** and the skills and competences of ICT-AT users. Countries should ensure that there are enough **qualified service providers** and make sure that there are **qualification systems** in place that certify skills acquisition, especially in low income countries. **Web based training** could be a solution to reach learners globally.
More should be done to promote the **development of ICT-AT competences of people with disabilities**, such as **training on the use of tablets and smart phones**. The widening of the **digital divide should be avoided** at all cost.

Resources
The impression that **needs are increasing while resources are diminishing** and the related question regarding **the sustainability of the AT provision sector**, are considered huge challenges.
Different needs were mentioned, such as **support for the acquisition of AT**, for its **maintenance**, **funding for research and innovation**, including **the design of new ATs** (using User Centred Design methodologies), funding for **assessment services and follow up**.
Some mentioned that **the cost of accessible smart devices** should be lower.
Some found it hard to get **funding for attending meetings**, such as the GATE meeting.

Collaboration
Increasing the collaboration between stakeholders at all levels is challenging, but necessary in order to obtain results. In this context also, the development of **an international association on Rehabilitation and Assistive Technology** was indicated as a challenge. The voice from st**akeholders in low and middle income countries** should be more represented in the international debate, according to others.

Emerging needs
Important challenges are related to new groups that represent areas of need, such as **the ageing population**.

The situation in Low and Middle Income Countries (LMIC)
Many participants were concerned about the huge **gap between rich and poor countries** and related challenges to reducing and closing that gap. Particular concern was expressed for the **brain drain of students and relevant professionals** out of LMIC. AT should be promoted more and better in these countries and **services and support of AT in Africa should be scaled up**. Someone mentioned the need to directly **reach users in those countries** and to **provide funding**, while others mentioned the challenge to that is being exported.

Research

Challenges in the area of research are, according to the audience, the **lack of clear universally accepted concepts and definitions**. Further there is **a lack of outcome and evidence studies, data collection methods**, **systems to demonstrate effectiveness** and **frameworks/standards at international and national levels.**
Someone considered **research into the negative aspects** as a challenge: "Does technology form the users in a negative way? – Are there adverse effects".
Finally someone raised the issue of **independent researchers** (not employed by universities) and people with disabilities, who should be able equally to **participate in meetings**, e.g. GATE.

Suggested actions

Not surprisingly many of the suggested actions were connected to the above mentioned challenges.

Awareness raising
Quite a few participants suggested activities aiming at raising awareness, such as **media campaigns** and **information campaigns on specific issues**. The example of cognitive products was mentioned. These awareness raising activities should not only **target users and professionals**, but also **policy makers and decision makers in health, education and social care**. All activities having as an objective to **share ownership and understanding** about the issues at stake were considered important. Someone mentioned the need for **global branding of AT**. Someone else, the need to develop **advocacy** initiatives.

Policy development
The **development of a specific cross-sector AT policy for each country** was suggested (one policy for all). Others mentioned **lobbying** to get AT included in policy making at all levels as a priority activity. The need for **regions and countries to identify and develop their own priorities** was highlighted. Influencing the implementation of the UNCRPD and highlighting the role of AT was mentioned. Actions furthering the **collaboration between responsible institutions in different sectors** (Health, Social Care, Education) should be fostered, according to many, and Disabled People's Organisations should be heard in these processes.

Improving the implementation of AT
The development of different tools was suggested, such as **a framework to match functionalities of AT solutions with AT needs**. It was suggested that this would also **improve the communication and understanding between people with disabilities and service providers**. Further the development of methodologies for **measuring the usage and impact of appropriate assistive devices and services** was suggested.

The development of products and services
Producers were invited to develop **high quality robust and sustainable products**. Some participants suggested actions aiming at **identifying low cost AT alternatives** that can be **produced using local personnel and local materials** in regions that have very limited resources. Also **the promotion of Design for All and User Centred Design** was indicated as an area of activity, including the application of **Universal Design** principles in the design of new AT. The application of **game technology in the health sector** was

specifically mentioned. All actions aiming at **reducing the costs of products, their deployment and support services** were welcomed. The **sustainability** of the entire AT delivery system should be a core issue of concern. The **mapping of the relevant disciplines and stakeholder professionals** was mentioned as a starting point for countries building up an AT delivery infrastructure.

Collaboration
Some participants suggested the need **to develop AT communities that people could join and where they could contribute in money or in kind (services). Collaboration should further be encouraged through the promotion of open source.**

Information resources
Actions aiming at the development of resource databases were mentioned, as well as databases of available AT in Africa.

Education and Training
Providing **more and better education and training** to all stakeholders was considered a priority action. It was suggested that the provision of basic certificate training via the internet and/or a combination of online training and mentorship would be a solution for many countries. Also **the general public should be educated**, according someone. It was suggested that a coordinated training network across rehabilitation disciplines and alternative training approaches should be advanced.

GATE
GATE as such was considered a very important action and someone mentioned the AT essential list as an important action.

Research
The participants suggested that strategic research programmes and projects that accumulate knowledge over time and across countries/nationalities are needed, such as **research into cost-effectiveness of AT and evidence based practice**. Also the idea **to create a global outcomes measurement data collection system** was mentioned. It was suggested that also **the non-provision and non-use of AT** should be investigated, including its impact on the development of lives, and that research should be based on the **full involvement of the end users**. Further the suggestion was made to assure the exploitation of research outcomes. **Crowdfunding** was mentioned as an opportunity.

Resources to activate

The following resources were mentioned by the participants:

Human resources: such as skilled researchers, teachers, educators, academia.

The existing knowledge base: such as research based evidence, outcomes and best practice.

Educational resources: such as learning programmes, courses, training opportunities, conferences, workshops, online information resources.

Financial: from public and private origin such as statutory (all levels from global to municipalities) and non-statutory bodies, the free market, venture capital investors, insurance companies paying for products and services, crowd funding.

Political attention and support: in particular priorities given to AT development programmes by national governments, national and regional plans investing in the preparation of the workforce and the development of services, as well as incentives through fiscal legislation.

Resources generated by organisations and stakeholders: such as the interest and commitment of stakeholders, membership organisations, academia and the engagement of users as advocates to raise awareness, test products and training new users.

Resources generated by rational planning and economy of scale: such as the recycling of existing AT, the design of quality low cost devices for low income countries, through the application of Universal Design principles by mainstream IT companies, the better matching of AT solutions to the knowledge and needs of persons with disabilities, the reorganization of services and the development of financially independent assessment centres.

Conclusions

The AT sector is a broad and expanding sector. It is driven by technological development on the one hand and by increasing demand on the other hand. The increasing demand is due to economic development and the global ageing process. Major accessibility of mainstream devices and Universal Design technology is leading to important opportunities for persons with disabilities. Nevertheless difficulties remain and more should be done in global awareness raising and in education and training. The availability of products and services should be boosted worldwide taking into account the local market conditions and the context of deployment of these services. In a period of increasing opportunities for persons with disabilities and more inclusive societies the widening of the digital divide should be avoided at all costs. The GATE programme constitutes an important opportunity to drive universal access to basic AT.

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Bologna, 21/12/2015