



AutismCRC

# Graduate Certificate in Autism Diagnosis: Enhancing training in autism diagnosis

## FINAL REPORT

Prof. Murray Maybery

Dr Lauren Taylor

Dr Emma Miller

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THE UNIVERSITY OF  
**WESTERN  
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### **Professor Murray Maybery**

University of Western Australia | Autism CRC

### **Dr Lauren Taylor**

University of Western Australia | Autism CRC

### **Dr Emma Miller**

University of Western Australia | Autism CRC

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## **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 on the autism spectrum.

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## **A note on terminology**

We recognise that when referring to individuals on the autism spectrum, there is no one term that suits all people. In our published material and other work, when speaking of adults we use the terms 'autistic person', 'person on the autism spectrum' or 'person on the spectrum'. The term 'autistic person' uses identity first language, which reflects the belief that being autistic is a core part of a person's identity.

Autism Spectrum Disorder (ASD) is diagnostic terminology used by the healthcare sector, and is used in the context of a person being 'diagnosed with Autism Spectrum Disorder'.

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# 1. Executive summary

The Graduate Certificate in Autism Diagnosis (GCAD) at the University of Western Australia (UWA) was first offered to students in 2015. Developed with Autism CRC support, the course was the first of its kind in the Australasian region, offering world leading training in the assessment and diagnosis of Autism Spectrum Disorder (ASD: hereafter, autism). However, the review of the initial course identified two limitations. First, the course focused on the assessment of children in the preschool and school age range, lacking substantial content on the assessment of toddlers and adults. Second, a significant impediment to completing the course for students from outside WA was that the practicum training was based in Perth. This project was funded to address these two limitations. The objectives of the project were to:

1. Further develop the GCAD so it provides best-practice in training for diagnosis for people of all ages. This development included:
  - a. creating a teaching module to cover diagnosis of toddlers
  - b. creating a module to cover diagnosis of adults
  - c. producing videos of multidisciplinary assessments to supplement the observational component of the placement unit.
2. Improve access to the GCAD for students from outside Western Australia by negotiating arrangements for them to complete placements in their home states.

These outcomes of the project were met. First, supported by an advisory group of experienced diagnosticians, teaching modules were developed for the assessment and diagnosis of autism in toddlers and adults. Second, supported by the Autism Association of Western Australia, [Patches Paediatric Child Health & Education Services](#), and the Robin Winkler Clinic at UWA, multidisciplinary assessments of seven children were video recorded and edited for use in practicum training. Finally, supported by Autism CRC participants and other organisations that provide multidisciplinary assessment services, arrangements were made for several eastern-state students to complete placements with multidisciplinary assessment teams in their home states.

Completion of these enhancements to the content and mode of presentation of the GCAD course helped to maintain the reputation of the course in providing best-practice training of psychologists, speech pathologists, paediatricians, psychiatrists and occupational therapists in the assessment and diagnosis of autism across the entire lifespan. With the GCAD now training diagnosticians in all Australian states and territories, the benefits to the autism community and the country more broadly are profound.

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## 2. Introduction

### 2.1. Development of the Graduate Certificate in Autism Diagnosis

The Graduate Certificate in Autism Diagnosis (GCAD) was developed in 2014 and 2015 as an initiative of Autism CRC. The course falls under Program 1 of the Autism CRC, which aims to improve the validity, precision, timeliness and reliability of autism diagnoses.

At the time the GCAD was developed, there was no consistent national standard for the diagnosis of autism, and few opportunities for clinicians to be trained in assessment and diagnosis. The GCAD is Australia's first tertiary training program to provide practitioners with the specialist knowledge and clinical skills required to participate in multidisciplinary assessments for autism diagnosis.

The GCAD was designed to be completed full-time in one semester or part-time over two semesters. Developed in the School of Psychological Science at the University of Western Australia (UWA), the course consists of four units that provide a strong theoretical and evidence-based foundation for autism assessment in addition to practical experience. The course includes two coursework and two practical units. The coursework units cover the presentation and diagnostic features of autism and the key principles in the assessment and diagnosis of the condition. The practical units provide training in the Autism Diagnostic Observation Schedule-2<sup>nd</sup> Edition (ADOS-2) and practicum experiences in assessment and diagnosis.

Initially enrolment in the course was restricted to graduates from Psychology, Speech Pathology, Paediatrics or Psychiatry. The first intake of students was in Semester 2, 2015, with the second intake in Semester 1, 2016. Six students commenced the course in 2015 and a further 12 commenced in 2016. In addition to these students, a further 19 professionals undertook the ADOS-2 training when it was run in Perth for the GCAD course in 2015 and 2016.

Of the 17 students who had completed or were enrolled in the program in July 2016, eight were psychologists and nine were speech pathologists. Nine of these students were based in the capital cities and eight were in rural or remote regions. Also, nine were from WA, with the other eight spread across Victoria, NSW, Queensland and NT.

Throughout 2015 and 2016, there was extensive and ongoing review of the course, as summarised in Appendix A. Consultation was with members of the project Advisory Group, Autism CRC staff, diagnosticians affiliated with either the Autism CRC or the Western Australian Autism Diagnosticians' Forum, and students enrolled in the course. These reviews led to a key

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recommendation that modules on the assessment and diagnosis of toddlers and adults should be developed for the GCAD.

Another important finding from the review was that the original plan to offer the GCAD in two Australian Universities was not feasible. It was determined that the course would be offered only through the University of Western Australia with the east coast universities supporting the development of some aspects of the course and assisting with student placements.

## 2.2 GCAD: Enhancing training in autism diagnosis

Following from this extensive review of the initial roll-out of the GCAD, phase two of the project started with the following objectives:

1. Further develop the GCAD so it provides best-practice in training for diagnosis for people of all ages. This development included:
  - a. creating a teaching module to cover diagnosis of toddlers
  - b. creating a module to cover diagnosis of adults
  - c. producing videos of multidisciplinary assessments to supplement the observational component of the placement unit.
2. Improve access to the GCAD for students from outside Western Australia by negotiating arrangements for them to complete placements in their home states.

## 3. Research design and methods

### 3.1 Personnel

The GCAD was developed and led by two researchers, both of whom are Psychologists with Endorsement in the Area of Clinical Psychology and both with extensive experience in the assessment and diagnosis of autism.

### 3.2 Methods

There were four components to the project:

1. **Teaching modules.** The teaching modules on toddler diagnosis and adult diagnosis were developed by teaching staff at UWA, drawing on the advice and expertise of key

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Autism CRC parties, including La Trobe University staff who are world leaders in the early identification and assessment of autism, and organisations involved in delivering assessment and diagnostic services. The GCAD Advisory Group was consulted in the initial design stage, when draft modules were available, and again after one cohort of students had completed the modules. Student feedback was also used when revising the two modules.

2. **Videos.** An application was submitted to the UWA Human Ethics Research Committee to collect video material and using it in GCAD teaching. Videos of multidisciplinary assessments were made in collaboration with the Autism Association of Western Australia and [Patches Paediatric Child Health & Education Services](#). A Graduate Research Assistant assisted with filming and editing the videos.
3. **Interstate placements.** There was extensive communication with Autism CRC participants and other organisations that provide multidisciplinary team assessments for autism, to negotiate arrangements for placements in states other than WA.
4. **Evaluation of the toddler and adult modules.** After the modules were revised following feedback, they were evaluated through a Qualtrics survey distributed to students completing the modules in Semester 1, 2020.

## 4. Outcomes

### 4.1 Outcomes in relation to the four key tasks

All phases of the project were completed successfully:

1. **Teaching modules.** The two modules on toddler diagnosis and adult diagnosis were developed by UWA teaching staff using Blackboard (Learning Management System). The modules were embedded in unit PSYC5521: *Diagnosis of Autism Spectrum Disorder*. Each module included an online, self-paced theoretical component alongside an interactive session presented online using Blackboard Collaborate.
2. **Videos.** The UWA Human Ethics Research Committee granted approval for the video recording of assessments, but under the conditions that the recordings remain stored securely at UWA and are accessible only to the UWA GCAD staff and students enrolled in the course. Multidisciplinary assessments were conducted in the UWA Robin Winkler



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Clinic, by teams consisting of a psychologist, speech pathologist and paediatrician from the Autism Association of Western Australia and [Patches Paediatric Child Health & Education Services](#). With appropriate consent obtained, video recordings were made of the full assessments for seven children who varied in age, sex and diagnostic outcome. Under the instruction of UWA teaching staff, the video recordings were edited for use in GCAD training, in particular for illustration and instruction in the final practicum unit.

3. **Interstate placements.** As mentioned above Autism CRC participants and other organisations that provide multidisciplinary assessment services were approached with the aim of arranging placement experiences for students in states or territories other than WA. Organisations not affiliated with the Autism CRC preferred to negotiate placement arrangements on a student-by-student basis. Three interstate organisations provided practicum experiences on an ad-hoc basis during the tenure of this project: the Royal Children's Hospital in Melbourne, the Children's Hospital at Westmead in Sydney, and the Childhood Autism Assessment team at La Trobe University.

Subsequent to the completion of this project, GCAD staff have received continued support from providers of interstate placement opportunities. In 2020 and 2021, the interstate organisations hosting placements for GCAD students included:

- Autism Queensland
- Child Development Unit (Rockhampton)
- La Trobe University
- Child Development Unit at Westmead Hospital
- Educare Specialist Services (NSW)
- Women & Children's Hospital (Adelaide)
- Autism South Australia
- Novita (South Australia)
- Individual clinicians working in private practice settings

4. **Evaluation of the toddler and adult modules.** As previously mentioned, the toddler and adult modules were evaluated using a Qualtrics survey. All students who completed these two modules in Semester 1, 2020 were asked to complete the anonymous survey. Eight students completing the evaluation of the adult module and four completing the evaluation of the toddler module. With the exception of one respondent, the two modules were well-received by the GCAD students. Responses are summarised in Tables 1 and 2.

**Table 1: Survey results on adult module in the GCAD**

Survey on adult module in the GCAD (percentage of students selecting each response option)							
	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
The material was informative	37.5%	37.5%	12.5%				12.5%
The material was easy to understand	37.5%	50%					12.5%
I gained valuable knowledge	25%	50%	12.5%				12.5%
The information was relevant to practice	12.5%	50%	12.5%		12.5%		12.5%
I will be able to apply the knowledge	25%	12.5%	50%				12.5%
This module was an enjoyable learning experience	12.5%	62.5%	12.5%				12.5%
There were no qualitative comments on how the module could be improved.							

**Table 2: Survey on toddler module in the GCAD**

Survey on toddler module in the GCAD (percentage of students selecting each response option)							
	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
The material was informative	25%	50%					25%
The material was easy to understand	50%	25%					25%
I gained valuable knowledge	25%	50%					25%
The information was relevant to practice	25%	50%					25%
I will be able to apply the knowledge	25%	25%	25%				25%
This module was an enjoyable learning experience	25%	25%	25%				25%
<b>Comments:</b> I think the videos, podcast link etc. were absolutely great. Encourage collaborative workshoping with different professionals in this module. Encourage everyone to turn on videos if they can so we can meet each other. Prognosis info so useful thank you! All very relevant for my job.							

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## 5. Limitations

In the latter half of 2018, following the development of additional teaching materials for the unit in line with milestones 1-3, the National Guideline for the Assessment and Diagnosis of Autism Spectrum Disorders in Australia was published. The GCAD course material prepared under Project 1.004RC was not aligned to all aspects of the National Guideline. There was also a need to revise the course content to reflect ever-evolving international best practice (e.g., expand the content on the assessment of girls and women), and to restructure the modules of the two coursework units, PSYC5520 and PSYC5521. Consequently, in 2020, UWA teaching staff conducted a major revision of the GCAD course. The GCAD now reflects an amalgamation of content on international best practice standards for the assessment and diagnosis of autism, contextualised within the Australian National Guideline.

## 6. Implications for research and practice

In enabling the development of modules on the assessment of toddlers and adults, this project ensured that teaching on the GCAD of best practice in assessment and diagnosis covered the entire lifespan. Because it enabled the work on liaising with diagnostic service providers in the eastern states, the project also opened up many opportunities for GCAD students outside WA to complete placement activities in their home state. The video recording of the multidisciplinary assessments of seven cases has provided much greater flexibility in delivery of practicum experiences to GCAD students across the country, including those working in remote regions. Another development post completion of this project was the conversion by UWA staff of the third unit in the course – the ADOS-2 training to a fully online mode. This change, coupled with changes to the final practicum unit, means that students have the opportunity to complete the entire GCAD course from their home state.

With the GCAD now training psychologists, speech pathologists, paediatricians, psychiatrists and occupational therapists from across Australia in best practice in the assessment and diagnosis across the entire lifespan, the benefits to the autism community and the country more broadly are profound.

## 7. Key recommendations

It is recommended that the Autism CRC and University of Western Australia continue their association beyond this project in providing training to the various practitioner groups in various formats to ensure best practice in the assessment and diagnosis of autism.

## 8. GCAD completions and enrolments

As of July 13, 2021, the number of students completing, enrolled in, or with a deferred enrolment in the GCAD, or who have completed the ADOS-2 training at UWA are outlined below in Table 3.

**Table 3: GCAD completions and enrolments**

Student group	Number of students
Completed GCAD course	63
Currently enrolled in GCAD course	28
Current deferred enrolment in GCAD	4
Completed ADOS-2 training only	43

Students completing, enrolled in, or with a deferred enrolment in the GCAD course have been drawn from all Australian states and territories, with one student also enrolling from New Zealand. However, most students (56 of the 95) have been or are from WA.

While the majority of the GCAD students (65 of the 95) have been capital-city residents, the remaining 30 students from regional areas have been drawn from all states and territories except the ACT.

## Appendix A

**Table 4: Review and Evaluation of the GCAD across 2015 and 2016**

Reviewing group	Nature of the evaluation	Outcomes
UWA Faculty of Science and Board of Coursework Studies (2014) Two-day UWA Carpe Diem Course Development Workshop (2015)	Review of the proposed course structure, mode of delivery and forms of assessment.	Course approved. Blackboard skills developed to enable online delivery of unit modules.
Autism CRC Advisory Group for Project 1.004: M. Maybery (UWA), L. Taylor (UWA) K. Hudry (LTU), T. Smith (DSC), D. Keen (Griffith), V. Eapen (UNSW), V. Gibbs (Aspect), Amanda Harris (Autism SA), Kate Smith (WAADF) (2014-15)	Review of the proposed course structure, mode of delivery and forms of assessment.	Advice provided in the selection of key components (e.g. ADOS-2). Feedback on Blackboard components. Assistance in developing and then running workshops.
West Australian Autism Diagnosticians Forum (2014-current)	Regular presentations (typically every 6 months) on progress in developing and running the course and receiving informal feedback.	Generally favourable feedback. Some members have asked whether we could include a greater range of professions in the course (i.e. teachers, OTs).
UWA Psychology Postgraduate Programs Committee and Board of Examiners (November, 2015; June, 2016)	Vetting the forms of assessment and grades for the units.	All aspects of assessment and grading considered acceptable.
DSC staff who run workshops and webinars for PSYC5521, with L. Taylor & E. Miller (after each component)	Reviewing the content, timing and mode of delivery of the workshop and webinar components.	Decision to divide the 2-day workshop in half, delivered it later in the course and as a webinar instead of a face-to-face workshop - this was to make sure that the content of the course (differential diagnosis) was delivered at a time when students had a stronger theoretical grounding in ASD.
Staff running the ADOS-2 training (K. Hudry, L. Taylor, I. Magiati) with M. Maybery & E. Miller (after each workshop)	Reviewing the ADOS-2 training (PSYC5522) and students' progress.	Generally favourable reports on students; areas of development identified for one or two students.
DSC staff managing the placement component (B. Hosking, T. Smith) with L. Taylor (regular reviews)	Reviewing the structure of the course in relation to the student placements.	We now start the student placements earlier in the semester so students gain some practical experience alongside the theoretical components of the course.

Reviewing group	Nature of the evaluation	Outcomes
SURF feedback on individual units after each semester.	It is standard UWA practice for students to be asked to complete SURF evaluations for each unit. None of the students completed the SURF evaluations.	As a trial, Lauren Taylor sought feedback on PSYC5520 through a Qualtrics questionnaire.
Qualtrics questionnaire completed by 3 students in the first cohort (Semester 2, 2015)	The Qualtrics questionnaire covered questions similar to those included in the UWA SURF (unit based) and SPOT (instructor based) questionnaires and additional open-ended questions.	Mean ratings for the 6 unit questions ranged from 4.0–4.67 on a 5-point scale, and mean ratings for the 12 instructor questions ranged from 3.67–4.67. Free-field comments were generally positive. Suggestions for change were: spacing assessments out better, a later start to Collaborate sessions (which were 4-6pm WST) and providing advice on how to use bulletin boards.
Survey conducted by DSC staff and completed by 7 students who participated in webinar on Differential Diagnosis in ASD (Semester 1, 2016)	Six questions where students rated their learning, the presenters' knowledge and the means of delivery. Open ended questions on suggested improvements, and most/least useful parts.	Mean ratings for 6 questions ranged from 4.25-4.75 (5-point scale). Positive comments on presenters and comments. Suggested changes: split into smaller webinars; improve quality of recordings provided.
Individual members of the Autism CRC Advisory Group for Project 1.004; diagnosticians affiliated with the Autism CRC or WAADF; CRC staff; students enrolled in the course (2015-2016)	Informal discussions on (a) the scope of material covered in the current GCAD course, and (b) whether additional professional groups (e.g., OTs, teachers) should be eligible for course entry.	Modules devoted to the assessment and diagnosis of toddlers and adults should be developed for the GCAD. Consideration needs to be given to how components of the course could be made available to other professional groups.
Meeting/teleconference of key Autism CRC, La Trobe University and UWA staff: S. Rodger, C. Mangan, C. Dissanayake, M. Maybery (30/09/2015)	Review of the GCAD with reference to the feasibility of developing a parallel course to run through La Trobe University (as would be required to meet Milestones 1.4.7 and 1.4.9). Briefing document provided by M. Maybery.	It was decided that it would not be feasible for two Australian Universities to run competing GCAD programs and that an alternative model would be desirable in which UWA runs the program with support from East Coast Universities. This support would consist of help in developing new course components and in providing placements in states other than UWA.

## Our values



### Inclusion

Working together with those with the lived experience of autism in all we do



### Innovation

New solutions for long term challenges



### Evidence

Guided by evidence-based research and peer review



### Independence

Maintaining autonomy and integrity



### Cooperation

Bringing benefits to our partners; capturing opportunities they cannot capture alone



#### Autism CRC

The University of Queensland  
Long Pocket Precinct  
Level 3, Foxtail Building  
80 Meiers Road  
Indooroopilly Qld 4068  
**T** +61 7 3377 0600  
**E** [info@autismcrc.com.au](mailto:info@autismcrc.com.au)  
**W** [autismcrc.com.au](http://autismcrc.com.au)



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