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Disabled Students, ICT, Post-Compulsory Education & Employment: In Search of New Solutions International Network

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a. The grant

The project started on 1st September 2016 and completed on 31st August 2019. The total grant awarded was £123,911. There were five network partners: The Open University in the UK, The University of Washington, Dawson College, FernUniversität in Hagen and The Open University in Israel. Each partner had a team of three people (some researchers/some practitioners). All fifteen members of this '*core network'* attended every network event (with just three exceptions where members were unwell or had caring duties which meant they were unable to attend one of the five events).

The University of Washington, Dawson College, FernUniversität in Hagen and The Open University in Israel each organised and hosted a symposium focused on one of the five themes of the network. Participants from key stakeholder groups were invited to contribute to each symposium including disabled students; faculty and professionals responsible for faculty/staff development; professionals responsible for support services for disabled students; campus information technology staff; digital textbook and resource publishers; and senior institutional administrators. Each of these partners also produced a set of symposium proceedings for dissemination on the project website (see section f).

The Open University in the UK, managed the overall project and organised a final end of year conference to which key stakeholder groups were invited to contribute. All five partners also contributed to the production of wider project publications (See section f).

The five network events organised and hosted by network partners were:

Date	**Location**	**Principal Lead**	**Team Members**
March 14-15 ,2017	Seattle, Washington	Sheryl Burgstahler	Hadi Rangen, Dan Comden
May 30-31st, 2017	Montreal, Canada	Catherine Fichten	Laura King, Alice Havel
March 13-14th, 2018	Tel Aviv, Israel	Tali Heiman	Dorit Shemesh-Olen, Dana Kaspi-Tsahor
October 16-17th, 2018	Hagen, Germany	Björn Fisseler	Marcus Deimann, Christian Bühler
June 11-12th 2019	Milton Keynes, UK	Jane Seale	Tim Coughlan, Chetz Colwell

b. Objectives

The overarching aim was to explore the role that ICT play (or could play) in creating barriers and mitigating disadvantages experienced by disabled students in post-compulsory education. Associated objectives were to:

- *Objective 1: Synthesise and compare* the available research evidence across the five countries regarding students with disabilities, ICTs and post-compulsory education;
- *Objective 2: Construct theoretical explanations* for why ICTs have not achieved the dramatic reductions in discrimination, disadvantage and exclusion hoped for when equality and discrimination related laws were published across the five countries;
- *Objective 3: Provide new perspectives about potential future solutions* regarding how post-compulsory education institutions can better use ICTs to remove the ongoing problems of disadvantage and exclusion of students with disabilities.

c. Research activity

To meet the objectives of the network four symposia and one conference were held, each focusing on one of the following broad themes:

1. Effective models and frameworks (Seattle Symposium)
2. New stakeholder perspectives (Montreal Symposium)
3. New designs (Tel Aviv Symposium)
4. New Practices for effective transition (Hagen Symposium)
5. New solutions (Milton Keynes conference).

For each symposium/conference, stakeholders from the host country were invited to present, share and discuss their research and practice. Events were interactive and collaborative: we used a range of methods to promote opportunities for all the participants to engage with us in synthesis, theoretical explanations and identification of new perspectives (See Table). For example, each symposia ran a World Café exercise (or culturally/locally adapted version) designed to enable participants to explore questions and challenges raised during the symposia; connect diverse perspectives and collaboratively identify patterns and insights.

Network event activities/aims	Synthesise and compare	Construct theoretical explanations	Provide new perspectives
Pre-symposium discussion paper	✓	✓	
International panels	✓		
Invited papers and keynotes		✓	
Student Panels	✓		✓
Wider stakeholder panels			✓
World Café exercises	✓	✓	✓

There were no changes to the methods of the project in that all five planned events took place. For a range of practical reasons there were changes to when these events took place (these have been outlined in previous annual reports).

d. Conclusions and achievements

All three objectives of the network have been met, but examination of our conclusions and original contribution of knowledge suggest that we have been particularly successful in meeting our third objective: 'Providing new perspectives about potential future solutions'.

Conclusions reached:

- The issues and challenges that disabled students experience is a wide-scale international problem. There are few, if any challenges that are unique to one particular disability or country [Objective 1].

- Post-secondary institutions may benefit from 1) adopting more than one model in order to ensure practice across the whole institution is addressed 2) combining models of disability with models of accessibility [Objective 3].

- There are a number of important, yet ignored or invisible stakeholders. Their involvement might enhance the effectiveness of accessibility practice and one way this can be done is through 'strategic silo-crossing'. [Objective 3].

- The production of new design practices is as important, if not more important than the production of new designs [Objective 3].

- There is potential value in researchers in the field of accessible ICTs for disabled students collaborating with researchers in open education to identify novel solutions to the development of accessible practices [Objective 3].

- There is a need and value for use of a questioning process in which the preferable futures that our community envisage are subject to systematic and wide-scale evaluation and refinement by a variety of key stakeholders [Objective 3].

Original contribution to knowledge:

In addition to identifying five potential new solutions (see conclusion section) the network made an original contribution to knowledge by:

- *Objective 1:* Providing a systematic, international comparison of practices in the field of ICT, disability and post-secondary education that reflects the perspectives of the majority of stakeholders. This is the first time that at there has been an international comparison of practices across US, UK, Canada, Germany and UK as most research literature focuses on US, UK and Canada. This comparison has identified practices that are unique to particular countries, from which others could learn (e.g. practices for supporting transition to and from post-secondary education in Germany (see publication 13, in section f).

- *Objective 2: Identified* two different theoretical lenses (organisational learning/stakeholder theory and future studies) that have potential to explain/frame the problems and challenges, thus raising possibilities for new solutions to be identified

- *Objective 3:* Developing an evaluation framework that can help post-secondary institutions make informed decisions about the most appropriate accessibility model to adopt. (See publication 9, in section f)

Significance for other research in the field:

The work done by the international network advances research in the field by illustrating what new insights can be derived when all the relevant stakeholders are brought together and facilitated to critically evaluate current practice and the assumptions underpinning them.

e. The principal grant holder's personal evaluation of the network

Overall, the network was successful in that all five planned events were run involving 135 participants (including the core 15 network members). We were particularly successful in engaging disabled students as active participants who gave presentations and contributed to the discussions

and world-café exercises. We were less successful in attracting policy-makers, technology companies (with the exception of Israel) and senior managers (with the exception of Montreal) to attend the symposia. To date, the outcomes of the network are 18 publications, one grant, and one grant proposal, which reflects the effectiveness of the collaborative relationships developed through the network. Finding creative and practical ways to enable such a diverse group of stakeholders from different countries with a range of access and support needs was pivotal to the success of the network, but it was time-consuming and more expensive than anticipated.

f. Publications and other outputs:

Symposium Discussion Papers

1. Seale, J. (2017) What models, approaches or frameworks exist in the field of disability, ICT and post-secondary education? Are they successful in transforming the support and delivery of ICT for disabled students or do we need new ones? Discussion paper for Ed-ICT Leverhulme International Network Symposium, Seattle, March 2017 http://ed-ict.com/wp-content/uploads/2017/03/Seale_Ed_ICT_paper_03032017.pdf

2. Seale, J (2017) Issues of stakeholder engagement: Who are the stakeholders of disability and ICT related practice in post-secondary education and how can they be effectively engaged? Discussion paper for Ed-ICT Leverhulme International Network Symposium, Montreal, June 2017 http://ed-ict.com/wp-content/uploads/2017/05/Seale_Ed_ICT_paper.docx

3. Seale, J (2018) Disability, ICT, post-compulsory education & employment: in search of new designs for technology. Discussion paper for Ed-ICT Leverhulme International Network Symposium Tel Aviv, March 2018. http://ed-ict.com/workshops/tel-aviv/programme/

4. Fisseler, B (2018) New Practices: What individual and institutional practices can support the transition to and from PCE and from PCE to employment? Discussion paper for Ed-ICT Leverhulme International Network Symposium Hagen, October, 2018. http://ed-ict.com/wp-content/uploads/2018/10/Fisseler-New-Practices-Ed-ICT-Symposium-4.pdf.

Symposium Proceedings

5. University of Washington (2017). Symposium One: Effective Models, frameworks and approaches. Proceedings from the Ed-ICT International Network: Disabled students, ICT, post-compulsory education & employment: in search of new solutions. http://ed-ict.com/wp-content/uploads/2017/06/Symposium-effective_models_frameworks_and_approaches_0.pdf

6. Jorgensen, M., Fichten, C., King, L., & Havel, A. (2018). Proceedings of the Ed-ICT International Network Montreal Symposium: Stakeholder Perspectives. http://ed-ict.com/wp-content/uploads/2018/01/ConferenceProceedingsEdICTMontreal.pdf

7. Heiman, T., Olenik-Shemesh, D., Kaspi-Tsahor, D & Regev-Nevo, M. (2018). Proceedings of the Ed-ICT International Network Israel Symposium: In search of new designs. http://ed-ict.com/wp-content/uploads/2018/09/ProceedingsEd-ICTIsraelSymposium.pdf

8. Fisseler, B (2018) Symposium Four: New Practices. Proceedings from the Ed-ICT International Network: Disabled students, ICT, post-compulsory education & employment: in search of new solutions. https://ub-deposit.fernuni-hagen.de/receive/mir_mods_00001507

Journal articles

9. Jane Seale, Sheryl Burgstahler and Alice Havel (accepted subject to amendments). One model to rule them all, one model to bind them? A critique of the role and use of accessibility related models in post-secondary education. *Journal of Distance and Open Education.*

10. Jane Seale, Laura King, Mary Jorgensen, Alice Havel, Jennison Asuncion, Catherine Fichten (submitted, awaiting feedback). Engaging the ignored stakeholders of accessibility. *Journal of Enabling Technologies.*

11. Jane Seale, Chetz Colwell, Tim Coughlan, Tali Heiman, Dana Kaspi-Tsahor & Dorit Olenik - Shemesh (in preparation) Looking beyond the technology: improving the design practices that enable disabled students to benefit from their use of technologies. *Information Technology and Education.*

Chapters in Books

12. Seale, J., Burgstahler, S & Fisseler, B (2019) Tackling the inaccessibility of websites in post-secondary education: a critique of current research in the field. In Web Accessibility: A Foundation for Research, 2nd edition. Edited by Simon Harper & Yeliz Yesilada. Springer. pp.263-279.

Newsletter articles

13. Adaptech (2017) Participation à un symposium international sur les étudiants en situation de handicap aux études supérieures. Extra, http://mailchi.mp/claurendeau/participation-un-symposium-international-sur-les-tudiants-en-situation-de-handicap-aux-tudes-suprieures?e=883eef49d3

14. Havel, A., King, L., Harvison, M & Vo, C (2018) Post-secondary students access assistive technology with help of parents. Inspiration, 10, 1, p. 27. http://www.inspirationsnews.com/pdf/Editions/Inspirations_fall2017-web-Nov16.pdf

Conference presentations

15. We have submitted a conference proposal to the : (Havel, A., Fichten, C., King, L., & Jorgensen, M. Technology and Students with Disabilities: An International Perspective on How to Engage Stakeholders. Presentation proposal submitted to CICan Annual Conference, to be held in Montreal in May 2020

16. Burgstahler, S., Olenik-Shemesh, D & Kaspi-Tsahor, D (2019) Ed-ICT: Exploring IT Access in 5 countries. Paper presented at Accessing Higher Ground, Nov 18-22, 2019. Westin Westminster, Colorado. https://accessinghigherground.org/ed-ict-exploring-it-access-in-5-countries/

17. Heiman, T., Kaspi-Tsahor, D., & Olenik-Shemesh, D. (Israeli Team) and King, L., Fichten, C., Jorgensen, M., & Havel, A. (Canadian Team). (2019, May 22). The use of personal technologies in the classroom: Canadian and Israeli perspectives. Presentation at the 16th Jerusalem Conference in Canadian Studies, Jerusalem, Israel. Abstracted in the Program. Retrieved from https://globalizationinnovation.huji.ac.il/book/export/html/82101

Book

The Network was able to negotiate a book contract with Palgrave in which the issues and debates for each network theme were synthesised. All network partners contributed to the book chapters.

18. Seale, J. (Ed). (due February 2020) Improving Accessible Digital Practices in Higher Education: Challenges and New Practices for Inclusion. Palgrave. https://www.palgrave.com/gp/book/9783030371241

Grants

19. Fichten, C., King, L., & Havel, A. in collaboration with Seale, J., Fisseler, B., Heiman, T., & Burgstahler, S. (2017). Social Sciences and Humanities Research Council (SSHRC) Connection Grant: New perspectives - Role of stakeholder groups in ensuring accessibility of ICTS to postsecondary students with disabilities ($24,991).

Other

All discussion papers, proceedings, PowerPoints, and symposia presentations are available from our website: http://ed-ict.com. There is an email discussion list to support conversations outside of the symposia: www.jiscmail.ac.uk/ED-ICT

g. Future research plans in this field for those involved in the network

Three network partners (Seale, Fichten and Deimann) submitted a research proposal to the Trans-Atlantic Platform – "Social Innovation" Research Programme. We drew on the discussions and conclusions of the first four symposia. The bid was unsuccessful. Therefore we are seeking ways to re-purpose the bid to apply for funding from alternative sources.

Eight network partners from Canada and Israel have collaborated on a small pilot study exploring the impact of mobile technologies in their respective countries. This has resulted in one publication: Fichten, C., Jorgensen, M., King, L., Havel, A., Heiman, T., Olenik-Shemeh, D., & Kaspi-Tsahor, D. (2019). Mobile technologies that help post-secondary students succeed: A pilot study of Canadian and Israeli professionals and students with disabilities. *International Research in Higher Education, 4*(3). 35-50. https://doi.org/10.5430/irhe.v4n3p35

Finally, at the end of project conference we ran a 'birds of a feather networking exercise' where participants proposed research ideas and elicited interest in future research collaborations. Nine future research topics emerged from this exercise including: exploring learning analytics in improving technology-related learning outcomes for disabled students and developing an understanding of how best to teach 'accessibility' to those responsible for developing technologies for use by disabled students.