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# **The role of assistive technology in renegotiating the inclusion of students with disabilities in Higher Education in North Africa**

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# **The role of assistive technology in renegotiating the inclusion of students with disabilities in Higher Education in North Africa**

## **Abstract**

This article considers the impact of a two-year collaborative European Union funded project. The ‘Sustainable Ways to Increase Higher Education Students’ Equal Access to Learning Environments’ (SWING) project, brought together four European higher education institutions, one institution in Egypt and two in Morocco. It aimed to promote equal access to university education, and future career opportunities, for students with disabilities in the North African countries, using accessible assistive technology. Appreciative inquiry was used to explore the impact of the project processes and outcomes. We will share how the focus on assistive technology addressed the invisibility of students with disabilities by promoting individual and collective student agency. Students’ emerging sense of empowerment is attributed to two factors that inform the wider inclusive education debate: the power of technology as a mediator of change and the importance of a bottom up/ top down dynamic.

## **Key words**

Students with disabilities; Inclusive education; Assistive technologies; Agency.

## **Introduction**

We stepped from the university bus just outside the Medina. Three caucasians with no sense of direction, together with a group of seven young Moroccan men, on the edge of a maze of tiny alleyways that might lead to the riad [traditional Moroccan house] where we were staying during our project visit to Tetouan, in North Morocco. “No problem - we can find your riad” they said. In no time at all, due to deft navigation skills we arrived at the ancient studded door and thanked our guides. With a sense of irony we reflected on how disability is all relative - this group of young men lived in a home for the blind not far away. In the medina - their world - we were the disabled.

This brief epigraph sets the scene for this article on the socially constructed nature of disability as a product of how society views and deals with impairment. The SWING project, which provides our focus, aimed to increase access to university for students with disabilities in Egypt and Morocco through the establishment of Accessibility Centres, and by optimising the use of assistive technologies. The Tempus programme, through which the SWING project was funded, was designed to modernise higher education in partner countries in Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region through university cooperation projects. Our account begins by setting the project in the context of research on students with disabilities in higher education. It introduces concepts of inclusive education and agency and establishes what the literature reveals about assistive technology as a means of promoting inclusion. An explanation of the SWING project and the research

methodology, is followed by a discussion of emergent themes and insights that inform wider inclusivity initiatives.

The international differences in terminology use, underpinned by political and philosophical arguments that subtly influence attitudes to disability, provided a conundrum for the project team. Person-centred language, putting the 'person' before the word 'disability' and using the term 'student with a disability' in preference to 'disabled student,' was eventually chosen not least because it was the students' preferred term. The team also adopted the social model of disability, viewing disability as the outcome of the interaction between health conditions (sensory, cognitive, physical and psychological impairment) and contextual factors (WHO 2002; Shakespeare 2013). Whereas the medical model sees disability as clear-cut, a problem with the individual, that can be 'fixed' or 'cured,' the social model puts greater responsibility on society to alter the conditions that create disadvantage - a far more complex undertaking.

### **Disability and Inclusivity in Higher Education**

Global population estimates, in 2010, suggested that more than a billion people (about 15% of the world's population) live with some form of disability (World Health Organisation (WHO) 2011). The number of people with disabilities entering higher education internationally appears to be rising (Hadjikakou and Hartas 2008; Pena 2014), although this is not reflected in a simultaneous increase in empirical research

on their experiences (Pena, 2014). Seale et al. (2015) suggest that people with disabilities remain underrepresented in higher education worldwide, despite the introduction of inclusive education initiatives in many countries (see Konza (2008) for an in-depth review).

Forrest (2003) notes that there are wide cultural differences in academia's willingness to resolve inequalities in access to higher education for students with disabilities. Even when students access higher education, staying the course is a challenge with retention rates lower for those with disabilities (Izzo, Murray and Novak 2008). Of students who gain a degree, those with unseen disabilities show poor attainment, and graduates with dyslexia or those with multiple disabilities are less likely to gain a good degree (first and upper second class honours) than their peers with no disability (Richardson 2009).

The SWING project centred on inclusivity and collaboration, both of which align with Tempus principles and with our chosen methodology, providing a framework for considering the project's achievements. This was no accident. There is a powerful synergy between the Tempus priorities and UNESCO's statement on inclusive education, which states:

the ideology of inclusive education is implemented in different ways across different contexts and varies with national policies and priorities, which are in turn influenced by a whole range of social, cultural, historical and political issues (UNESCO 2011, 15).

The terms 'inclusive education' and 'inclusivity' are variously defined. We lack space to fully consider the range here other than to note for our specific purposes that a) inclusive education is 'championed as a means to remove barriers, improve outcomes and remove discrimination' (Lindsay 2003, 3), and b), essential to inclusive initiatives is consideration of fundamental transformation of notions of ability/disability (Singal 2008; Slee 2009). Inclusive education initiatives have been criticised for their failure to challenge taken-for-granted discourses that are constructed around 'ability' (Bryne 2014). Davis (2006, 1) highlights the fact that 'we live in a world of norms. Each of us endeavors [sic] to be normal' therefore it is not surprising that support for people with a disability is framed as enhancing progress towards normalisation.

Nevertheless, Davis (2006, 15) identifies a need to reverse the 'hegemony of the normal' and to 'institute alternative ways to think about the abnormal' if disability awareness is to be enhanced and inclusivity achieved.

Moller and Danermark (2007) identify several dimensions of inclusion: taking part, involvement in various life areas, and access to the necessary resources. This conceptualization means that students' experiences of feeling included involves active participation and learning in all aspects of academic institutional life, in and outside the classroom. Participation in student organisations offering academic and peer support that 'foster the recognition of the cultural dimensions of disability' (Friedensen and Kimball 2017: 238) symbolizes an important choice for individuals. However, as Peters' (2010) research with school children suggests, individuals' choice to embrace difference is a precursor to collective agency.

Research suggests a tendency for support for students with disabilities to focus primarily on academic and physical accessibility, rather than promoting social participation in higher education institutions (Sachs and Schreuer 2011). However, active participation of students in making their own choices and becoming involved in all aspects of university life highlights the importance of student agency. Bandura (2001) acknowledges that self-determination and self-efficacy beliefs are the foundation of human agency or an individual's ability to exercise control over the nature and quality of their life. Yet a view of human agency in which individuals possess social and cultural capital, and are proactively engaged in their own development, raises questions regarding how people with disabilities experience agency, when choices are restricted due to cultural/societal/political barriers. In this light, self-determination and agency are viewed as both a personal and a social construct, highlighting the vital relationship existing between a person and the wider social context. The impact of cultural dimensions on the conception of disability is also important. Whereas individualistic communities (such as the United Kingdom (UK), Spain and Italy) focus on avoidance of dependency, collectivist communities (such as Greek, Chinese, Arab), tend to adopt a paternalistic attitude, with family members being asked for advice and assistance, and making the main decisions about the person's future.

### **Assistive Technology and Disability**

Although no one factor is likely to mitigate disadvantage for all students with disabilities in higher education, technology is a tool for potentially enhancing inclusion (Ball 2009). The UK Joint Information Service Committee (JISC) TechDis



defines assistive technology as ‘any technology that broadens the range of learning experiences offered to students.’ By focusing on ‘tools for learning,’ the TechDis definition avoids disability, or technology-specific solutions, in favour of possible wider impact on inclusivity. Seven genres of tools are identified, including alternative interfaces, for example, screen readers, visualization, reading, recording, planning and organizing, and communication tools. These genres of assistive technology provide increased access to learning activities, support individual study success, and compensate for limitations (Stodden et al. 2006).

There is a growing body of research, mainly from a Western perspective, on the use of assistive technology by students with disabilities in higher education, which shows that strategies to remove barriers and/or facilitate success are still lacking. A United States of America (USA) study identifies the need for increased access to assistive technology, as well as stronger self-determination skills and self-management skills, suggesting that although students might have access to resources they are not always appropriate or effective (Getzel, 2008). Seale (2014) highlights that students with disabilities have a complex relationship with assistive technology, and need support with relatively simple issues, as well as with technologies that are more complex. Lack of clarity and direction as to what assistive technology is required and/or needed by students with disabilities, or how they might make use of resources available to them seems to be common (Stodden et al. 2006). However, Forrest’s (2003) research concluded that students ‘cross use’ technologies on offer in a pick and mix way. For example, students with learning disabilities might use voice recognition technology intended for students with visual impairments to good effect. This finding suggests that a tools-based approach to support is helpful.

A top-down strategy for assistive technology support services appears to be ineffective where there is lack of student input (Vickerman and Blundell 2010; Blair and McGinty 2013). Seale et al. (2015) found that the range of assistive technology and access to support and services, varied from institution to institution and suggest that despite access to technology, students tend to lack digital social and cultural capital to succeed. Digital social capital is the benefit derived from the individual or group's social connections and networks based on their socialisation into the use of technology and the investment of time in developing technical knowledge and competence. Digital cultural capital accrues through acquiring the cultural competencies and knowledge allowing individuals to operate as consumers in society (Seale et al. 2015). For example, having knowledge and confidence to challenge the system and the ability to get a response to complaints (Reay 1998).

There is limited research on how students with disabilities cope in North African higher education institutions. However, Hadidi and Al Khateeb's (2015) observations of development of programmes and services for students with disabilities in Arab countries suggest that major challenges remain in expanding and improving quality of services. Given that an early needs analysis of likely disabilities revealed a varied picture in Egypt and Morocco, the 'tools for learning' conception of assistive technology was highly relevant to the SWING project. Whilst having access to assistive technology does not guarantee use, or successful outcomes (Seale 2014), our aim was to expose as many students as possible to the options, some of which were familiar and others not. As such exploring staff awareness of students' needs, the availability and accessibility of assistive technology, and the extent to which students (and staff) in North Africa possessed digital capital, was a point of departure for the

SWING project. The overall profile of the North African institutions at the commencement of the project is shown in Table 1 :

<b>Institution</b>	<b>Students in University</b>	<b>Students with Disabilities</b>	<b>Types of Disability (in order of prevalence)</b>	<b>Services available</b>	<b>Comment on Accessible IT Available</b>
Ibn Tofail University, Morocco (ITU)	21,500	168	Visual impairment Hearing impairment 'Other' disabilities.	Collaborative staff (515 academic staff and 245 administrative staff)  Moodle platform available at the University Identified students with disabilities  Ramps in some parts of the institutions	•Absence of assistive technology in the UIT • Absence of adequate infrastructure and equipment
Universite Abdelmalek Essaadi Morocco (UAE)	36,200	40 students:	Visual impairment Physical impairment Hearing impairment	Moodle platform  Braille technology  Interaction with "Hanan" Association for students with disabilities  Ramps in some institutions	Absence of Accessible IT
Arab Academy for Science, Technology and Maritime Transport Egypt (AASTMT)	20,000	28 Students	Visual impairment Hearing and speech impairment Physical impairment	Laboratory Computers with screen readers installed.  Special arrangement for students with visual impairment, especially on IT related courses  Flexibility on exams, where students are offered an assistant to read/write on their behalf, or are allowed a computer-based exam depending on subject  Good staff relationships, with more office hours allocated to students with visual impairment  Offering scholarships	Screen in the library that allows students to read books on-site, but does not enable them to check out digitalised books.  Computers with screen readers Installed

## **Project Overview**

The SWING project was a two-year project running from 2013-2015 which focused on several key aspects of collaborative development:

- Identification of needs and gaps in provision for students with disabilities in the Universities in Egypt and Morocco
- Identification of best practice in EU institutions through North African staff visits
- Creation of an Accessibility Centre Model
- Creation of an Advisors' Training Handbook and 10 training modules rolled out to staff and students
- Establishment of the first physical Accessibility Centres in Morocco and Egypt.

The Accessibility Centre Model was an early development by the project team.

Derived from the social model of disability, evidence from gap analysis, focus groups and best practices identified in EU and partner institutions, and a background literature review, it provided a conceptual framework for the Accessibility Centres.

The model in Figure 1, portrays the student-centred approach underpinned by infrastructural support that acknowledges the student journey: from admission to employment or further study, and the importance of social integration as well academic achievement. Assistive technology provides an overarching means of support.

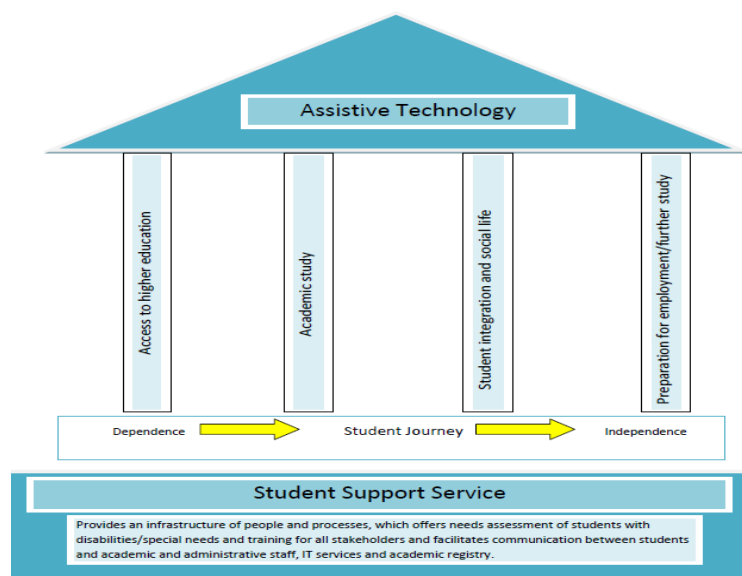


Figure 1.

Mid-project, the North African partners' priorities included: seeking, purchasing and practising using assistive technology (including open source technology), sharing good practice with colleagues, gaining further insight into experiences of students with disabilities, and seeking out local disability policies, in preparation for the creation of their own Accessibility Centres. The role of the European partners was one of facilitating focused interaction between academic, technical and professional services staff, in the absence of disability services staff, and the collaborative production of the training modules for train-the-trainer sessions, and subsequently for use with staff and student groups. The training model adopted reflects Herrington's (2000) staff-centred organic model, encouraging staff to engage with ideas and suggestions according to both their own needs and those of their students, identified through the needs analysis conducted at the project outset. Referring to previous research, Seale (2014) notes that a staff-centered model is more likely to succeed over a generic training approach, which tend to fail to change attitudes of staff.

Ethical approval for the research aspects of SWING was sought from Coventry University Ethics Committee. The project was conducted in accordance with the Economic and Social Research Council (ESRC) Framework for Research Ethics [http://www.gla.ac.uk/media/media\\_326706\\_en.pdf](http://www.gla.ac.uk/media/media_326706_en.pdf). We aimed to ensure that the rights and opinions of those involved in the study were respected at all times, that involvement was voluntary, and that participants were informed about the purpose, methods and possible uses of the research.

### **Research Methodology, Methods and Analysis**

An inclusive and collaborative project necessitates an inclusive and participatory research approach. Hence, the evaluative aspects of the project were combined with an appreciative inquiry (AI) approach to explore and understand what changes had been brought about by SWING. AI focuses on “what works”, exploring positive potential (Clouder and King 2016) unlike much research which focuses on research problems. The most commonly cited model for conducting AI involves a 4-D cycle (*Discovery, Dream, Design and Destiny*) (Cooperrider and Whitney (2005, 16):

1. *Discovery* - Identifying processes that work well
2. *Dream* - Envisioning processes that might work well in the future
3. *Design* - Planning and co-constructing ideas about what would be ideal
4. *Destiny* - Sustaining the effort, empowering, learning, adjusting and improvising.

Cooperrider and Srivastva (1987) suggest that epistemologically, practically and ethically, collaboration is essential to appreciative inquiry. The involvement of as

wide a group of participants as possible is advocated to optimize the positive effect on participants, addressing power imbalances (Cooperrider and Whitney 2005).

The iterative 4-D cycle formed a framework for the research. The *Discovery* phase aimed to identify what worked well, what technologies were already in use and what support students had, and needed. Data collection was via interviews and focus groups. Focus group participants (students and staff) typically blurred the boundaries between identifying what was current and what might be ideal (*Dream*) thus moving project team thinking iteratively between existing provision and what was desirable.

The *Design* phase of an inquiry is meant to ‘bridge the best of what is with collective aspiration of what might be’ (Cooperrider and Whitney 2005, 29). This phase involved incorporating ideas from visits to the European institutions and marrying resources with feasibility and sustainability issues, leading to the choice of technologies, design of Accessibility Centres and production of training resources. Train-the-trainer events, were followed by training for staff and students using the modules developed. During these activities, the most prevalent data collected were from observations captured in field notes. The final project visit, in the form of two high profile international conferences, one in each country, provided opportunity to validate themes with delegates and to reflect on the project’s sustainability and legacy (*Destiny*). This phase of reflexive consideration of impact involved another intensive phase of data collection and a greater reliance on photographs, video, and focus group interviews, particularly with students and student services staff.

Data collection and analysis ran in parallel. Preliminary insights and analysis sensitized the research team to the strengthening of the student voice as an aspect of the changes that were occurring, which provided a focus for subsequent observations and questions. A large volume of differing types of textual data, including field notes, survey results, one-to-one and focus group interview transcripts and institutional documents, were coded and categorized. Reflective memos provided a means of incorporating ideas generated from the visual data collected. Synthesis of categories led to a thematic analysis (Braun and Clarke, 2006) conducted by two independent researchers who engaged in a critical dialogue (Greenhalgh, 2014) to interrogate their conceptions. Comparing themes to reach a shared agreement and resolving any differences in interpretation using a critical reflexive approach, the aim was to refine our interpretations to create opportunity for new understandings to emerge until we were satisfied that the analysis was genuinely grounded in the data.

Researchers adopting an appreciative inquiry approach need to improvise, seize the moment to capture perspectives, and remain open to ideas. For this reason, no two appreciative inquiries can be the same, making replication difficult. However, the range of methods used and the timing of most concentrated data collection (*Discovery* and *Destiny*) would be likely to be similar if repeating the inquiry.

Table 2 shows the research participants involved in data collection:

Type	Male	Female	Total
Academic	24	15	36
Professional Services	22	20	42
<b>Total Staff</b>			<b>78</b>



Students	47	27	74
<b>Total Students</b>			<b>74</b>

## **Findings**

Several themes emerged from the appreciative inquiry. These included the complexity of intersectionality of disability, most specifically, socio-economic status and gender. We touch on the latter, identifying issues of perceived protectionism expressed by a female Egyptian student. However, lack of opportunity and language barriers prevented untangling potentially sensitive issues, such as levels of prosperity and family dynamics, without fear of causing offence, and reveal how cross-cultural sensitivities can get in the way of rigorous research. Nevertheless, we can justify focusing specifically on what is arguably the biggest achievement of the SWING project, which is the promotion of student agency and evident sense of empowerment acknowledged by the whole team. We paraphrase some comments translated from either Arabic or French many of which emerge from the closing *Destiny* stage of the project.

### ***Technology and the emergence of student agency***

The SWING project focused on introducing assistive technology as a means of addressing disadvantage for students with disabilities. Some technologies were new and students acknowledged their benefits for study and social integration. For example, a written reflection of a female Egyptian student (AASTMT) suggested that the Accessibility Centre had ‘*promoted greater independence by enabling students to perform tasks that they were formerly unable to accomplish, or had great difficulty accomplishing.*’ However, in contrast to previous research findings (Seale et al. 2015)

our insights suggested that these students did not lack digital social capital – anything but. Most appeared to use their mobile phones extensively to network and possessed excellent technical knowledge and competence. Peer support systems were such that students helped one another as a matter of course, an observation noted previously (Stracke and Kumar 2014). A male postgraduate student interviewed at UAE, Morocco, saw the Centre as *‘a place where students can meet, exchange ideas and help each other, as well as the newly enrolled students, to make use of the IT available.’*

A project team member observed:

*The students shared the types of technology they currently use including reading programmes, using mobile phones to record lectures, using their tablet to take photos of the whiteboard, especially for use of numbers, which allowed students to magnify content to suit. They used GPS for navigation (although this was a struggle for some students as not available in Arabic language), audio files to modify words, braille machines for typing and audio devices for use after lectures at home (Male, staff, AAMSMT, Egypt).*

Generally, staff learning needs appeared greater than that of their students:

*In effect, the staff training has almost been overtaken by the students’ gaining access to the technology and running with it... they will teach the staff given the chance (Male, staff, AAMST, Egypt).*

The neat project plan of cascading training during the *Design* phase of the AI, took on a life of its own when students did begin to train staff. We applauded this as a sign of their enhanced cultural capital, and took it as a measure of project success. Many students were already tech-savvy and were not learning anything new, but importantly technology provided a tangible focus for SWING; a means to do something practical that progressed beyond discussions, setting up processes and systems, and provided opportunity for students to demonstrate their capabilities. This finding supports the widely-held assumption that students are ahead of their tutors in terms of technology usage (Kennedy et al. 2008). The technology established a space for dialogue between students, and students and staff, providing a vehicle for sensitizing academic staff to the students with disabilities within their immediate student cohorts, of which many had previously been unaware.

***Finding a Voice: “We are not hopeless cases”***

SWING benefitted from a partnership that involved representatives at all levels in their respective institutions without reproducing power hierarchies. Senior management involvement in the project team was engineered on the understanding that support from this level is necessary for any change initiative (May and Bridger 2010). However, leverage was also gained through spontaneous opportunities, such as a meeting with a University President in Morocco, during the *Design* phase of the AI. Students were invited to speak, resulting in his commitment to supporting and promoting the ideals of the project through his national networks. This high-level

approval sent powerful messages reverberating throughout the institution and undoubtedly influenced attitudes to change.

Nevertheless, resistance to change was evident in the skepticism of academic staff who needed more persuasion to get involved and embrace technology. In one institution, in the *Discovery* phase of the AI, awareness of students with disabilities in class was limited, and in fact, in both countries, the general assumption was that there were very few students with disabilities in their institutions. While physical disability is often obvious, many disabilities remain hidden unless students see a rationale for disclosing them.

However, student skepticism about the project was an even greater challenge during the *Discovery* phase of the AI. Unused to voicing their thoughts and opinions, student involvement in early discussions was stilted; most of the female students remained silent. However, as greater mutual trust developed the gradual thawing of inhibitions revealed students' positive and negative experiences, capabilities and ambitions. By the *Design* stage of the AI, a Moroccan partner interviewed, reflected:

*“the students were excited about the project, and although initially reluctant to get involved because they doubted it would result in change, they have learned to trust the project staff and are now fully committed”*

(Female, Staff, ITU, Morocco).

The vehemence of one student's aspirations, in revealing during a focus group, *‘the most important thing for me after graduation is to find a job’* (Male student,

AASMT, Egypt), seemed to trigger the realisation amongst staff that students with disabilities are no different to their peers without disabilities in desiring independence and wanting to work. Discussions about assistive technology soon developed into addressing wider issues impacting on students' experience. For instance, students were particularly critical of the theoretical bias in their undergraduate studies, which they perceived to lack adequate practical/ experiential learning necessary to make the transition from study to work. They raised the issue of access to a greater number of degree courses beyond the humanities and were concerned about finding ways to demonstrate their skills to employers. A resultant 'job fair' held during the project in Egypt is to continue under the auspices of the Alumni Association. Such was the breadth of comments once students found a voice extending far beyond the restricted issues of assistive technology, that technology can be said to have been a catalyst allowing students to gain traction to be heard.

In fact, hearing students' aspirations fired the imagination of local project team members. A senior academic recognized the importance of mobilizing students, suggesting '*the students also have a role to play in improving things*' (Male staff, AASMT, Egypt) and acknowledging the need for a bottom up as well as top down strategy. The project, with its promise of influencing students' university experience, appeared to act as a vehicle to unleash them to talk about their needs, in effect empowering them to put forward their suggestions. Opinions gained during a focus group varied: one student suggested '*it's important that [we] are able to take control and not rely on the university to support [us]*' (Female student, UAE, Morocco); another student stressed the '*need for more support from the university*' (Female student, UAE, Morocco). Again, we applauded the fact that students were making

their feelings known. Even the tendency for female students to defer to their male peers became less prevalent in the later *Destiny* phase of the inquiry. By this stage, students' voices were amplified, such that at the final conference in Alexandria, students as well as staff stood up and made pledges about sustaining project momentum and legacy. Some pledges were ambitious, others humbling in their simplicity. For example, one student said that she would '*teach her friends how to lead someone with a visual impairment or who is blind*' (Female students, AASTMT, Egypt). Another stated '*we are not hopeless cases*' (Male students, AASTMT, Egypt) emphasizing the importance of recognition and inclusion in decisions affecting their own futures. An Egyptian student with a disability now sits on the University Student Council.

***Exercising Choice: Whose club would you rather join?***

An important outcome of the SWING project was the recognition that the needs of students with disabilities do not stop in the classroom and that aspirations should extend beyond promoting academic success to include social inclusion in wider university life. Whilst the ubiquitous use of mobile technology was crucial to these students' academic success, their involvement, or lack of involvement, in university clubs and associations was indicative of their social and cultural capital outside of the classroom. During the *Design* phase of the AI students with disabilities in Morocco who wished to set up their own group enlisted the help of two post-graduate students without disabilities, responsible for established a PhD students' group. The resultant Disabled Students' Union was founded in April 2015. Although the make-up of the Union as a separate body for students with disabilities potentially reinforces their

segregation it is open to all students. As well as the formal approval of a bespoke Union bringing with it funding for activities, it provided a means to develop students' cultural and community identity (Friedensen and Kimball 2017).

On learning about the Moroccan students' Union, the Egyptian students decided to adopt a different strategy. They too wanted to increase access to clubs and social activities but wished to avoid potential segregation. Their efforts focused on encouraging students to join the existing clubs, with resultant success in increased participation in several clubs in the College of Management and Technology. The clubs issue had very different outcomes in the two countries. Both approaches led to students accessing sport and leisure activities possibly for the first time. However, probably the most important factor for all students was their individual ability to choose between options, and sense of collective agency (Peters 2010). To have and to make choices was visibly empowering.

## **Discussion**

The aim of the AI was to explore and understand what changes had been brought about by SWING that went beyond the evaluative aspects of the project. SWING project headlines are positive because the partner institutions were very open to change, and systems and processes are now in place. The Accessibility Centres are well used and equipped with the assistive technology, which is customizable, adaptable and where possible, open access and generic rather than disability-specific. The Accessibility Centre model developed for the project provided a useful framework in that it maintained a focus on the student journey and on assistive

technology as a means of support through administrative processes, academic work, and in the wider social context. Notwithstanding critique of the effectiveness of voluntary training (Seale 2014), academic staff training in supporting students with disabilities continues, although the aim is to move towards incorporating inclusivity training in all staff development programmes. In one Egyptian institution, there is now a proposal to make training compulsory for administrative staff progression.

SWING's legacy also extends beyond individual institutions. The President of one Egyptian University pledged to disseminate the SWING project results to the Arab League, an organization of 22 member states. In Morocco, as a direct result of SWING, Government ministers and the House of Councillors pledged their support for a "social cohesion fund" with scholarships for people with disabilities at all levels of education.

The findings from the appreciative inquiry suggest that the project instigated a significant move towards a more inclusive educational approach. The concept of inclusivity and its relationship to student agency has provided a useful lens to identify exactly what part the assistive technology played in promoting change, rather than focusing on technology per se. Our findings highlighted the emergence of student agency through the introduction of assistive technology, which provided leverage to renegotiate their inclusion, and exercise choice about establishing their own student organisations. Contrary to expectations, we discovered that in the main, students already possessed technological capability; they just needed the confidence and opportunity to express their needs and to fully utilise the skills that they already possessed. An assistive technology focus was a catalyst for establishing a dialogue



between students and academic staff, that allowed students to renegotiating their position in their institution, because they were already familiar with much of the technology, so were on safe ground. For once, they felt they were ahead of others in possession of social and cultural capital (Seale 2015), and that had an impact on their sense of agency. This finding illustrates how self-determination and student agency are personal and social constructs (Bandura 2001).

Change in staff attitude brought about by bringing students with disabilities into view and acknowledging their needs, was due to recognition of these students being little different to students without disabilities in their aspirations. This marks a step change in progress towards removing barriers, improving outcomes and removing discrimination to achieve inclusivity (Lindsay 2003, 3). This shift was supported by the recognition of the importance of a bottom up as well as top down engagement. Initially, students appeared ambivalent about SWING, possibly doubting whether it would make any difference. However, once mobilized, their enthusiasm was infectious. Previous research has advocated the need for buy-in at all levels (Stracke and Kumar 2014) but the SWING project qualifies this, adding to understanding, by illustrating that having students at the heart of an initiative is a stimulus for energising change, whilst simultaneously empowering the students. As their skepticism decreased and trust increased, the project provided a platform to air issues of concern; for example, how to succeed in gaining employment. Students who had previously been in the silent and invisible minority started to voice their hopes and fears, and in doing so motivated staff to instigate change to meet their needs; for example, in questioning the status quo and access to additional degree programmes. Again, the importance of the interdependency of staff and students and the creation of space for a

dialogue is evident. Nicol (2009) advocates encouraging learning communities amongst students and staff, and research repeatedly highlights a need to address the lack of consultation with students with disabilities in addressing appropriate provision (Vickerman and Blundell 2010; Blair and McGinty 2013). This project illustrates how powerful such involvement can be for students, but also as a motivator for staff.

The SWING project is a stark reminder that the needs of students with disabilities do not stop in the classroom, highlighting the importance of social participation and inclusion (Moller and Danermark 2007; Sachs and Schreuer 2011). The tendency to focus on course-related experience is probably due to so much emphasis placed on academic achievement, but the Egyptian and Moroccan students' keenness to join a variety of student associations illustrates the importance of playing an active part in all aspects of university life. The different responses in Egypt and Morocco to establishing the student associations illustrate the continuum between the normative orientation to disability (Bryne 2014) and an overt recognition of difference. The Moroccan students' choice suggests an acceptance of their own difference and perceived benefits in coming together as a homogenous group, able to offer one another peer support, and tap into resources. In contrast, the Egyptian students' strategy demonstrates a stronger normative orientation to disability. Their choice reflects social and cultural influences that habitually focus on bringing people up to the norm (Davis 2006) rather than questioning the norm. In terms of the characteristics of inclusive education that were identified as key to the project, we might be criticised for failing to challenge the normative orientation to disability adopted by the Egyptian students by developing the conversation around notions of ability and disability (Singal,2008; Slee 2009). These are deeply challenging issues to

tackle that intersect with other cultural, social and political issues. For instance, a frustrated female student in Morocco, analysing the roots of the disadvantage brought about by her disability, suggested that because she believed that the Quran encourages people to look after and protect the young, the elderly and the disabled, this was not helpful to people with disabilities trying to develop their independence. This student's comments bring into sharp relief the complexity of inclusive education initiatives, and the importance of cultural considerations that shape ideas of 'ability' and 'disability' but also notions of duty and, or, protection (Boyd 2014), of which the EU partners were acutely aware.

Reflecting on the achievements of SWING at the start of a follow-on project it is feasible to see its pitfalls and failures from which we, and others, can learn. The Tempus programme aim of modernising higher education through university cooperation projects tends to evoke perceptions of colonialism, based on the preconception that first-world 'know how' is required to address partner deficit. With the best intentions, this is difficult to avoid. Partners want easy-to-adopt solutions and it can be difficult not to enthusiastically advocate processes or strategies that work well in a known context and expect that they will meet needs in another, as did occur on occasions in SWING. However, having limited, or no impact can be overtaken in some instances by negative impact and frustration in highlighted strategies that prove impossible to achieve. For example, the use of global positioning systems (GPS) for students with visual impairment turned out to be untenable for many as the system is not available in Arabic. Perhaps the most challenging aspect of SWING, and one that calls for greater consideration for anyone tasked with implementing change in higher education, is changing staff attitudes and their associated practice. Whilst support and

professional services staff engaged with training, and established processes and systems in their institutions, the proportion of academic staff ready to instigate change in curriculum design and delivery was relatively small. For instance, the suggestion of using lecture capture was considered a likely anathema to teaching staff.

Notwithstanding similar misgivings of academic staff elsewhere, this example, illustrates how ideas floated can be easily dismissed out of hand if there is pressure on time that mitigates against fully presenting and exploring possibilities.

## **Conclusion**

Higher education institutions worldwide espouse varied levels of commitment to supporting students with disabilities. The reality is that the experiences of students with disabilities can still be far from satisfactory across a range of physical and attitudinal aspects of services. Whilst findings emerging from SWING are particular to the North African context, they are transferrable to other initiatives internationally. Instigating local change in behaviour, practice, and in influencing others, are small steps towards promoting human agency in ensuring that students with disabilities can exercise control over the nature and quality of their [university] lives (Bandura 2001). Such change will need to be nurtured and supported until embedded and part of normal practice in mainstream institutional processes. Undoubtedly, some interventions will thrive, and others will wane, but the likelihood of SWING sustainability has been enhanced by confirmation of further funding to focus specifically on employability, and a recent update on the figures for students disclosing a disability in the North African institutions shows that numbers are increasing.

Opportunity for cross-cultural interaction and collaboration has benefitted the whole project team through an appreciation of the value of diversity, and led us to realise that although project plans are necessary, things might not always work out in the same ways, often for very good reasons. Whilst we would argue that first-world ‘know how’ is not required, and not shared with any deficit-driven agenda at project team level, our SWING experiences suggest that external critical friendship and support can encourage new insights and transform practice. Our learning suggests that it is critical to focus on practical application of solutions and particularly on engaging academic staff. SWING has also highlighted that in lots of ways we all share the same concerns, aspirations and hopes and that collaboration provides a powerful vehicle for change.

## References

Ball, S. 2009. *Twelve steps towards embedding inclusive use of technology*. JISC-Tech-Dis.

[http://www.jisctechdis.ac.uk/resources/details/goingdigital/TCI\\_Report](http://www.jisctechdis.ac.uk/resources/details/goingdigital/TCI_Report).

Bandura, A. 2001. Social cognitive theory: An agentic perspective, *Annual Review Psychology* 52: 1 – 26.

Blair, A., and McGinty, S. 2013. Feedback-dialogues: exploring the student perspective, *Assessment & Evaluation in Higher Education*, 38, (4): 466–476.

[Doi.org/10.1080/02602938.2011.649244](https://doi.org/10.1080/02602938.2011.649244).

Boyd, V. 2014. Resisting the Tick Box: Reflexive Use of Educational Technologies in Developing Student Identities and Challenging Higher Education Constructions of Disability Based on Notions of Conformity and Consistency. *International Journal of Disability, Development & Education*, 61 (4): 377-387.  
Doi.org/10.1080/1034912X.2014.955789.

Braun, V. and Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). pp. 77-101  
Doi.org/10.1191/1478088706qp063oa.

Bryne, B. 2014. Getting In and Getting On? The Experiences of Young People with Visual Impairments and Hearing Impairments in Third-level Education. *International Journal of Disability, Development & Education*, 61(2): 119-133.  
Doi.org/10.1080/1034912X.2014.905057.

Clouder, D. L. and King, V. K. 2015. What works? A critique of appreciative inquiry as a research method/ology. In *Theory and Method in Higher Education Research*, edited by J. Huisman, and M. Tight, Volume 3, 169-190. Bingley, UK: Emerald. Doi.org/10.1108/S2056-375220150000001008.

Cooperrider, D. L. and Srivastva, S. 1987. Appreciative Inquiry in Organizational Life. In, *Research in organization change and development: Vol 1*, edited by W. Pasmore and R. Woodman, 129 -169. Greenwich: JAI Press.

Cooperrider, D. L., and Whitney, D. 2005. *Appreciative inquiry: A positive revolution in change*. San Francisco, CA: Berrett-Koehler.

Davis, L. J. 2006. Constructing Normalcy: The Bell Curve, the Novel and the invention of the Disabled Body in the Nineteenth Century. In, *The Disability Studies Reader*, edited by L. J. Davis (2<sup>nd</sup> Ed), 1-16. Abingdon: Routledge.

Forrest, K. D. 2003. Overcoming Unintentional Barriers with Intentional Strategies: Educating Faculty About Student Disabilities, *Teaching of Psychology*, 30: 270. Doi: 10.1207/S15328023TOP3003\_12.

Friedensen, R. E. and Kimball, E. 2017. Disability and College Students: A Critical Examination of a Multivalent Identity. In, *Theory and Method in Higher Education Research*. Published online: 21 August 2017; 227-245. Doi: [10.1108/S2056-375220170000003013](https://doi.org/10.1108/S2056-375220170000003013).

Getzel, E. 2008. Addressing the Persistence and Retention of Students with Disabilities in Higher Education: Incorporating Key Strategies and Supports on Campus. *Exceptionality*, 16 (4): 207-219.

Greenhalgh, T. 2014. Papers that go beyond numbers. In, *How to read a paper: the basics of evidence-based medicine*, by T. Greenhalgh (5<sup>th</sup> Ed.), 164-177. Chichester: Wiley.

Hadidi, M. S. and Al Khateeb. J. M. 2015. Special Education in Arab Countries: Current challenges. *International Journal of Disability, Development and Education*, 62(5): 518-530. Doi: 10.1080/1034912X.2015.1049127.

Hadjikakou, K. and Hartas, D. 2008. Higher education provision for students with disabilities in Cyprus. *Higher Education*, 55: 103-119. Doi: 10.1007/s10734-007-9070-8

Herrington, M. 2000. The organic model of staff development in relation to disability. [http://www.nottingham.ac.uk/scc/staff/randd\\_asdsds/organic.html](http://www.nottingham.ac.uk/scc/staff/randd_asdsds/organic.html)

Izzo, M. V., Murray, A. and Novak, M. 2008. The faculty perspective on universal design for learning. *Journal of Postsecondary Education & Disability*, 21(1): 60-72.

Joint Information Systems Committee, TEchDis (2007a) From good intention to good practice: making the disability equality duty meaningful. TechDis Senior Management Briefing 5.

Kennedy, G., Dalgarno, B., Bennett, S., Judd, T., Gray, K. and Chang, R. 2008. Immigrants and natives: Investigating differences between staff and students' use of technology. Paper presented at Ascilite Conference, Melbourne 2008.

Konza, D, 2008. "Inclusion of students with disabilities in new times: responding to the challenge." In *Learning and the learner: exploring learning for new times*,



edited by P. Kell, W. Vialle, D. Konza, and G. Vogl, 39-64. University of Wollongong.

Lindsay, G. 2003. Inclusive Education: a critical perspective. *British Journal of Special Education*, 30(1): 3-12.

May, H. and Bridger, K. 2010. *Developing and embedding inclusive policy and practice in higher education*. York, Higher Education Academy.

Moller, K., and Danermark, B. 2007. Social recognition, participation, and the dynamic between the environment and personal factors of student with deaf blindness. *American Annals of the Deaf*, 152(1): 42-55.

Nicol, D. 2009. *Transforming assessment and feedback: Enhancing integration and empowerment in the first year*. Glasgow: The Quality Assurance Agency for Higher Education.

Pena, E. 2014. Marginalization of published scholarship on students with disabilities in higher education journals. *Journal of College Student Development*, 55(1), 30-40.

Peters, S. J. 2010. The heterodoxy of student voice: challenges to identity in the sociology of disability and education, *British Journal of Sociology of Education*, 31(5): 591-602. DOI: 10.1080/01425692.2010.500092

Reay, D. 1998. *ClassWork: Mothers' Involvement in Their Children's Primary Schooling*. London: University College London.

Richardson, T. E. 2009. The academic attainment of students with disabilities in UK higher education. *Studies in Higher Education*, 34(2): 123-137.

Doi.org/10.1080/03075070802596996.

Sachs, D. and Schreuer, N. 2011. Inclusion of Students with Disabilities in Higher Education: Performance and participation in student's experiences, *Disability Studies Quarterly*, 31, (2). Doi.org/10.18061/dsq.v31i2.1593.

J. K. Seale (2014) *E-Learning and Disability in Higher Education* (2<sup>nd</sup>. Ed.) Abingdon, Oxon, Routledge.

Seale, J. Georgeson, J., Mamas, C., and Swain, J. 2015. Not the right kind of digital capital? An examination of the complex relationship between disabled students, their technologies and higher education institutions, *Computers & Education*. 82: 118-128. Doi.org/10.1016/j.compedu.2014.11.007.

Shakespeare, T. 2013. The Social Model of Disability. In *The Disability Studies Reader*, edited by L. J. Davis, 214 – 221. 4<sup>th</sup> ed. Abingdon: Routledge.

Singal, N. 2008. Working towards inclusion. Reflections from the classroom. *Teaching and Teacher Education*, 24: 1516-1529.

Doi.org/10.1016/j.tate.2008.01.008.

- Slee R. 2009. "Travelling with our eyes open: Models, mantras and analysis in new times." In *Inclusive education across cultures: Crossing boundaries, sharing ideas*, edited by M. Alur and V. Timmons, 93-109. New Delhi, India: Sage.
- Stracke, E., and Kumar, V. 2014. Realising graduate attributes in the research degree: the role of peer support groups, *Teaching in Higher Education*. 19(6): 616-629. Doi.org/10.1080/13562517.2014.901955.
- Stodden, R.A, Roberts, K.D., Picklesimer, T., Jackson, D., and Chang, C. 2006. An analysis of assistive technology supports and services offered in postsecondary educational institutions *Journal of Vocational Rehabilitation*, 24: 111–120.
- UNESCO Institute for Information Technologies in Education 2011. ICTs in Education for people with disabilities: Review of innovative practice. <https://www.european-agency.org/sites/default/files/ICTs-in-Education-for-people-with-disabilities.pdf>
- Vickermann, P. and Blundell, M. 2010. Hearing the voices of disabled students in higher education. *Disability and Society*, 25: 21-32. Doi.org/10.1080/09687590903363290.
- World Health Organization 2011. *World Report on Disability*. Geneva: WHO. [http://apps.who.int/iris/bitstream/10665/70670/1/WHO\\_NMH\\_VIP\\_11.01\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/70670/1/WHO_NMH_VIP_11.01_eng.pdf)

World Health Organisation 2002. *Towards a Common Language for Functioning,  
Disability and Health*. Geneva, WHO.