Final Report

Supporting Staff and Students on the Autism Spectrum in Tertiary Settings: The Development of an Interactive Website

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Date: June 2017

Supporting staff and students on the autism spectrum in tertiary settings: The development of an interactive website

REPORT

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Acknowledgements

The Cooperative Research Centre for Living with Autism (Autism CRC)

The Cooperative Research Centre for Living with Autism (Autism CRC) is the world's first national, cooperative research effort focused on autism. Taking a whole of life approach to autism focusing on diagnosis, education and adult life, Autism CRC researchers are working with end-users to provide evidence-based outcomes which can be translated into practical solutions for governments, service providers, education and health professionals, families and people with autism.

autismcrc.com.au

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1. Background

1.1 WHY STUDENTS ON THE AUTISM SPECTRUM MIGHT NEED SUPPORT IN TERTIARY SETTINGS

Evidence, both anecdotal and in the literature, would indicate that there are an increasing numbers of students on the autism spectrum attending tertiary institutions (Fleischer, 2012; VanBergeijk & Cavanaugh, 2012). Students on the autism spectrum who were diagnosed before starting tertiary education will typically have had significant support and scaffolding from family and teachers in high school. These students will be accustomed to this high level of support and may experience difficulties without similar support in the tertiary education environment. Other students may enter tertiary education without a formal diagnosis, however in the less structured tertiary setting their life may break down, leading to an eventual diagnosis. Regardless of their diagnostic history, when students on the autism spectrum transition into tertiary settings (where there are not as many support structures) the transition period can be extremely challenging – not only for the student and their family but also the academic and administrative staff.

The characteristics that are typically seen in students on the autism spectrum can present a confusing and challenging picture for academic and professional staff. Many staff will not be familiar with the difficulties that face these students – difficulties such as sensory overload, finding a way to cope with the differing learning environments, the lack of clear structure and predictability, time management, group work, problems with communication and social interactions, and significant anxiety (Hastwell, Harding, Martin, & Baron-Cohen, 2013).

While both state and federal government agencies fund school-based programs for students on the autism spectrum and professional development for teachers, there are no similar government funded programs for either students or staff in tertiary institutions. The website 'Supporting tertiary students with ASD' developed by OTARC and La Trobe University provides

excellent informational resources but it does not provide visual or interactive materials or training for staff. The 'New Steps' program provides scaffolding for young people on the spectrum to assist the transition between secondary school and either jobs or further study (Autism Queensland, 2014). Therefore, whilst there is undoubtedly an increased awareness of the prevalence of Autism Spectrum Conditions within society, there is a troubling 'gap' in relation to appropriate resources a) for staff supporting students in the tertiary environment and b) for the tertiary student themselves.

1.2   NEED FOR PROFESSIONAL DEVELOPMENT

Academic staff in the Faculty of Engineering, Architecture and Information Technology (EAIT) at The University of Queensland were successful in gaining an internal Teaching and Learning grant to undertake research into strategies for supporting students experiencing difficulties (including those on the autism spectrum) transitioning into first year studies in the Faculty. This grant was based on the identified need of academic and professional staff for professional development in understanding and supporting students on the spectrum and students with other mental health concerns such as anxiety and depression.

Whilst all staff and students within the Faculty of EAIT were welcome to participate in providing feedback, particular focus for data collection and feedback was placed on staff (most particularly tutors) and students participating in ENG1100 (this being the first engineering-specific course that students encounter upon commencing their tertiary engineering studies at UQ). Specific outcomes of this project included the development of:

> 1) A half-day workshop for EAIT staff that provided information about autism spectrum conditions as well as information about other problems, such as anxiety and depression.

> 2) An online training package for new teaching staff in relation to managing and supporting students with autism and other mental health problems in the first year engineering environment - including a crisis management protocol and referral pathways.

1.3   PARTNERSHIP WITH AUTISM CRC

Academic staff from the EAIT faculty approached the autism CRC for assistance with the Teaching and Learning project. The collaboration began between psychology at the University of Queensland (Dr Kate Sofronoff) and Engineering (Dr Lydia Kavanaugh and Dr Liza O'Moore). Professor Sylvia Rodger from Autism CRC facilitated this process and attended initial meetings. It was determined that the focus of the materials and resources should be primarily for academic and professional staff at tertiary institutions. A process began to elicit concerns about challenging student behaviours from staff, with a focus on the tutorial staff in first year courses. Following on from this, the structure for the first staff workshop was developed. It was decided that the workshop should be very interactive rather than didactic and driven by the issues raised by staff. Professor Tony Attwood (who was central to the delivery of the workshop) approved this format. This workshop was filmed so that clips could be used in the website that was to be developed. It was decided to extend this project both across and beyond the University of Queensland by seeking additional funding through a CRC Innovation Grant. This would allow for the development of a high quality website with additional resources driven by the concerns expressed by tertiary staff across a wider scope of tertiary institutions.

1.4   THE CRC INNOVATION PROJECT

The project proposed in the CRC application intended to use this initial Faculty-based research as a foundation for developing a 'universal' set of resources for tertiary staff supporting students on the autism spectrum transitioning into a tertiary education environment – and on through the subsequent years of a degree. The aim was to build from websites that already existed such as those developed by OTARC/La Trobe University and Autism Queensland by creating interactive skills-based modules to complement these sites.

Additional partners were brought into the CRC project and these included Associate Professor Amanda Richdale who developed the OTARC website, Associate Professor Michael Whelan who provided expertise in developing an e-orientation video for students coming in to a university setting, Mr David McCarthy from Autism Queensland and Ms Stefanie Evans from Asperger Services Australia. Professor Tony Attwood was a central contributor to the project from the outset.

2. WORKSHOP DEVELOPMENT

2.1 DEVELOPMENT PROCESS

The first workshop for EAIT staff was held in February 2016 (see Appendix A for an outline of the workshop). Following participant feedback from this workshop, resources were developed to 'expand' the workshop content to meet the requirements of a more universal audience i.e., cross-faculty examples and illustrations (e.g., Veterinary Science, Dentistry, Science, Law and so on). It was planned that the second workshop would be offered in November 2016 and that the reach of this workshop would be expanded to engage with participants from outside of EAIT – as well as from outside of the University of Queensland. The second workshop was promoted by ITALI at the University of Queensland and was attended by approximately 70 staff from a variety of schools within UQ (Medicine, Veterinary Science, Disability Services) and outside UQ (College of Law - Qld, University of Southern Queensland, University of the Sunshine Coast, Queensland University of Technology).

Embracing a process of continuous improvement, participant feedback from the February workshop identifying the most useful content and strategies was used to shape both the format of and content delivered in the second (November) workshop. Both workshops were then employed as the foundation for creating a number of multi-media resources (animations and

video clips) and training materials for inclusion in the website.

3. FINDINGS

3.1 FEEDBACK FROM WORKSHOP 1: FEBRUARY 2016 - EAIT FACULTY UQ

A satisfaction and feedback survey was used at the close of Workshop 1 to evaluate both the content and processes used within the workshop. There were 8 questions rated on a 5-point Likert scale that asked participants to rate the extent to which the workshop met their expectations, was helpful, was pitched at the right level, and whether they would recommend such a workshop to others. The ratings ranged from 4.35 to 4.93 and indicated that the workshop was successful in terms of both participant engagement and satisfaction with both the type and nature of content delivered.

Figure 1. Ratings provided by participants in workshop 1
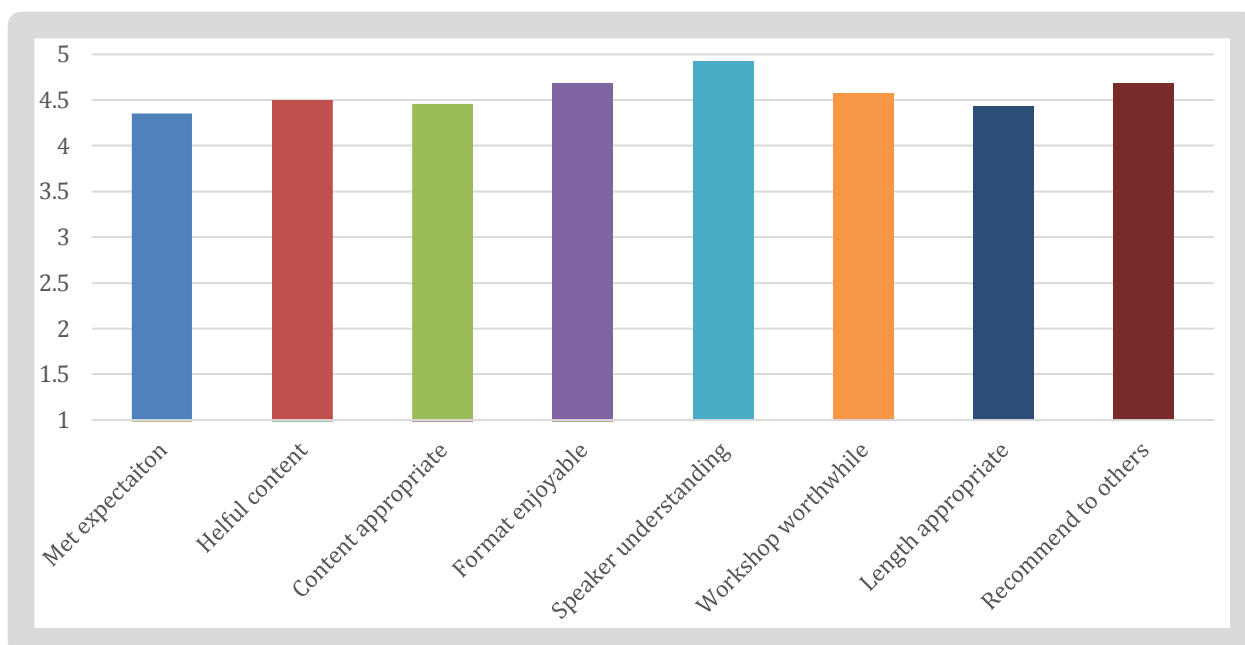
The satisfaction questionnaire also included several questions that asked participants to provide further comment on what they had found helpful in the workshop and what they would like to see included in a future workshop.

Comments:

Q9   What did you like best or find most useful about the w/shop?

- Role plays mentioned by 50% of participants
- Explanations and discussion
- Practical nature of the content
- Coming to appreciate a different mindset

Q10   What strategies did you learn that might assist you in dealing with difficult student behaviours in the future?

- Validate the student
- Stay calm
- Be logical
- Take the emotion out of the situation
- Be a GPS and focus on the way forward
- Build trust

Q11 Any other comments?

- 4 people mentioned that they would like more strategies for anxiety and depression

3.2 FEEDBACK FROM WORKSHOP 2: NOVEMBER 2016 – INTER-TERTIARY INSTITUTION ATTENDANCE

A satisfaction and feedback survey was used at the close of Workshop 2 to evaluate both the content and processes used within the workshop. There were 9 questions rated on a 5-point Likert scale that asked participants to rate the extent to which the workshop met their expectations, was helpful, was pitched at the right level, and whether they would recommend such a workshop to others. The ratings ranged from 4.5 to 4.97 and indicated that the workshop was equally successful as the initial workshop in engaging with and meeting the expectations of this broad, cross-faculty/cross-institutional group of participants.
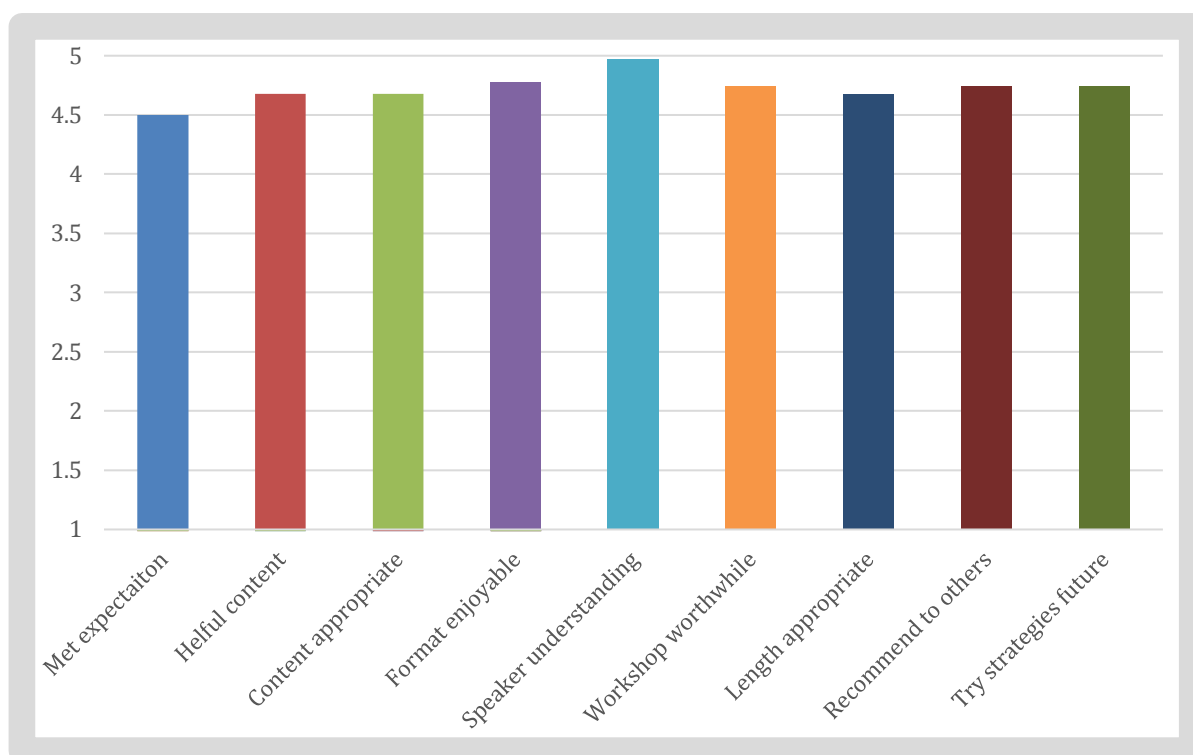
Figure 2. Ratings provided by academic staff from workshop 2

The satisfaction questionnaire again included several questions that asked for participants to provide further comment on what they had found helpful in the workshop and what they would like to see included in a future workshops,

Comments:

Q10   What did you like best or find most useful about the w/shop?

- Interactive – using examples generated by the audience
- Role plays and examples
- Explanations and discussions
- Practical strategies
- Expertise of the presenters

Q11   What strategies did you learn that might assist you in dealing with difficult student behaviours in the future?

- Stay calm
- Be logical
- Take the emotion out of the situation
- Be a GPS focus on the way forward
- Use visuals

Q12 Any other comments?

- Broaden to include other challenging behaviours
- More information about the website
- Tip sheets please
- Would like more workshops

3.3   SUMMARY: WORKSHOPS 1 AND 2

Participant feedback from both workshops was positive in terms of content and format. Participants also indicated a high conversion rate to that of potential future 'consumer advocates' of the workshop – with high scores for 'recommend to others' being received across both workshops. With respect to website and resource development, there was consistency across groups in strategies identified by participants that they felt they would use in the future.

4. WEBSITE DEVELOPMENT

4.1 CREATING THE FOUNDATION

The content and multimedia resources developed for the interactive website for academic and professional staff in tertiary institutions was drawn from the communicated needs of the staff interviewed and from participant feedback from the two workshops. Content that had been highlighted by staff as particularly useful was emphasized on the website in a variety of ways. To illustrate, three animations were commissioned to illustrate practical strategies that had particularly resonated in the workshops – support strategies; can we change behavior, and using a GPS voice. Several video clips from the workshops were also included emphasizing the 'practical nature' of the information and strategies provided, in that the content was clearly drawn from answers to 'real life' questions from tertiary staff attending the workshops.

The incorporation of content pages with a range of multi-media resources illustrating the key concepts was considered essential not only to the creation of a modern 'education and training' website, but also in catering to a range of learning styles and preferences. Tabs were used to facilitate quick access to specific information, allowing readers to funnel directly to key topics of interest such as understanding autism, managing challenging behavior, crisis management and so on.

For tertiary staff who wish to gain a greater understanding of autism spectrum conditions than the 'essential introduction' provided on the site, the resources section provides several external links to relevant resources and sites.   In other words, the website has been created to not only provide a 'starter' resource for assisting tertiary staff to gain an understanding of how they can support students with autism in their classrooms, but to also encourage those staff who would like to know more to increase their knowledge by linking them to a range of quality external resources.

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In addition to the base content of the website, an accompanying 'best practice guideline/implementation protocol' in the form of a comprehensive PowerPoint seminar, was developed for introducing similar professional development programs into a variety of tertiary settings. The inclusion of this resource acknowledged feedback from workshop participants as to the difficulties of not knowing not only where to start but also what to include in delivering internal training to staff. While the provided resource can be delivered with limited amendment, personalization to institutional needs and target group requirements using the animations, video clips and external resource referrals is encouraged. In a similar 'best practice vein' a step by step guide to creating an e-orientation video to assist students with autism spectrum conditions transitioning into tertiary studies was developed and included in the website (See Appendix C), along with a concrete example of such an e-orientation. See the link below for an example e-orientation

http://tertiaryautismsupport.com.au/resources

Taken together, these resources offer users of the website a standardized (but customizable) process for delivering professional development training for staff as well a tailored e-orientation resource for students.

4.2 WEBSITE ENGAGEMENT & LICENSING

It is anticipated that the 'independent' nature of this website will overcome many of the parochial barriers that can exist between tertiary institutions – facilitating a more global reach and impact. Whilst the independent website will be co-badged with the relevant parties to this agreement, website content does not focus on a specific University, Faculty or School context thereby promoting the capacity to engage with diverse university settings with slight modifications to exemplar situations. Somewhat conversely however, it is anticipated that the clear involvement (and evaluation) of the resources from the perspective of the Faculty of EAIT at The University of Queensland will inherently promote the utility of the site, and its resources, to other 'STEM-

based' (science, technology, engineering, and math) tertiary faculties both nationally and internationally. The website created for the EAIT faculty demonstrates the capacity to take material from the larger website and tailor it to the needs of a specific faculty. See the link below to access the EAIT site:

https://asd.uqcloud.net/

In discussion with Professor Sylvia Rodgers of the CRC, a creative commons Attribution-Non-Commercial-ShareAlike 4.0 International has been attached to the website, allowing for users to copy and redistribute the material in any medium or format including adapting the materials by remixing, transforming, and building upon.

4.3   CONTINUOUS IMPROVEMENT

Expressions of interest were sought from participants in the second workshop to trial and evaluate the developed website. Evaluation was undertaken via an embedded survey link within the website.

To ensure an ongoing process of continuous improvement and updating, an 'in-built' user feedback functionality has been incorporated into the website, encouraging the ongoing adaption and modification of content to the needs of end-users (funding permitting).

4.4   WEBSITE SUMMARY

The global outcome of the current project is the creation of an independent, easily-accessible, multimedia website delivering a range of resources that assist in the support and management of students on the autism spectrum across tertiary education settings.

5. FINDINGS

5.1 WEBSITE FEEDBACK

In order to achieve maximum return from busy academics we decided to use a brief online survey of ten questions to access consumer feedback about the website.

Ten academics responded anonymously to the survey from a range of schools and universities including the Faculty of Medicine at the University of Queensland, The College of Law, The Institute for Urban Indigenous Health, the University of Southern Queensland, and University of the Sunshine Coast.

Several questions were asked as ratings on a 5 point Likert type scale and included questions about the visual appeal of the site, the ease of navigation, helpfulness of the information when found, and whether the site provides enough information and resources to develop a website tailored to a specific school or department.

The ratings ranged from 4.3 to 5 and indicated that the academics who had viewed the website did find it useful.
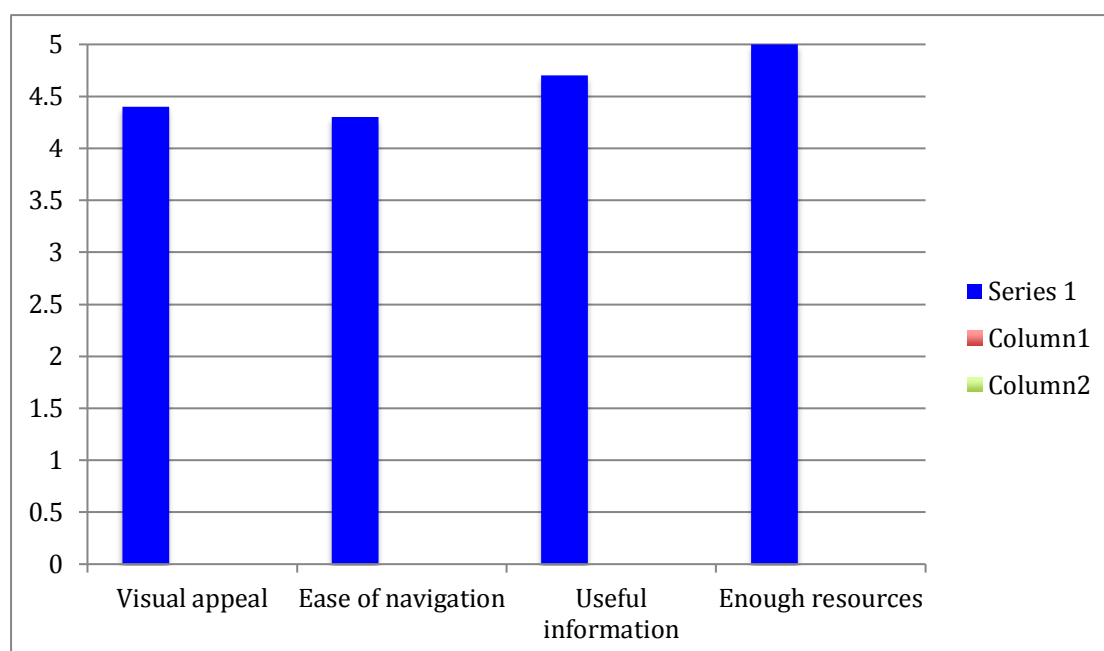

Figure 3. Rating given by academics who viewed the website

5.2 QUALITATIVE FEEDBACK

Several additional questions asked for additional comment in relation to the user experience, content expectations and overall satisfaction with the site.

In response to the question about what individuals found most helpful about the site, the video files (workshop clips and animations) used to illustrate concepts and strategies were mentioned by almost all respondents. Feedback also reinforced that the content and strategies delivered on the site was clearly communicated and immediately useful, with the resource links also being appreciated.

"videos and clearly explained support strategies for educators – fantastic'

"video bites were great, the resource list is excellent'

"I thought all the content was clearly communicated, it was not overloaded with jargon or generalizations, it was immediately useful"

In response to the question asking if individuals would like additional information or resources, 50% of respondents did not think the website required any additions to be made. Of those who did suggest additions, the following thoughts were provided:

- include stories from students with autism who are successfully navigating the tertiary setting;

- a flow chart as a resource for students showing steps for new students, asking for help (a potential e-orientation complementary resource)

- more video clips showing Professor Attwood demonstrating strategies

Final comments received included:

"Thank you for this site and the information, which includes some exceedingly useful tips for managing such students in the complex environment within

which we work. I have already shared some of the ideas from the workshop with staff and plan to share more from this website with teaching staff as time permits"

"I think such websites are good sources of accurate up to date information about the impact of ASD on teaching and learning in the tertiary setting. The animations made difficult topics 'accessible' without offence or judgement"

6. LIMITATIONS

The project described set out to determine the needs of tertiary staff in providing optimum experiences for students enrolled in a range of courses. An extensive search was conducted to find resources that had already been developed so that this project would not duplicate that which was already available and in use. The search found several sites that provided informational resources of a high standard and it was decided to ensure that the quality of those sites was extended by developing interactive and accessible materials for academic and professional staff that complemented, rather than competed with, these sites. The initial brief was to develop a site specifically to be used within the Engineering, Architecture, and Information Technology (EAIT) faculty at the University of Queensland and then to extend the content and functionality of this site to be applicable more broadly. We have been able to provide feedback and evaluations of the two workshops that were created and we have feedback from 10 academics on the usefulness of the developed website. What we have not been able to achieve is a more robust evaluation of the usefulness of the website in practice. The EAIT website is currently being used in Engineering and we are yet to determine which schools and universities will either develop their own sites based on the guidelines from this site, or use the site as it is.

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7. References

Fleischer, A. (2012). Support to students with Asperger Syndrome in higher education – the perspectives of three relatives and there coordinators. International Journal of Rehabilitation Research, 35(1), 54-61.

Hastwell, J., Harding, J., Martin, N., Baron-Cohen, S. (2013). Asperger Syndrome Student Project, 2009-2012: Final Project Report, June 2013. The Disability Resources Centre, University of Cambridge, Cambridge, UK.

VanBergeijk, E., & Cavanaugh, P.K. (2012). Brief Report: new legislation supports students with inbtellectual disabilities in post saecondary funding. Journal of Autism and Developmental Disorders, 42(11), 2471-2475.

OTARC/La Trobe website

http://www.latrobe.edu.au/otarc/your-questions-answered/support

Autism Queensland website

http://www.autismqld.com.au/page/588/New-Steps-Post-School-Transition-Programs

CRC full website

http://www.tertiaryautismsupport.com.au/

Faculty of EAIT website

http://asd.uqcloud.net/

8. Appendices

8.1 APPENDIX A – WORKSHOP OUTLINE

Session	Description	Convenor	Other speakers	Timing (am)
Intro & Housekeeping		Kate	Lydia	9.00-9.15
SESSION 1 Reflection Exercise 1 +	Participants identify a concrete example of their own. (10mins)	Kate	Tony	9.15 - 9.45
Theory 1 +	General Introduction to ASD. Tony asks for first example from floor to lead discussion. (20mins)	Tony		
Practical 1	Role play as required. Move into next session after 1-2 examples.		Sharon Jamin	
SESSION 2 Reflection Exercise 2 +	Participants think about why behaviour may have occurred. Now they have a little more knowledge about ASD. (5mins)	Kate		9.45 -10.30
Theory 2	Functions of behaviour + emotional profile. (10 mins)	Kate		
Practical Session 2 (1-2) case studies)	Examples from floor. (30mins) Role play as required.	Tony	Kate (chair) Sharon Jamin	
Morning tea 10.30-11.00 am				

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SESSION 3				
Practical Session 3 +	Leads on from previous session. Examples from floor. Role play as required (30min)	Tony	Kate (chair) Sharon Jamin	11.00- 11.40
Reflection Exercise 3	Personal reflection on their example – draws session to a close. Would you do anything differently now? (10 mins)	Kate	All	
Tertiary Transition	Introduction to transition resource	Kate/Michael	-	11.40 – 11.55
Evaluation & Close	Final thoughts	Kate		11.55-12.00

8.2   APPENDIX B – GUIDE TO ORIENTATION VIDEO

1. **Grab your smart phone and take a video of your front entrance. Speak the whole time telling your viewers where you are.**

2: If you have a central landmark that might help orient the viewer take a video of this and tell your viewers where you are.

3: If your building is hard to find, maybe video the short walk to find it. Tell your viewers where you are going as you walk

4: If your building or 1st year common room has a name perhaps grab a brief shot of that as well.

5: Take a walk through your 1st year common room and describe how the room is normally used.

6: Video a few seconds of the room with nobody there.

7: Then if you have time, video the room with lots of people in it so that viewers can see and hear what the room sounds like when it's buzzing.

8: Take a video of one of your lecture theatre theatres as well and describe to the view what type of teaching occurs here.

9: Then take another video of the lecture theatre with lots of people in it so that viewers can see and hear what the room sounds like when it's buzzing.

10: Take a video of other spaces students might use and tell the viewers about them.

11: Ask a first year coordinator to introduce themselves and tell your viewers about the services they provide and how to locate them

12: If there are other key staff that support 1st year students, ask them to introduce themselves and tell your viewers about the services they provide and how to locate them.

13: Ask a current student to give a welcome message to new students and to describe their feelings of when they were a new 1st year.

14: If you have crucial rooms or facilities that are a bit tricky to find, video the journey and describe to the viewers where you are going.

15: Once you've finished videoing all of your shots, copy them across to your computer.

All computers have free video edit software installed.

iMovie for Mac

Movie Maker for PC

Creating an Orientation Video Resource

AutismCRC

16: There will be free video edit software on your computer. It's usually very easy place all of your sequences in a row and trim them a bit if necessary.

If you find this last step difficult......

Just ask a teenager for help!!!!

Creating an Orientation Video Resource

AutismCRC

17: If you have difficulty with copying the video from your phone to the computer or with editing the sequence together, just ask a teenager, they all know how to do it. It

Distribute your video on a USB ....

Or place it on your department's website.

Creating an Orientation Video Resource

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18: Place your completed video on your website, social media page or onto USB!

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