

# Evaluation of The Lab

**A Technology Club for Young People with Asperger's  
Syndrome**

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**YOUNGANDWELL**  
Cooperative Research Centre

  
An Australian Government Initiative



 **PROJECT  
SYNTHESIS**

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# Executive Summary

This report presents the findings of an evaluation of The Lab, a technology club for 10 to 16-year-olds with Asperger's Syndrome who enjoy working with computers. The evaluation was conducted between November 2012 and January 2013 with three main purposes:

- To summarise the impacts of The Lab to date on participants and their families;
- To provide feedback on key enablers and barriers to project success; and
- To provide recommendations for ongoing implementation of The Lab, future monitoring and evaluation activities, and replication of The Lab in other locations.

The Lab is referred to as a technology club for young people with Asperger's Syndrome – this evaluation has established that it is much more than that. The Lab is an example of allowing passionate individuals some freedom to work with young people and families in ways that are inclusive and responsive to the needs of those they are working with.

The data and stories contained within this report talk of a space where young people feel respected and a sense of belonging. It is a space where they have learnt about programming computers, but more importantly they have learnt to feel more confident and better within themselves. Some participants at The Lab have formed friendships for the first time, and consequently are visiting each other at home and going on trips to the city together. The Lab has founded an approach that works effectively to meet the needs of the young people who inhabit it. This approach is a humble one. It is an approach that does not assume it has the answer, instead it commits to working with the young people and their families to find the best way forward. And, when that way no longer works, to make sure it changes to fit the new circumstances.

## IMPACTS OF THE LAB

*'I love it so much already. It's, it's... I'm lost for words.'* (The Lab participant, male, aged 10)

This evaluation has identified that those engaged directly with The Lab express a high level of satisfaction. They primarily express this satisfaction in relation to the quality of the experience and the benefits to the young people who participate, and to the commitment and quality of the staff and mentors who run The Lab. The evaluation was unable to determine the satisfaction level of those who had discontinued with the program or who were on a waiting list and had not yet engaged with the weekly sessions held by The Lab.

This evaluation clearly points to a range of benefits of The Lab for young people with Asperger's Syndrome. The health and wellbeing of participants appears to have improved through participation in The Lab, as described by participants, parents and staff. The improvements relate to social engagement and activity including the development of friendships and overall happiness and motivation levels. Improvements in mental health, including the cessation of harmful behaviours and positive changes to medication management, were also found. Key impacts appear to be the development of technical skills alongside a heightened motivation to learn, a newfound appreciation for some participants of the importance of school, and the ability of some participants to envisage working in IT or computer programming in the future.

Not only are these benefits remarkable in and of themselves, findings from this evaluation indicate that The Lab is unique for these participants: The Lab extends and engages participants more than any other setting or service they have attended, and certainly more than the traditional school model.

*'I feel better about all this and if there's something going wrong [!] just come here and it seems to make it better.'* (The Lab participant, male, aged 13)

The evaluation has also highlighted some positive impacts for families. In particular, The Lab has helped parents appreciate their child's skills, reduce stress levels, and expand support networks. Parents reported that The Lab experience has also helped their households become more functional and assisted in improving relationships between their children with Asperger's Syndrome and their siblings.

## KEY ENABLERS

*'I just know all these awesome things, like being able to use Game Maker and all these other cool things that I never knew, and I could never have learned if I didn't come here.'* (The Lab participant, aged 12)

The evaluation findings point to a core set of four interrelated factors, which appear to have facilitated the success of The Lab:

- The commitment of The Lab founders
- The overall approach taken to The Lab
- The personal and professional characteristics of The Lab mentors
- The nature of the physical space

The commitment and enthusiasm of The Lab staff has been the driving factor in keeping The Lab project evolving. This is particularly obvious when considering the lack of sustainable funding for The Lab, and the many volunteer hours staff members have worked on this project.

The success of The Lab appears to be strongly associated to the overall approach taken to The Lab. The founders' desire to incorporate different theories to broadly represent what we call the 'emergent approach' have clearly helped to establish The Lab and offer the chance for young people to engage in a space they feel is safe and not overly governed. This 'emergent approach' draws on aspects of Agile Design used by technology and software development companies and also the work and approach taken by the 826 Valencia Street project in the United States. It is different in terms of the usual project development approach in that it changes, evolves and adapts as required. The aim is to have as much input from young people and other stakeholders as possible and be responsive to their needs in a dynamic way. Characteristics of this approach are:

- Recognition that the program is in a constant state of change and improvement.
- A focus on identifying and learning from mistakes.

Another element of the overall approach that appears to have been influential was the user-directed nature of the learning, which in the case of The Lab manifests in a lack of formal structure or group activities in the Lab sessions.

## KEY CHALLENGES AND RISKS

Three issues were highlighted in this evaluation as potentially exposing The Lab participants, The Lab, Victoria University and Oztron to risk: 'one-off' participant behavioural incidents, the viewing of inappropriate web content during The Lab sessions, and a lack of breaks during sessions. One of the challenges for The Lab in the near future lies in deciding how to mitigate risks while maintaining the benefits of the 'emergent approach,' within which 'bottom-up' rather than 'top-down' program development is a central principle. A starting point for The Lab staff might be an exploration of potential risks to The Lab stakeholders, from which a Risk Management Plan could be designed. It is recognised that incidents initially appearing to be negative or detrimental can lead to greater resilience and the learning of social skills and this should be taken into account in the design of such a plan, alongside the need to maintain a duty of care to participants.

## RECOMMENDATIONS

This evaluation has made a broad range of recommendations pertaining to The Lab itself in relation to scaling the concept and future assessment and research. Key recommendations are listed below; the complete list of recommendations can be found in the full report.

### For The Lab

Based on the findings of this evaluation, we recommend that The Lab:

- Considers, documents and implements an approach to managing and mitigating risk, including for behavioural issues and viewing of inappropriate web content.
- Undertakes an inclusive strategic planning process to develop and write a strategic plan that helps identify the future mission, aims and activities of The Lab and the resources required to deliver existing and future services.

- Develops a list of potential sources of future funding for The Lab, and uses the findings of this evaluation as a starting point for funding applications.

### For Scaling of The Lab

Others wishing to replicate The Lab do not need to establish their program in exactly the same manner as the original. We suggest they consider utilising key elements of the four factors related to The Lab success that have been highlighted in this Executive Summary.

#### *Foundation / Founders*

- The establishment of further models of The Lab will be driven by groups of committed and enthusiastic people within the local community, rather than necessarily through existing service providers. Scalability may be possible in many forms, however the strength of the current model appears to be derived in part from the individuals that have led the development of The Lab and who have many years of experience in related projects.

#### *Mentors*

- Mentors have high-level knowledge of computer programming or other digital media development skills.
- Mentors are not trained primary or secondary teachers and deliver in a mentoring, rather than traditional teacher, style.
- It may be beneficial for mentors to be close in age to participants.
- Mentors must have social and cultural capital with the participants (they need to not just be good at tech, but love and work in tech).

#### *The Approach*

- Core aspects of the approach to The Lab are defined and documented by The Lab staff (see Recommendation 1, For The Lab), and communicated to potential founders of other Labs.
- The approach taken is respectful and inclusive and brings together aspects of the 'emergent approach' and youth participation.
- There is a commitment to observe and learn from mistakes, to build a program capable of constant evolution and improvement.
- The approach includes self-directed learning and individual project-based programs that are led and driven by the participants with support from mentors.

### For Future Monitoring and Evaluation

Based on our evaluation, we recommend the following with regard to future monitoring and evaluation for The Lab:

- Defining and documenting The Lab approach – including aims and objectives, policies and procedures – will establish the basis from which monitoring, evaluation and research activities can be planned.
- An evaluation framework should be designed for The Lab that is sensitive to the evolutionary approach taken in its development – one that measures impacts of The Lab to participants' health, wellbeing and learning in ways that are responsive to the particular needs of young people with Autism or Aspergers Syndrome.

## CONCLUSIONS

The Lab is approaching the end of what could be regarded as an 'establishment phase' – an opportune time to consider formalising and consolidating its approach through appropriate documentation, consideration of risk management strategies, and a more structured approach to monitoring and evaluation. These activities would provide a tangible basis from which The Lab staff could undertake internal quality monitoring and improvement activities, apply for funding, and communicate The Lab's approach and impacts to others wishing to replicate the program.

Importantly, in the absence of consolidation of this nature, there is a strong risk that the factors enabling The Lab's success will not be incorporated as The Lab is 'replicated' in other locations.

This evaluation report has made recommendations for the next stage of The Lab's development, for scaling of The Lab model to other locations, and for future monitoring and evaluation activities related to The Lab.



# Introduction

This Evaluation Report presents the findings of the first independent evaluation of The Lab, a club for 10 to 16-year-olds with Asperger's Syndrome or High Functioning Autism. The Lab offers one-to-one tuition by technology professionals in areas such as programming, 3D, digital design and gaming. The Lab project website is [www.thelab.org.au](http://www.thelab.org.au).

This evaluation has been conducted by Daniel Donahoo, director of Project Synthesis and Dr Emily Steele, associate of Project Synthesis. Daniel was approached by the founders of The Lab who knew him through their mutual interests in technology, education and disability. Emily joined Daniel in conducting this evaluation, bringing academic rigour and experience in evaluation methods, along with expertise in public health.

This evaluation occurred against a backdrop of The Lab's previous experiences engaging participants in research and advocacy activities, such as informal video interviews and more formal one-on-one research interviews. As a result of these experiences, it was clear to The Lab staff that the formality of a traditional interview environment was not comfortable for many participants. Thus, this evaluation attempted to use innovative and less formal techniques to engage participants.

The purposes of this evaluation were to summarise the impacts of The Lab to date on participants and their families; to provide feedback to project staff on key enablers and barriers to project success; to provide information that could be used to advocate for further funding; and to provide recommendations for ongoing implementation of The Lab, replication of The Lab in other locations, and for future monitoring and evaluation activities.

The evaluation was conducted between November 2012 and January 2013. The timeframe of the evaluation was limited to three months at the request of Young and Well Cooperative Research Centre (Young and Well CRC), which has part-funded The Lab to date and funded this evaluation in full. More information about the Young and Well CRC can be found at [www.youngandwellcrc.org.au](http://www.youngandwellcrc.org.au).

The key evaluation stakeholders were The Lab participants; families of The Lab participants; The Lab mentors, who provide tuition during The Lab sessions; the two founders / staff-members of The Lab; and Young and Well CRC.

The evaluation was designed to answer the following questions:

## *Process questions:*

1. How does The Lab operate and is this consistent with the program plan?
2. How many participants have taken part in The Lab, and what are their characteristics?
3. What is the pattern of attendance at The Lab?
4. How satisfied are participants, their parents, The Lab staff and mentors with The Lab?
5. What factors have helped / hindered implementation of The Lab?

## *Impact questions:*

1. Has participation in The Lab improved the health and wellbeing of participants?
2. Has participation in The Lab resulted in any learning and development outcomes for participants?
3. Have there been any positive impacts of The Lab for participants' families?
4. Have there been any negative impacts of The Lab for participants or their families?
5. What features of The Lab contribute to positive and negative impacts on participants and their families?

This report is structured as follows. First, a description of The Lab is provided, followed by an outline of the methods used to conduct the evaluation. Findings are then presented according to the 10 evaluation questions. Next, the discussion section considers the findings in terms of impacts of The Lab and key enablers and barriers to its success, and provides recommendations for ongoing implementation, future monitoring and evaluation, and replication in other locations. The limitations of the evaluation are then outlined, with final conclusions made.

The authors wish to note that while the target group for The Lab is individuals with Asperger's Syndrome and High Functioning Autism, at times in this report we simply refer to the target group as individuals who have Asperger's Syndrome, in the interests of clarity of communication.

# 1. Background

## 1.1 DESCRIPTION OF THE LAB

The description of the project for this evaluation has been developed through an interview process with the founders of The Lab.

### 1.1.1 General Background

The Lab founders (who we refer to from this point as The Lab staff) Dale Linegar and Dr Stefan Schutt have been working together since 2006 on projects relating to young people and technology. The lessons learnt from these projects, in addition to Dale's experience mentoring a young man with Asperger's Syndrome in challenging circumstances, were precursors of The Lab. Thus, there was a four to five year incubation period in which The Lab staff gained relevant experience and developed a professional relationship with each other before The Lab formally started.

### 1.1.2 Evolution

The staff describe the 'big moment' in the development of The Lab as the discovery of the 826 Valencia Street project, established by writer and publisher Dave Eggers in the United States (826 Valencia Street, n.d.). Dave started an after-school program to support disadvantaged children improve their literacy, based in his publishing offices and guided by mentors who also worked for him as editors. The Lab staff saw a model that appealed to them in its delivery and approach, and since Dale had a company that designed computer games and interactive experiences (Oztron) they also had the business and space they needed in order to implement their own program.

The formalisation of The Lab program began during 2010, with the first session running in May 2011. It is based at the Oztron offices, with Oztron staff acting as mentors. Its founders describe The Lab as collaboration between Oztron and Victoria University.

## 1.2 THE APPROACH

### 1.2.1 Definition: The 'Emergent Approach'

The Lab has developed through what The Lab staff describe as an 'emergent approach.' This approach draws on aspects of Agile Design used by technology and software development companies (Beck et al, 2001) and also the work and approach taken by the 826 Valencia Street project (826 Valencia, n.d.). The approach encompasses the ability of a program to change, evolve and adapt in response to needs of the participants and end-users whilst maintaining efficiency and effectiveness.

Characteristics of this approach are:

- Recognition that the program is in a constant state of change and improvement.
- Operating in a higher risk environment when practice is viewed through the dominant paradigm of similar services.
- A focus on identifying and learning from mistakes.

### 1.2.2 Learning and Young People

The 'emergent approach' intersects with The Lab's ethos of working with participants. This has been referred to as a 'user-centred' or 'youth participation' approach, whereby the young people take responsibility for their own learning. At The Lab, participants are engaged with decision making in terms of how they spend time at The Lab and how The Lab functions as a whole.

*'I guess it's user-directed, or individualised as well...I guess they kind of blend together, but it's all directed from the young people, by the young people themselves. Each individual kid just does what they want to do... having that... true user-centred approach just spreads out through everything. So it spreads through the technology, it's the way that our internet is*

*open, it's the way that the parents aren't allowed in the room, it's all about giving the kids control over what they're doing, and control over their space.'* (The Lab co-founder)

Having said this, there are some boundaries on the participants' autonomy. The Lab staff cite the example of a shift in September 2012 in the mentors' approach to what the participants do during sessions. At that time they began to more actively encourage participants to create new content, rather than to simply play games during The Lab sessions, which some of them were tending to do up to that point. However, this is still presented by mentors as a suggestion rather than a demand.

### 1.2.3 Formalised Structure of The Lab

The Lab has a formalised partnership with Young and Well CRC, which has resulted in funding to support The Lab's research and evaluation activities. The Young and Well CRC is interested in The Lab's outcomes and results, and also provides opportunities to connect and share their story as they seek further support and come to an understanding of what the next steps are for The Lab.

## 1.3 OPERATIONS

### 1.3.1 Aims, Objectives and Key Activities

Currently, The Lab does not have a set of formalised, documented aims and objectives. The Lab staff state their overarching aim as supporting improved social wellbeing for young people with Asperger's Syndrome, through a learning and development platform centred on technology and computer programming.

The authors of this report recognise that this aim has evolved and changed in line with the approach taken by The Lab in its development, and has also been influenced by the participants' experiences and needs. In particular, staff now view improved participant wellbeing as their key aim and that this is achieved through interaction with technology, whereas earlier in The Lab's evolution the dual aims of improved wellbeing and increased technological skills were seen as equally important.

The activities of The Lab centre around the delivery of a weekly afternoon program and a school holiday program where young people with Asperger's Syndrome visit The Lab and engage in social and technology skill development through a participant-led approach that is supported by mentors.

### 1.3.2 Target Group

The target group are young people with Asperger's Syndrome and High Functioning Autism between the ages of 10 and 16 years. The Lab accepts self-reported (in fact, parental reported) diagnoses, which staff note may have led to a couple of participants being accepted who, on reflection, are unlikely to have either of these conditions.

While there are no strict boundaries on participants' residential area, there is a focus on the western suburbs of Melbourne (in line with the location of The Lab and focus of Victoria University). Having said this, some participants travel up to an hour to attend sessions, travelling from various Greater Melbourne regions.

### 1.3.3 Staff

Dr Stefan Schutt – Founder and Project Leader

- Research Program Leader, Centre for Cultural Diversity and Wellbeing, Victoria University
- PhD
- Bachelor of Arts (English Language and Literature)
- Advanced Diploma in Professional Writing and Editing
- Diploma of Vocational Education & Training
- Certificate IV in Workplace Training & Assessment
- Certificate in English Language Teaching to Adults

Dale Linegar – Founder and Project Leader

- Owner and Operator of Oztron

Justin – Mentor

- Employed by Oztron as a Computer Programmer and Mentor

Sean – Mentor

- Employed by Oztron as a Computer Programmer and Mentor

### 1.3.4 Funding

The Lab was initially supported through existing resources available from previous technology projects and small amounts of funding that The Lab staff were able to channel into the project. It also has the ongoing support and resources regarding space and equipment and some volunteer time from Oztron and their staff.

To the end of 2012, The Lab operated on funding primarily from Young and Well CRC to finance research and evaluation activities, administered through Victoria University. The funding paid Oztron for Dale's time at two days per week.

The Lab staff continue to explore alternative sources of revenue, but have had limited success to date obtaining funding through a range of funding applications and avenues. In particular, the staff have discussed the social enterprise model and have engaged with a couple of organisations that offer support in the development of social enterprises.

Parents of The Lab participants are actively driving fundraising efforts such as sausage sizzles.

### 1.3.5 Location

The location of The Lab has changed from Footscray, in response to participant and parental concerns about safety and amenities. It is currently located in Maidstone.

### 1.3.6 Facilities

The Lab is located in the Oztron office, a well-designed open space which staff report as being appropriate for The Lab. There are offices available to use as breakout spaces if mentors or staff need to engage privately with participants. Facilities also include a well-serviced Parents' Room that offers tea and coffee for parents who wish to stay while their child takes part in a session. This was initially organised by staff due to the distances some parents travel to The Lab. Toilets are available close to The Lab space and a major shopping centre is located nearby.

## 1.4 THE LAB SESSIONS

### 1.4.1 Model of Service Delivery

The Lab uses a participatory approach to engage with young people at The Lab. This aims to provide the participants with as much autonomy over the space and their learning as possible. Mentors engage based on the self-identified needs of participants. There are no structured lessons, tasks or expectations in regards to assessment. The Lab has run some competitions to help provide goals for participants.

### 1.4.2 Waiting List

There is a waiting list managed by The Lab staff that continues to grow. There are currently over 100 young people waiting on the list. Since participants remain involved as long as they want to, there is currently no capacity for accepting new participants.

Often young people from a holiday session will be added to the waitlist for the service. In that regard, the staff conceptualise the holiday program as a screening tool. There are no defined mechanisms regarding transition from the waiting list to acceptance on the program. This does happen to some extent according to time on the waiting list but more often a new participant is accepted based on staff members sensing they are appropriate, having met them at a holiday program session, or by a current participant recommending them.

### 1.4.3. Session Structure

A Lab session is two hours. Initially it was two and a half hours, but this was cut back for financial reasons and to better reflect parent travel times and the participants' capacity and energy levels.

There are no scheduled breaks and if participants wish to eat or drink they have to leave the room.

The content is guided by participants' interests and expressed learning goals. It has evolved over time. Essentially, mentors and staff engage with students in the room to understand their learning needs at the beginning of each session, and then engage with students informally, one-to-one, across the session.

Not all participants are mentored every session. This sometimes reflects a lack of capacity of the mentors to see everyone, but more often is in line with the needs of the participants in a particular session.

#### 1.4.4 Activities to Date

The Lab runs two groups throughout the year, on Wednesday and Thursday afternoons from 4–6pm. Each group is held once a week including during school holidays. The current 2012 / 2013 holiday break is the first break The Lab has had since it started.

The Thursday group has been running since 13 May 2011. The Wednesday group has been running since 8 August 2012. A total of 82 Thursday sessions and 19 Wednesday sessions have been held. Since inception of The Lab, nine holiday sessions and one paid specialist workshop have also been held, with more to follow in January 2013.

The breadth of learning activities include C sharp programming, C programming, Minecraft both design and mod development, Comic Life, animation and videos production using Flash, Movie-maker, Vegas and the Adobe software suite.

At the time of this evaluation, The Lab had no formal ties to the education system in terms of providing outcomes that lead into formal education, training or employment pathways.

#### 1.4.5 Finding Participants

The Lab has never consciously advertised. The participants have been sourced through previous programs, word of mouth, and promotion and media that The Lab has attracted.

#### 1.4.6 Communication

The table below shows the mode and frequency with which The Lab staff communicates with The Lab's stakeholders. The two The Lab staff communicate with each other most days.

**Table 1: Mode and Frequency of The Lab Staff Communications with Stakeholders**

Stakeholder	Mode	Frequency
Young People / Participants	Face-to-Face	Weekly
Parents	Face-to-Face	Weekly
	Email	Occasionally
Mentors	Face-to-Face	Weekly
Young and Well CRC	Email	As required
	Meetings	As required
Other Stakeholders	Email newsletter	Occasionally
	Media	Infrequently
	The Lab website	Ongoing

#### 1.4.7 Outputs, Awards and Recognition

The Lab experience has generated or contributed to a range of academic outputs including one research paper (currently in press) and six conference presentations, three of which have been published in conference proceedings (see Appendix 1 for details).

The Lab Blog, an online (privacy controlled) forum for The Lab staff and mentors to reflect on The Lab's implementation, is also an output.

The Lab won an Inclusive Business Achievement Award (2011 Maribyrnong Inclusive Recognition Awards). The Connected Lives Project, a precursor of The Lab, also won the Award for Best Community Engagement in 2010 (Business-Higher Education Round Table [B-HERT] Awards).

The Lab has been featured in a range of newspaper articles.

## 1.5 PROCESSES AND PROCEDURES

### 1.5.1 Equipment, Resourcing and Finances

The Lab has a formal operations budget managed by administrative staff at Victoria University.

### 1.5.2 Documentation, Auditing and OH&S

At the time of the evaluation, there was little formal documentation relating to The Lab in regards to all aspects of strategic planning, policies and procedures and occupational health and safety. The Lab staff described the reason for this as wanting to allow The Lab model to emerge based on their participatory approach, and not wanting to limit this evolution through too much imposed structure. Informal documentation of The Lab's approach had occurred to some extent through The Lab website and blog.

- The students operate under a 'golden rule' principle – treat others as you would like to be treated.
- The mentors and staff have Working with Children checks.
- The Lab staff have some shared agreements around what happens if there is an incident at The Lab.
- The Lab has both General Liability and Public Liability insurance cover to \$20M through Victoria University.
- The Lab does not have a formalised Risk Management Plan.

### 1.5.3 Monitoring and Evaluation

There is currently no formal monitoring or evaluation strategy in place. The Lab has a research framework and a range of research activities, but not a formalised evaluation strategy.

The Lab has developed some tools that could contribute to such a strategy, including The Lab Blog (mentioned previously), a database of emails received, and a parent survey that has been undertaken once.

This evaluation is the first evaluation undertaken of The Lab.

## 2. Evaluation Methods

This evaluation has used a cross-sectional design, with an emphasis on qualitative methods. In order to gauge the impact of The Lab, ideally pre- and post-quantitative measurements would be collected for a range of health, wellbeing, learning and development indicators, for participants as well as their families. Yet, this was not possible given the timeframes for this evaluation. In addition, pre-measures were not taken at the time The Lab participants started at The Lab. Further, as has been mentioned, impact objectives for The Lab have not been formally agreed upon or documented by The Lab staff. Thus, a qualitative approach to gauging impact was taken, which allowed exploration of the range of impacts from the perspective of evaluation stakeholder groups.

This evaluation has been conducted in three key stages. First, informal meetings were held between the evaluators, The Lab staff and representatives of Young and Well CRC, culminating in an evaluation plan, submitted on 3 October 2012 and approved soon after (Donahoo and Steele, 2012). Subsequently, background information about The Lab was collected to respond to evaluation process questions 1 through 3. Next, a review of existing data collected by The Lab staff was undertaken to provide preliminary responses to process evaluation questions 4 and 5 and all impact evaluation questions. This review culminated in The Emerging Themes Paper (Steele and Donahoo, 2012), submitted on 30 November 2012. Finally, the evaluators collected new data from evaluation stakeholders in order to directly respond to the evaluation questions. This report, submitted on 2 February 2013, is the culmination of all three evaluation stages.

This evaluation study was approved by the Victoria University Human Research Ethics Committee (VU HREC 12/135). The two evaluators conducted all evaluation activities.

### 2.1 BACKGROUND INFORMATION

Since there was no clear or formal documentation available on The Lab history, background, approach or implementation, a conversational interview was conducted by the two evaluators with the two The Lab staff. This interview provided the information in the 'Description of The Lab' section of this report, as well as assisting the evaluators to respond to the first process question 'How does The Lab operate, and is this consistent with the program plan?'

Evaluators reviewed and summarised available quantitative data regarding participant attendance and characteristics to respond to process questions 2 and 3, 'How many participants have taken part in The Lab, and what are their characteristics?' and 'What is the pattern of attendance at The Lab?' This was augmented by informal conversations between the evaluators and The Lab staff to understand reasons for participants dropping out or attending irregularly.

### 2.2 EXISTING DATA REVIEW

For the review of existing data, four data sources were reviewed. The first data source was The Lab Parents Survey, which was completed online by parents of the Thursday Lab group approximately 13 months after the group started. The survey was designed by The Lab staff to provide feedback on impacts of The Lab on participants and families, and was based in part on a published Quality of Life measurement tool (Schallock et al, 1989). Parents of 14 of the 16 participants at the time of survey implementation completed a survey.

The second data source was The Lab Blog, consisting of 39 field notes written by The Lab staff, The Lab mentors, and the then The Lab Parent Coordinator (note: this position no longer exists).

The third source was a database of feedback emails and correspondence sent to The Lab staff from parents of participants and potential participants, along with interested parties from interstate and overseas. All correspondence was kept and the evaluators reviewed a substantial amount of this data.

The final data source was a collection of video interviews with three participants and four parents from the Thursday Lab group, and both The Lab staff members. The videos were taken seven months after the Thursday group commenced, and were taken by the parent of a The Lab participant (a video producer) to capture participants' experiences at The Lab. Approximately five minutes of video per interviewee was available for review. The videos were transcribed by the authors of this report.



All data were analysed using the framework approach (Pope and Mays, 2000), with analyses focusing on responses to the evaluation questions. This approach is recommended for use in applied or policy relevant qualitative research in which the objectives of the study are set in advance. The analysis process involves five steps: familiarisation with raw data, identifying a thematic framework, indexing the data, charting the data, and mapping/ interpretation. Information gained from distinct stakeholder groups was compared and contrasted when divergent views were apparent. Requests for copies of data collection instruments or data involved in the review of existing data should be directed to The Lab staff.

## 2.3 NEW DATA COLLECTION

New data were collected through 'roaming interviews' with participants of the Thursday Lab session, a focus group with parents of Thursday Lab participants, a focus group with the two The Lab mentors, and one-on-one interviews with The Lab staff.

### 2.3.1 Sampling, Recruitment and Participation

Due to evaluation time constraints, it was not possible to collect data from participants and parents of both the Wednesday and Thursday Lab sessions; data collection focused on the Thursday group since they could offer information on longer-term impacts compared with the Wednesday group.

All participants in the Thursday Lab group were invited to participate in roaming interviews. Invitations were emailed to participants through their parents, who provided consent for their child to participate. Ten of the 15 participants available at the time of data collection were involved in interviews. Interviewees were males aged between 10 to 15 years, with a median age of 13 years.

Parents and guardians of all participants in the Thursday Lab group were invited to participate in a focus group. Invitations were sent via email. Eight parents participated: five mothers, two fathers and one grandmother. They had been involved with The Lab between 11 and 23 months, and had varying levels of education.

The Lab staff and mentors were invited to participate over email, and all took part in the evaluation.

### 2.3.2 Procedures

Data collection protocols were derived from the evaluation questions (see Appendix 2). The focus groups and interviews with The Lab staff were semi-structured; the order of questions were varied to assist a natural conversational flow, and to allow for unanticipated but relevant topics to be pursued. Unscripted prompting and probing was used to seek clarification and more information. Interviews with The Lab staff and focus groups were under one hour in duration. The focus group with parents was held in the parents' room at The Lab during a Thursday Lab session. The focus group with mentors and interviews with staff were also held at The Lab premises.

Roaming interviews were conducted with participants during a Thursday Lab session. This methodology involved an evaluator talking to participants while they were actively taking part in a session, rather than removing them from the environment as would be done for a more traditional interview. The interviews were unstructured, with questions asked in the context of an informal conversation. This methodology was designed in collaboration with The Lab staff, and was an attempt to overcome the difficulties encountered in engaging Lab participants in previous research activities involving formal interview, as has been discussed. All roaming interviews were under ten minutes in duration.

All focus groups and interviews were recorded and transcribed.

### 2.3.3. Analysis

All data were analysed using the framework approach (Pope and Mays 2000), mentioned previously. For this report, findings from both the new and existing datasets are presented, with an emphasis on the new data since that was purposively collected to answer the evaluation questions.



## 3. Evaluation Results

### 3.1 HOW DOES THE LAB OPERATE AND IS THIS CONSISTENT WITH THE PROGRAM PLAN?

The Lab's operation was described in the Description of The Lab section of this report. The Lab operates through an agile and emergent approach. As has been discussed, The Lab's approach draws on the Agile Design approach used by technology and software development companies (Beck et al, 2001) and also the work of the 826 Valencia Street project in the United States (826 Valencia Street, n.d.). In keeping with these underpinnings, The Lab's operation has evolved since it began. Formal documentation of the agile and emergent approach, how the approach has shaped changes made, and actual operational changes would strengthen The Lab's evidence base.

### 3.2 HOW MANY PARTICIPANTS HAVE TAKEN PART IN THE LAB, AND WHAT WERE THEIR CHARACTERISTICS?

A total of 20 participants have attended Thursday Lab sessions, 19 of whom are male. The age of participants ranges from 10 to 16 years, with a median age of 13 years. Since the inception of the Thursday group, two male members have dropped out; thus, the current group consists of 18 males. The age profile of the group remains the same.

Eleven participants in total have attended Wednesday Lab sessions, all of whom are male. The age of participants ranges from 12 to 16 years, with the median age being 13 years. There have been no official drop-outs from this group.

Information on characteristics of The Lab participants other than age and gender has not been collected at The Lab.

In addition to the session participants, both the Wednesday and Thursday sessions are attended by an older youth (aged 16 and 17 years) with Asperger's Syndrome. These young people are not considered by The Lab staff to be participants because their initial engagement and ongoing involvement is independent of their parents. Of note, one of the youth is intermittently employed by The Lab staff for specific projects.

A total of 118 participants have registered to attend The Lab holiday sessions, with an average of 13 registered per session. However, a reliable attendance list has not been kept and staff report that these figures underestimate attendance since a number of friends and siblings of registrants often take part. For example, the most recent holiday session had 24 attendees, only 17 of whom had registered. No records have been kept of age, gender or other characteristics of holiday session attendees.

### 3.3 WHAT IS THE PATTERN OF ATTENDANCE AT THE LAB?

The pattern of individual level attendance at a program points to the level of participant engagement. Individual level attendance at The Lab has not been reliably recorded. The Lab staff estimate that 15/18 (83%) of the Thursday attendees and 10/11 (91%) of the Wednesday attendees participate at least three times each month.

The Lab staff has not formally reflected on reasons why some participants may be less engaged than others. At the time of evaluation interviews, they speculated that one participant's low attendance since September 2012 was connected with the shift in the mentors' approach towards encouraging active creation of new content, as mentioned previously. The Lab staff are not sure if this participant will continue at The Lab. The brother of another of the less regular participants has told staff that this participant is 'not always in the mood' (Dale Linegar, email communication, 24 January 2013). Another participant stopped attending for some time because he was injured, but has since returned, albeit irregularly to date.

Situations surrounding participant dropouts offer an opportunity for reflection. As has been mentioned, two participants have dropped out of the Thursday Lab group. The two participants are brothers who stopped attending after two sessions because one of them had a behavioural episode at The Lab. He *'found it hard to cope being in a large group within a small room (Footscray location) and had a meltdown; was used to doing one-*

*on-one sessions with Dale.*' (Stefan Schutt, email communication, 24 January 2013) The participant had been attending one-on-one sessions with Dale for the previous two years and had also attended holiday sessions, all without incident. Subsequent to the episode his parents were asked to stop bringing him to sessions, until a behavioural management strategy was decided upon. Since then he has come back for individual sessions held with Dale and mentors on Wednesdays, and has expressed a desire to re-join a regular group.

### 3.4 HOW SATISFIED ARE PARTICIPANTS, THEIR PARENTS, STAFF AND MENTORS WITH THE LAB?

The overall satisfaction of all stakeholders engaged with The Lab is very high.

Participants readily discussed the fact that The Lab was something they looked forward to each week. They often compared The Lab to school and in doing so presented it as offering a level of satisfaction well beyond formal education models they engaged with.

The parent group were very vocal with their satisfaction and advocated strongly that The Lab 'exceeded expectations.'

At the parents' focus group a small number of parents explored their satisfaction at a deeper level. They articulated that familiarity and ongoing engagement with The Lab had made it an essential (but also everyday) part of their lives. They sought to represent something that was more than just satisfaction; that The Lab was now an important part of their children's lives. As one parent explained:

*'Down the track you completely forget the first several weeks of coming when it was a complete revelation and transformation, and you know that something that you had in your kid's lives that you didn't think you had before and something perhaps you didn't even think you were missing before this came along... You know, in a sense that your kids should have something like this. That's how I feel about it. And yet there are so many kids out there who don't have it. So, yeah, my satisfaction level doesn't really cover it.'* (Parent of a The Lab participant)

As parents tried to explain their satisfaction with The Lab, they often referred to the impacts of The Lab on themselves and their children (as discussed in later sections of this report).

Mentors and staff attribute their satisfaction to the relationships they are forming with participants and parents, along with their sense that the program is successful.

The general feeling of participants, parents and those who work with The Lab is probably best summarised by one staff member who said, *'I think it's something that's quite special and worth continuing with.'* (The Lab co-founder)

It is important to note in regards to the question of satisfaction that data were not obtained from participants who have dropped out of The Lab or who are irregular attendees, or parents of these participants (as referred to in section 3.3).

### 3.5 WHAT FACTORS HAVE HELPED OR HINDERED IMPLEMENTATION OF THE LAB, INCLUDING RECRUITMENT AND ENGAGEMENT OF PARTICIPANTS?

The evaluation data strongly represent that a key factor in assisting the implementation of The Lab has been the approach taken by staff and mentors to engage and support the young people.

*(On mentors) 'And they use their own time to help other people. And umm they help everyone instead of just one person. And take time and, and they explain things easily and they don't go too fast or just walk off or that.'* (The Lab participant, male, aged 14)

One participant independently emailed ABC3's technology and gaming program Good Game Spawn Point, referring to his mentors as *'[t]he smartest technology professionals [who] started our club.'* (The Lab participant, male, aged 12)

Participants respect the mentors and also the way they go about engaging with young people. This process of engagement was spoken about by nearly every young person interviewed, in different ways, all pointing to the benefits offered by the approach taken. It was captured in statements about how the program helped to make them feel more comfortable, and was discussed as being a stark contrast to their experience of school.

*'I think it's a good place for kids to meet other kids. For kids to talk about the same things. Like, well, a lot of people like Minecraft here. Yeah. Cos this is the place where kids like the other kids.'* (The Lab participant, male, aged 12)

The Lab's engagement approach creates a space where participants develop a sense of belonging. This sense of belonging is another strong theme that arose in participant interviews, and which appears to have helped in terms of establishing the friendships and community that participants refer to. These themes are discussed as impacts of The Lab, later in this report.

The value of the mentors was also referenced by The Lab staff who reflected on the mentors saying, *'The fact that they don't hassle the kids. That there's no set thing that they have to do on that day, but they're always around and available to help them with, with their particular questions.'* (The Lab co-founder)

And, despite not regularly being present in the room (parents can check in with their child if required), even parents were clear that they value the way The Lab engaged their children. One parent acknowledged, *'The mentors never use the word can't.'* Several parents spoke about respect, and the fact they felt their children were respected within what The Lab offers.

Across all the data, the quality of the mentors and the commitment of the staff in implementing and developing The Lab are key themes that emerged. However, a secondary beneficial theme in The Lab implementation is the physical space. This was present in the initial review of existing data and was further presented as a helpful aspect by participants and Staff in interviews. It was best described by one of the participants (aged 12) who said, *'I like how it's in a little open community and it's not like there's just little cubicles everywhere or whatever. It's all open, so you get to talk to people.'* This participant linked the openness with the ability to engage and look at what others were doing, which he saw as helping him make friends in the room.

The staff link the space with the approach they are using at The Lab, *'You know, so there's something about that space, the kind of, the relaxedness of it, and the relative lack of formal structure, and the sense that it's their space to do what they want to do, that seems to be an attractive thing, I think, for them.'* (The Lab co-founder)

The data indicate that it is a range of things that have helped the establishment and success of The Lab. But, more significantly, that none of these operate in isolation. The key factors of the engagement approach, the quality and characteristics of mentors, the commitment of staff, the physical space and location have all contributed to developing a sense of community and method of delivery that combines to make The Lab what it is.

The Lab has not been without its challenges. Key areas that have hindered the establishment of The Lab include: a lack of funding in terms of addressing waiting lists and facilitating further service, the at-times challenging dynamic within The Lab space, and the issue of the waiting list.

The funding issue was reflected upon by The Lab staff. A staff member identified the challenge of obtaining funding as hindering the growth of The Lab to date, and being a concern for ongoing delivery of The Lab. When reflecting on the challenges of obtaining funding, a staff member noted that:

*'Overall it's not a concept that fits neatly into any box. So it crosses over, which is its strengths and its weakness at the same time, in terms of get, getting formal support. It crosses over between health, disability, education and youth areas so when you're going for funding it's been a hard sell. Because it doesn't necessarily fit into any particular category that easily, which is sort of ironic because it is the most, has, has the most, has had the most impact of anything I've ever done, in this field.'* (The Lab co-founder)

Mentors and staff acknowledge that a challenge has been the management of participants in the room. While infrequent, during the interviews they described moments where the behaviours of some participants were difficult. They talk about times when *'a child has come in without their medication. And they're more agitated than normal. Or they've had a bad day at school. They've been bullied, umm, umm, and they're just not feeling very good.'* (The Lab mentor) This is also discussed in relation to negative impacts on pages 18–19).

It is important to point out that these occasions have in fact resulted in beneficial changes to the space, and discussions with participants and mentors that have (after a couple of weeks) resulted in a positive change for the participant, as was explained by one staff member.

The large and growing waiting list for The Lab indicates a significant demand for the service. In this light, the lack of resources available to expand The Lab is a hindrance to engaging participants.

The lack of clear or reinforced inclusion criteria could be deemed a hindrance in that potentially inappropriate participants (in terms of diagnoses) are taking up scarce places within The Lab sessions.

The location of The Lab may also be a hindrance to participation for some individuals.

### 3.6 HAS PARTICIPATION IN THE LAB IMPROVED THE HEALTH AND WELLBEING OF PARTICIPANTS?

*'I feel better about all this and if there's something going wrong [I] just come here and it seems to make it better.'* (The Lab participant, male, aged 13)

This evaluation cannot show definitive changes in participants' health and wellbeing over the period of their involvement in The Lab due to a lack of data gathered when participants enrolled; however, evaluation findings indicate strong support for increases in participants' wellbeing over this period of time.

The young people articulate an experience that demonstrates improved self-esteem, newly formed friendships and a sense of belonging at The Lab.

The importance of making friends and building on their social skills is significant given the accepted perspective that these are areas in which young people with Asperger's Syndrome have difficulty:

- *'Oh, well, I love, I love meeting my friends here, every week, and being able to work on my game.'* (The Lab participant, male, aged 10)
- *Q: Why do you come to the lab every week? A: Umm to have, to have people to play with.* (The Lab participant, male, aged 12)

A few parents said that participants at The Lab were the first friends their child had ever had.

*'And they've got friends... at school they probably don't care anymore if they've got no friends, cos they know when they get here, they've got friends. And they've got, I can't say play dates, I'm not allowed to use that term anymore, but they have catch-up days.'* (Parent of The Lab participant)

There were a number of examples of young people whose mental health had improved significantly in terms of behaviours such as self-harm:

- *'You know, they've gone from self-harming and stuff like that, like, you know, X used to self-harm and everything. I don't think he would have done that in all the time since he started with The Lab.'* (The Lab co-founder)

Other instances of improvement in mental health included young people's medications having decreased or being changed, reportedly due to their experiences at The Lab.

A number of parents discussed a reduction in their child's anxiety and their child being more calm and focused as a result of their attendance and experience at The Lab, as was discussed in The Emerging Theme Paper (Steele & Donahoo, 2012).

The Lab also appears to have had a beneficial impact on some participants' levels of motivation, as reported by parents. The motivational changes have been in terms of future work and employment possibilities, but also in regards to their day-to-day life. One staff member spoke about this in terms of participants now having dreams. He said:

*'I'd say almost all of them are... happier having been to The Lab. They have more direction in life, and I'm not talking about, you know, what uni course they're going to get into. They're just, they have dreams, and everybody*

*needs dreams I think, and a lot of these kids didn't have dreams. And that's a really crushing thing for a young person, umm, even if you've got silly, you know, pie in the sky dreams, that's fine.'* (The Lab co-founder)

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### 3.7 HAS PARTICIPATION IN THE LAB RESULTED IN ANY LEARNING AND DEVELOPMENT OUTCOMES FOR PARTICIPANTS?

As would be expected, the key impact of The Lab related to learning is the development of technical skills in the areas of programming, 3D, digital design and gaming. In interviews, the participants readily articulated the technical areas that they had focused on at The Lab:

- *'Umm, they've taught me the basics of making the games, like the platform games and that stuff.'* (The Lab participant, male, aged 11)
- *'Recently I've been learning how to do flash, set up a new program and all that.'* (The Lab participant, male, aged 13)
- *'I just know all these awesome things, like being able to use game maker and all these other cool things that I never knew, and I could never have learned if I didn't come here.'* (The Lab participant, male, aged 12).

The participants spoke about The Lab as being the only place where they could learn these skills:

*'They don't teach stuff like this, in normal environments in school. All they teach you is just how to use like normal documents like word and stuff that never actually is really useful, sort of, more self-explanatory... And like some of the stuff I'm learning is university level.'* (The Lab participant, male, aged 12)

While The Lab staff and mentors described participants as having varying abilities, they emphasised the expertise of some participants who are moving beyond even their own competencies in certain areas:

*'He did a portal mod. And we were blown away, and he did a really good job. And I'm like, he's teaching himself really, really good stuff. We don't know how to do this yet either (laughter). He could maybe teach us.'* (The Lab co-founder)

A range of games, animations and other output have been produced by participants, which, although not formally reviewed for this evaluation activity, represent the breadth and depth of their technical learning.

A theme common to discussions with parents and The Lab staff was whether and how The Lab might help participants find employment in the future. While this remains unanswered, mentors and staff concur that most participants are learning saleable skills, and certainly many participants are envisaging working in IT in the future. As seen in this interview exchange:

*Interviewer: Tell me, what do you think the future means with you being able to program and do those sorts of things?*

*Participant: Well I can program games and that. Or maybe even have a team of my own and make a game.* (The Lab participant, male, aged 14)

Or as reflected by this parent:

*'He sees himself working in IT for the future and has told me he will need to shift to the US to further this career in the game making industry. I asked won't he worry being in the US so far away and he says "a bit at first but I will be fine, don't worry mum" this would never have been a conversation we would have been having prior to The Lab's involvement.'* (Parent of The Lab participant)

It appears that The Lab experience may be helping participants to contextualise the importance of subjects at school beyond those related to computing and programming. Here, a The Lab staff member describes a relevant incident.

*'He [a participant] sent me an email one day saying why do I need to learn maths. And just to be able to say to him, and to say to all the kids, this is why Maths and English and all these things are important, like you need to know this stuff, if you want to make games, you have to*

*do well at all these other things at school. Yes history matters, yes science matters... If you're gonna be a great game maker one day, you're going to need to know these things. And that, I think, changes their minds a lot. All of a sudden they can see why that stuff matters.'* (The Lab co-founder)

A final outcome emerging from the data was an improvement in participants' motivation to learn, with one parent noting, *'he's really enthusiastic and he's enjoying learning which doesn't happen at school'* (Parent of The Lab participant) and another explaining that *'with The Lab's support, encouragement and guidance, my son is now eager to further develop his interests and skills.'* (Parent of The Lab participant)

### 3.8 HAVE THERE BEEN ANY POSITIVE IMPACTS OF THE LAB FOR PARTICIPANTS' FAMILIES?

*'This has lifted us all, to see our sons and daughters happy.'* (Parent of The Lab participant).

Several interconnected positive impacts for families were discussed by parents at the focus group. A strong theme was that of parents developing an appreciation of their child's skills, and through this, a sense of pride in their child:

*'I think the positive thing for me is, and this is going to sound a little funny. Finally I can brag. You know, now I can say, look what my son made. You know, you're proud of your kid.'* (Parent of The Lab participant)

A greater understanding of their child's abilities has brought, for many parents, a new sense of hope for their child's future:

*'I thought computers were just for games and he wouldn't get much out of it and my whole thoughts on it have changed and I see that there's a whole future in technology for kids like X with Asperger's to go forward and to grow and have a career out of it that they can enjoy that they are good at and they can feel good about themselves.'* (Parent of The Lab participant)

There was widespread agreement amongst the parents that The Lab has helped to reduce their stress levels, as demonstrated in the following dialogue:

*Parent 1: I think someone could have taken a photo of all of us when we first arrived to The Lab, you know all crazy-haired, bug-eyed.*  
*[laughter]*  
*Parent 2: You know, you haven't changed at all.*  
*[laughter]*  
*Parent 1: But you know, umm, I think we have.*  
*Parent 3: Yeah I do too.*  
*Parent 4: The first time was absolutely over the top.*  
*Parent 1: And yet now you see people walking in here it's completely — Hawaii, you know, Mambo shirts.*

Finally, a strong theme emerging from parents was the sense of community and an expanded support network gained through meeting staff of The Lab and parents of other The Lab participants.

*'It's isolating in so many different ways, being a parent of a kid with Asperger's or Autism, and this does break down that isolation in a big way, a massive way, you know it shatters that isolation.'* (Parent of The Lab participant)

There is also a sense that The Lab has impacted not just on parents, but on the household more broadly:

*'All of a sudden, X is through The Lab... and if X is up feeling good about things, he's got something to look forward to, we have as parents...and all of a sudden the household kind of feels like we've got it together.'* (Parent of The Lab participant)

Finally, several parents also mentioned The Lab experience had resulted in their other children developing greater respect for their sibling who has Asperger's Syndrome, possibly because they could see that their sibling now had a visible group of friends.



### 3.9 HAVE THERE BEEN ANY NEGATIVE IMPACTS OF THE LAB FOR PARTICIPANTS OR FAMILIES?

Very few negative impacts of The Lab were mentioned in data collection exercises. The following response was typical of participants:

*Interviewer: Have there been any bad things about The Lab, or is it all pretty good?*

*Participant: Never been a bad thing.*

*Interviewer: Never been a bad thing. [laughter]*

*Participant: Except for when sometimes we muck around. [laughter]* (The Lab participant, male, aged 11)

When asked about potential negative impacts of The Lab, mentors and staff pointed to a handful of issues that had arisen during The Lab sessions.

First, some participants are withdrawn and difficult to engage in their first The Lab session(s). The mentors explained that this was likely to be a result of the children being somewhat overwhelmed in the new environment. They went on to clarify that this behaviour usually *'goes away pretty quickly.'* (The Lab mentor)

Second, there have been a few occasions in which a regular participant has become agitated during a session and has had to be removed from the room to calm down. In most cases this is effective; however, there has been one incident in which the mentors, staff and participant's parent were unable to calm the participant; this resulted in the participant and his brother dropping out of The Lab. At the end of this particular session, another participant commented he hadn't felt safe during the episode (as recorded in The Lab Blog).

Third, another group of 'miscellaneous' incidents were described by staff and parents as potentially having had negative impacts in the short-term, but having led to positive outcomes. Here is one such incident being described by a Lab staff member, and a parent:

*'Another incident I can think of is of a kid playing, well we used to run shared Minecraft servers ourselves, for kid to play, and one had a melt-down after one kid destroyed his stuff. And he was very upset about it because he's hardly had any friends before, and this kid was supposed to be his friend, and ended up doing something nasty to him. But by the next week, they were playing together again. So negative in the short-term but in the long-term if you were to look at it in a different way, it's about building resilience and being able to understand how friendship works, and some of the ways that it kind of does work in weird ways.'* (The Lab co-founder)

*'We all, the parents and Dale, we all had a good laugh about it and then he went in and had a chat to the children, and, and, kind of made each other see from the other one's point of view.'* (Parent of The Lab participant)

A final issue, mentioned by one of The Lab staff members, was an incident in which a YouTube clip with adult content was shown by one participant to another during a session. (Note that The Lab has an open internet policy). One participant told his parent, who complained to The Lab staff. Parents did not raise the incident in the focus group session.

Mentors and The Lab staff explained that to their knowledge none of the issues listed here have led to longer-term negative impacts to participants.

In the existing data sources that were reviewed previously, two other negative impacts of The Lab were mentioned. One parent said her son was tired and irritable after The Lab sessions because he does not take breaks during sessions. The lack of breaks was explained by one participant as follows:

*Interviewer: If you were in charge of The Lab how would you make it better?*

*Participant: Well you'd be able to eat but if you made a crumb you'd have to pick it up and you weren't allowed to leave* (The Lab participant, male, aged 12).

*Interviewer: OK, so you'd make it so you could have some food. Is there a no food rule is there?*

*Participant: Yeah. You're not allowed to eat unless you eat in the actual umm where, the room where the parents are. Or outside.*

*Interviewer: And so no one eats because everyone just wants to be playing on computers?*

*Participant: Yeah. Used to be like you'd eat and play, eat and play.*

Another parent mentioned in the parent survey data that it was difficult for her son to 'balance' The Lab and school during the week.

Another issue mentioned by parents not so much as a negative impact of The Lab but as a gap in The Lab's activities, was that The Lab could help participants forge links to future study and employment opportunities in the areas of computing and programming.

The only negative impact on families that was mentioned in the evaluation exercise was that it was difficult for some parents to transport their child to sessions at The Lab because it was located a reasonable distance from their home. One parent mentioned it may be better to hold sessions on weekends, but staff explained in one-on-one interviews that this would not be feasible for the mentors.

### 3.10 WHAT FEATURES OF THE LAB CONTRIBUTE TO POSITIVE AND NEGATIVE IMPACTS ON PARTICIPANTS AND THEIR FAMILIES?

*Interviewer: What's the main reason to keep coming back?*

*Participant: Umm just because it's fun. Umm, you enjoy yourself; you get to spend time with friends. (The Lab participant, male, aged 12)*

To understand how participants conceptualised how The Lab benefitted them, they were asked to nominate the best thing about The Lab, and to explain why they continue to attend sessions. Participants overwhelmingly described The Lab as being fun and enjoyable; a place they looked forward to coming to each week. Many appeared to attribute this to the friendships they have made through The Lab. One participant described The Lab as being 'a good place to learn how to make friends better.' (The Lab participant, male, aged 13) Some participants were able to pinpoint why this was the case; for example, participants having similar interests, and genuinely liking one another.

As mentioned on page 14, the open physical space was also mentioned by participants as being a factor that encouraged social interaction.

Continuing with this theme, The Lab mentors talked about participants being able to see what each other are doing, and commonly gathering around computers to learn from each other – and in doing so, connecting and forming friendships.

Mentors also pointed to the fact that participants are 'encouraged to do things that are cool and fun' (The Lab mentor) as being supportive of burgeoning friendships as well as promoting wellbeing for participants.

In contrast, some interviewees, participants included, grappled for words and concepts to explain what it was about The Lab that encouraged friendships and social interaction. Some referred to a certain 'atmosphere' (Parent of The Lab participant), or the 'third space' (The Lab co-founder), drawing on the academic work of Guitierrez & Stone (2000). In the words of one participant (aged 13):

*Interviewer: And why do you think The Lab has helped you to connect with those guys?*

*Participant: Umm. I'm not really sure (The Lab participant, male, aged 13)*

*Interviewer: Not sure?*

*Participant: Yeah... I'm not really sure how it does it. It's a secret. [Laughter]*

*Interviewer: It's a secret no one knows, it's just how it happens. That's so cool.*

Another strong theme to emerge from participants was the availability of mentors and staff at The Lab to help them work on their technical skills, 'People will help you, umm like if you wanted to create a mod and that.' (The Lab participant, male, aged 13) Participants recognise that they are learning things that they wouldn't be able to learn by themselves.

The specific qualities of and approach taken by The Lab mentors appear to have been important in shaping the impacts of The Lab to date. Participants spoke about mentors being available to help everyone, and as being patient and respectful. A member of staff spoke at length about characteristics of the mentors that he feels are critical to The Lab's impact on participants:



*'The attitude of the mentors... the fact the mentors are there as role models, I think that's very important, who share some of their interests with the kids. So the kids can relate to them, but also look up to them at the same time. The fact that they don't hassle the kids. That there's no set thing that they have to do on that day, but they're always around and available to help them with, with their particular questions. Umm, but also the fact that the, the mentors are highly skilled. So they have to look up to the mentors, they have to be more skilled than they are, and often in the world around them, with, with technologies, you know, and, and schools and teachers, you know, they know more than the teachers do And they know more about some things than the mentors do too, and that's fine, but overall, you know, the fact that these guys are making a living from, from coding games, and that they have a high level professional knowledge of programming and stuff is important.'* (The Lab co-founder)

Some of the positive impacts on participants appear to have arisen directly as a result of the relationships that have developed between themselves and The Lab staff and mentors (see the example on page 17 of The Lab staff helping participants understand the importance of school).

The individualised and user-focused environment of The Lab were discussed by The Lab mentors and staff as reasons for The Lab's impacts in both technical skill-building and in increasing participants' self-esteem. Participants also pointed to this approach as having been useful:

*Interviewer: Is there something special about The Lab that means it's different to school, or different to other places?*

*Participant: Hmmm yeah, probably... well it's different to school labs and that. I mean... normally you're only told what teachers tell you to do, but if you actually know if that's the way you want to do something, then it's good to come here and to learn about it, you know. (The Lab Participant, male, aged 13)*

*Interviewer: Yeah, cos at school they tell you what to do, and here you're allowed to...*

*Participant: Yeah.*

*Interviewer: They just let you do whatever you sort of really want to work on do they?*

*Participant: Yep.*

Last, one staff member pointed to the fact that The Lab is located in an IT workplace as potentially important in helping participants envisage themselves working in such an environment in the future.

Parents reiterated many themes expressed by their children, and spoke fervently about the commitment of the Lab staff and mentors:

*'The underlying reason why The Lab "has worked" is the remarkable understanding, empathy and efforts of the founders and staff.'* (Parent of The Lab participant)

On pages 17–18, a range of positive impacts of The Lab on families were listed. Parents attributed most of these to a carry-on effect of the impact The Lab has had on their children. For example, parents inferred that the reason The Lab had reduced their stress levels was that they could see their child was happier as a result of attending The Lab. Having said this, there were three other factors that parents felt had had a direct and positive impact on themselves. The first was the parental community that has built up around The Lab (mentioned on page 17) and which is likely to have been strengthened by the availability of the Parents' Room for parents to meet during The Lab sessions. The second was the participatory approach taken to implementation of The Lab, whereby parents are regularly approached by staff to discuss issues that have arisen. Underlying many comments made by parents was a sense of empowerment that came from being included in this way; one parent even referred to the parent group as 'co-creators' of The Lab. The third was the time staff had spent with them, explaining their child's strengths and progress during The Lab sessions, which had enabled them to feel a greater sense of pride in their child than they had experienced previously. For many parents this is likely to be the first time anyone has actively focused on their child's strengths.

Turning now to consider the potential negative impacts of The Lab that were mentioned on pages 18–19. Mentors and staff discussed one-off behavioural incidents ('melt-downs') as an almost inevitable element of working with young people with Asperger's Syndrome, and not directly attributable to aspects of The Lab environment.

When discussing the incident of the inappropriate YouTube clip watched during a The Lab session, staff felt it was an example of fairly typical behaviour for a group of young males.

The lack of breaks during The Lab sessions may lead to participant fatigue, which appears to impact on post-session behaviour, at least for some participants.

Finally, the location of The Lab has created some difficulties in transporting children to sessions, as has been mentioned.

## 4. Discussion

This report has presented findings from an evaluation of The Lab, a club for 10 to 16-year-olds with Asperger's Syndrome. This section discusses the key findings in the context of the defined purposes of the evaluation, which were to summarise the impacts of The Lab to date on participants and their families, to provide feedback to staff on key enablers and barriers to project success, and to provide recommendations for ongoing implementation of The Lab, replication of The Lab in other locations, and for future monitoring and evaluation activities. A further purpose was to provide information that can be used to advocate for further funding; we trust that this report offers valuable information from which funding applications could be crafted.

### 4.1 IMPACTS OF THE LAB

This evaluation has identified that those engaged directly with The Lab express a high level of satisfaction. They primarily express this satisfaction in relation to the quality of the experience, the benefits to the young people who participate, and the commitment and quality of the staff and mentors who run The Lab. The evaluation was unable to determine the satisfaction level of those who had discontinued with the program or who were on a waiting list and had not yet engaged with the weekly sessions held by The Lab.

This evaluation clearly points to a range of benefits of The Lab for young people with Asperger's Syndrome. The health and wellbeing of participants appears to have improved through participation in The Lab, as described by participants, parents and staff. The improvements relate to social engagement and activity including the development of friendships and overall happiness and motivation levels. Improvements in mental health including the cessation of harmful behaviours and positive changes to medication management were also found. Key learning and development impacts appear to be the development of technical skills alongside a heightened motivation to learn, a newfound appreciation for some participants of the importance of school, and the ability of some participants to envisage working in IT or computer programming in the future.

Not only are these benefits remarkable in and of themselves, findings from this evaluation indicate that The Lab is unique for these participants – The Lab extends and engages participants more than any other setting or service they have previously attended, and certainly more than the traditional school model.

The evaluation has also highlighted some positive impacts for families. In particular, The Lab has helped parents to appreciate their child's skills and feel proud of their child, reduced their stress levels and expanded support networks. Parents reported that The Lab experience has also helped their households become more functional and assisted in improving relationships between their children with Asperger's Syndrome and their siblings.

A number of events that may have had a negative impact on participants were mentioned by The Lab staff in evaluation interviews, such as participant 'melt-downs' that can include violent behaviours, and the viewing of inappropriate web content during sessions. The evaluation is unable to quantify these, as there is no formal documentation that records incidents. Another issue mentioned as having negative consequences was that of the lack of breaks during The Lab sessions, which was raised by both a participant and a parent.

### 4.2 KEY ENABLERS OF PROJECT SUCCESS

The evaluation findings point to a core set of four interrelated factors which appear to have facilitated the success of The Lab: the commitment of staff; the personal and professional characteristics of mentors; the overall approach taken to The Lab, which encompasses the 'emergent approach' and the fact that the learning is user-directed; and the nature of the physical space. Interestingly, these factors arose as the most important elements both for supporting the implementation of The Lab and in facilitating positive impacts on participants.

The commitment and enthusiasm of The Lab staff has been the driving factor in keeping the project afloat. This is particularly obvious when considering the lack of sustainable funding for The Lab and the many unpaid hours both staff members have worked towards this project.

The personal characteristics and skills of mentors also appear to be crucial to the success of The Lab.

Success of The Lab appears to be strongly associated to the overall approach taken by staff. Their desire to incorporate different theories that combine to broadly represent what we call the 'emergent approach' (see

definition at 1.2.1) have clearly helped to establish The Lab and offer the chance for young people to engage in a space they feel is safe and not overly governed, where they have some ownership and a sense of place. Another related element of the overall approach to emerge from the data was the user-directed nature of the learning, which in the case of The Lab manifests in part through a lack of formal structure during sessions.

Characteristics of The Lab space are also important. There appears to be value in the space being a 'tech office' since it helps participants envisage what it might be like to work in such a space in the future. It also appears that the open-plan arrangement of the space, whereby participants can see each other's screens, is a key mechanism for facilitating social interaction and engagement.

Beneficial impacts for families were attributed to the parental community fostered through the availability of a Parent's Room during sessions; the participatory approach taken by staff, meaning that parents are included in some decisions made about The Lab's implementation; and the time that staff spend with parents, explaining their child's progress and activities during sessions. These factors highlight the fact that, in the current The Lab model, parents are positioned as secondary stakeholders (with the young people being primary) and active participants in the 'emergent approach.' This level of parental involvement not only promotes beneficial impacts to parents and extended families, but is also likely to facilitate participant attendance (since most are transported by parents), and to enhance parental commitment and enthusiasm for The Lab. In the case of The Lab, parental enthusiasm has translated to the parents driving fundraising efforts.

There is a challenge articulated by The Lab staff in meeting the needs of young people participating in the program whilst also meeting the needs and expectations of parents. The general satisfaction of both young people and parents indicates that staff are managing to meet the needs of both groups.

### 4.3 KEY CHALLENGES AND RISKS

Several factors that may have hindered the implementation and success of The Lab, or may do so in the future, were identified in the evaluation.

The challenge of accessing funding and financing the ongoing activities of The Lab is the most pressing barrier to implementation in the future.

Three issues were highlighted in this evaluation as potentially exposing The Lab participants, The Lab, Victoria University and Oztron to risk: 'one-off' participant behavioural incidents, the viewing of inappropriate web content during The Lab sessions, and a lack of breaks during sessions. One of the challenges for The Lab in the near future lies in deciding how to mitigate risks while maintaining the benefits of the emergent approach, within which a 'bottom-up' rather than 'top-down' approach to program development is a central principle. A starting point for staff might be an exploration of potential risks to stakeholders, from which a Risk Management Plan could be designed. It is recognised that incidents initially appearing to be negative or detrimental can lead to greater resilience and the learning of social skills and this should be taken into account in the design of such a plan, alongside the need to maintain a duty of care to participants.

The lack of documentation of The Lab approach, policies and procedures may be a barrier in terms of communication amongst staff and in securing funding from external agencies that will expect such documentation to be available. Certainly such documentation should be part of a Risk Management Plan for The Lab, and a basis for scaling of The Lab to other locations.

The lack of a structured approach to monitoring and evaluation is a barrier for The Lab going forward in terms of the ability of staff to make decisions about implementation, to secure funding, and assist in efforts to start similar programs in other locations. At a basic level, reliable documentation of numbers and characteristics of participants, as well as patterns of attendance, is needed to describe and reflect on service activities and should form the basis of a regular monitoring activity for Staff. Structured evaluations with appropriate timeframes should build on this evaluation to provide a strong evidence base for impacts of The Lab into the future.

An interesting point for consideration is the lack of a transparent mechanism by which participants are accepted into The Lab and the impact this has on equity of access. As has been described, while a waiting list is maintained by Lab staff, often participants are accepted based on staff members sensing that they are appropriate or by current participants recommending someone they know. While this mechanism is likely to have been a key factor in enhancing the beneficial social impacts of The Lab, it would be interesting to consider how it may be blocking access to certain participant sub-groups; for example, females.

Another issue for further consideration is the fact that the diagnostic inclusion criteria is determined through parental report, leading to the involvement of some participants who are unlikely to actually have Asperger's Syndrome or High Functioning Autism (from the perspective of staff after they have observed these participants over a period of time).

The location of The Lab is problematic for some parents of regular participants; however, unless geographical limitations are placed on the target population for The Lab this is likely to remain the case, particularly given that The Lab is unique in the Greater Melbourne area. The broader issue is that of how to scale The Lab experience so that it can be replicated in other locations. Certainly the long waiting list for The Lab points to a strong, unmet demand for the service. Recommendations for replication of The Lab are considered on page 25.

## 5. Recommendations

Based on the findings of this evaluation, we have made recommendations for The Lab – for future evaluation and monitoring, and scaling. It is beyond the scope of this report to consider how these recommendations might be enacted, although authors of this report welcome further discussion with The Lab staff and Young and Well CRC.

### 5.1 FOR THE LAB

Based on the findings of this evaluation, we recommend that The Lab:

1. Defines and documents The Lab approach.
2. Documents key policies and procedures.
3. Considers, documents and implements an approach to managing and mitigating risk, including those surrounding participant behavioural issues and viewing of inappropriate web content.
4. Related to the above, implements a break / food / discussion session for 10–15 minutes in the middle of the two hour sessions to help meet the health and wellbeing needs of participants.
5. Continue the implementation of policies and procedures to support monitoring and evaluation specifically around key characteristics of participants and attendance.
6. Develop a structured monitoring and evaluation framework (see separate recommendations to follow). Note that recommendations 6–9 could form part of the ongoing monitoring system whereby data could be summarised at regular intervals for consideration by staff.
7. Considers how The Lab may better link with the education sector including TAFEs and universities.
8. Develops a list of potential sources of future funding for The Lab, and use findings of this evaluation as a starting point for funding applications.
9. Undertakes an inclusive planning process to develop and write a strategic plan that helps identify the future mission, aims, objectives and activities of The Lab, including monitoring and evaluation, and the resources required to run the service in the future. Such an activity if undertaken should include consideration of, and planning for (if appropriate), all recommendations listed here.

### 5.2 FOR FUTURE EVALUATION AND RESEARCH

Based on our evaluation, we recommend the following with regard to future evaluation and research:

1. Defining and documenting The Lab approach, including aims and objectives, policies and procedures, will establish the basis from which monitoring, evaluation and research activities can be planned.
2. Monitoring activities including those outlined in recommendations 6-9 for the Lab (page 25) should be implemented.
3. More broadly, an evaluation framework should be designed for The Lab that is sensitive to the evolutionary approach taken to development and measures impacts of The Lab to participants' health, wellbeing and learning. Once aims and objectives for The Lab are decided and documented, key relevant constructs for measurement can be determined, from which point appropriate measurement tools can be sourced or developed. Findings from this evaluation should guide decisions on impacts to be measured in the future.
4. This evaluation successfully used an innovative approach to engaging participants with Asperger's Syndrome. A briefing could be developed to consider the need for more creative and exploratory evaluation methods when working with specific groups of young people such as young people with Asperger's Syndrome.
5. If The Lab is scaled, a broad evaluation framework should be designed to allow for comparing and contrasting the approaches taken at each site, and examining the impacts using a clustered analysis approach. This would involve the same measurement tools being used across all sites.

### 5.3 FOR SCALING

The Lab staff are currently engaged with groups around Australia who are showing interest in or taking steps towards setting up programs similar to The Lab. Others wishing to replicate The Lab do not need to establish their program in exactly the same manner as the original The Lab; however, we suggest they consider utilising key

elements of the four factors related to The Lab's success that have been highlighted in this evaluation, outlined on page 22: the commitment of staff; the personal and professional characteristics of mentors; the overall approach taken to The Lab, which encompasses the 'emergent approach,' and the fact that the learning is user-directed; and the nature of the physical space. In particular we recommend that, in regards to scaling The Lab:

### Foundation / Founders

1. The establishment of further models of The Lab is driven by groups of committed and enthusiastic people within the local community, rather than necessarily through existing service providers. Scalability may be possible in many forms, however the strength of the current model appears to be derived in part from the individuals that have led the development of The Lab and who have many years of experience in related projects.
2. Committed and passionate staff are at the heart of the success of The Lab, and likely to be at the heart of any future model of The Lab established elsewhere.
3. Training and mentoring is offered to other founders using the 'defined and documented The Lab approach.' (see Recommendation 1, For The Lab).

### Mentors

1. Mentors have high-level of knowledge of computer programming or other digital media development skills.
2. Mentors are not teachers and not necessarily teacher trained.
3. Mentors must be under 30.
4. Mentors must have social and cultural capital with the participants (they need to not just be good at tech, but love and work in tech).
5. Mentors must have an intuitive understanding of individuals with Asperger's Syndrome (mentors at The Lab have not received formal training in this area).
6. Mentors must be capable of developing strong and purposeful mentoring relationships with participants.
7. Mentors must be capable of supporting self-directed learning and individual project-based programs that are led and driven by the participants.

### The Approach

1. Core aspects of the approach to The Lab should be defined and documented by The Lab staff (see Recommendation 1, For the Lab), and communicated to potential founders of other The Labs. This should include aspects covered in recommendations on Foundation / Founders and Mentors.
2. The approach taken is respectful and inclusive and brings together aspects of the 'emergent approach' (see Section 1.2.1) and youth participation.
3. Labs should have a commitment to observe and learn from mistakes.
4. Self-directed learning and individual project-based programs that are led and driven by the participants with support from mentors.
5. Potential founders of new The Labs should be supported through basic training in 'The Lab Approach' so that they have the greatest opportunity of replicating The Lab, while meeting localised needs and issues. In this sense The Lab would scale in a way similar to the way the TED conference has scaled with TEDx, it is not the same, but is implemented with a similar approach and adopts the same core philosophy.
6. New The Labs should consider offering a space such as a Parents' Room to support participants' families.

### Space

1. Considering the space is very important. How and where The Lab is established is crucial to the success in a local area. Based on the current model a local technology business would be the best fit.
2. The space should be open with no barriers or screens.
3. During sessions, participants should be able to sit where they want, but mentors could encourage participants with similar interests to connect and eventually sit near each other.
4. The space should be open plan and offer a range of options for individual and mixed seating.
5. We also recommend that monitoring and evaluation activities are designed during the set-up period of new The Labs.

## 6. Limitations to Evaluation

Several limitations of this evaluation warrant mention. The main limitation is the cross-sectional approach, which was necessitated due to the time constraints imposed on the evaluation. This study design does not allow measurement of the impact of The Lab through gauging a change in relevant indicators between the time the participant enters the program and after engaging in the program for a period of time. Another related limitation is the lack of formal consensus and documentation regarding specific objectives of the program, which limits the ability to choose appropriate quantitative measurement tools to gauge impact. Therefore in this evaluation impacts on participants have been gauged through qualitative interviews in which participants, their parents, The Lab staff and mentors were asked to reflect on the impacts of The Lab on participants and their families. This methodology does not provide strong evidence in terms of impacts of The Lab from a research perspective, but certainly provides a sense of possible impacts.

The ability to describe The Lab's activities, participants and participant attendance patterns was limited by the lack of records maintained by The Lab.

Also, the evaluation timeframe meant it was not possible to include participants of Wednesday Lab sessions or their parents in evaluation activities. While the same approach is taken to the Wednesday and Thursday sessions, and the group was recruited similarly, it is possible that this group would have offered different perspectives that have not been included in the evaluation.

Last, we were not able to speak to the participants who have dropped out of the program, or their parents. This may have offered valuable information to the evaluation. Further information in these areas would assist in contextualising impacts of The Lab and thus be useful when offering advice to new services based on The Lab approach.



## 7. Conclusions

This report presents findings of the first evaluation of The Lab, a club for 10 to 16-year-olds with Asperger's Syndrome. In summary, the findings show that The Lab appears to have had a range of beneficial impacts on participants such as improved social engagement, increased motivation and, for some participants, the development of high-level competencies in computing and programming. The evaluation also found a range of beneficial impacts for participant's families. Four key elements appear to be central to the success to date of The Lab:

- The commitment of The Lab founders;
- The personal and professional characteristics of The Lab mentors;
- The overall approach taken to The Lab, which encompasses the 'emergent approach,' and the fact that the learning is user-directed; and
- The nature of the physical space.

The Lab is approaching the end of what could be regarded as an 'establishment phase.' It is an opportune time for The Lab to consider formalising and consolidating its approach through appropriate documentation, consideration of risk management strategies, and a more structured approach to monitoring and evaluation. These activities would provide a tangible basis from which The Lab staff could undertake internal quality monitoring and improvement activities, apply for funding, and communicate The Lab's approach and impacts to others wishing to replicate the program. Importantly, in the absence of consolidation of this nature, there is a strong risk that the factors enabling The Lab's success will not be incorporated as The Lab is 'replicated' in other locations.

This evaluation report has made recommendations for the next stage of The Lab's development, for future monitoring and evaluation activities related to The Lab, and for scaling of The Lab model to other locations.

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# Appendix 1: Academic Outputs Related to The Lab

## Journal Articles

Schutt, S & Linegar, D 2013, 'We learn as we go: what five years playing with virtual worlds has taught us,' *International Journal of Virtual and Personal Learning Environments (IJVPLE)*, vol. 4, no. 2.

## Conference Proceedings

Gregory, S, Gregory, B, Hillier, M, Jacka, L, Schutt, S, Ellis, D, Stokes-Thompson, F, Wood, D, Masters, Y, Farley, F, Orwin, L, Stupans, I, Scutter, S, Warren, I., Steel, C, Neuendorf, P, Bower, M, Miller, C, Butler, D, Merle Hearn, M, Mathews, S, Garcia, J, Jegathesan, JJ, Brown, R, Meredith, G, Eimear Muir-Cochran, E, Flintoff, K, Grant, G, Atkins, C, Gaukrodger, B, Giovanangeli, A, Le Rossignol, K, Larson, I, Cram, A, Linegar, D, Wang, X, Muir, T, Cleland, B, Paillat, E, Grenfell, J, Hay, L, Gu, N, Anthony Williams, A, Simoff, S, Bogdanovych, A, McCarthy, A 2012, *Sustaining the future through virtual worlds*, Future Challenges, Sustainable Futures: Proceedings Ascilite, Wellington 2012.

Rizzo, A, Schutt, S & Linegar, D 2012, *Imagine That: creating a 'third space' for young people with High Functioning Autism through the use of technology in a social setting*, Integration, Interaction, Innovation, Immersion, Inclusion: Proceedings OzCHI, Melbourne 2012.

Gregory, B, Gregory, S, Wood, D, Masters, Y, Hillier, M, Stokes-Thompson, F, Bogdanovych, A, Butler, D, Hay, L, Jegathesan, JJ, Flintoff, K, Schutt, S, Linegar, D, Alderton, R, Cram, A, Stupans, I, McKeown Orwin, L, Meredith, G, McCormick, D, Collins, F, Grenfell, J, Zagami, J, Ellis, A, Jacka, L, Campbell, J, Larson, I, Fluck, A, Thomas, A, Farley, F, Muldoon, N, Abbas, A, Sinnappan, S, Neville, K, Burnett, I, Aitken, A, Simoff, S, Scutter, S, Wang, X, Souter, K, Ellis, D, Salomon, M, Wadley, G, Jacobson, M, Newstead, A, Hayes, G, Grant, S, Yusupova, A 2011, *How are Australian higher education institutions contributing to change through innovative teaching and learning in virtual worlds?* Williams, G, Brown, N & Cleland, B (Eds.), Changing Demands, Changing Directions: Proceedings Ascilite, Hobart 2011.

## Conference Presentations

Rizzo, A, Schutt, S & Linegar, D 2012, *The Lab: exploring the potential of technology to build the capacity of young people with Asperger's Syndrome and High-Functioning Autism*, Seventh World Conference on the Promotion of Mental Health and Prevention of Mental and Behavioral Disorders, Perth, 17–19 October.

Linegar, D & Schutt, S 2012, *The Lab: a technology club for young people with Asperger's Syndrome*, Games for Change Australia & NZ Conference, 15–16 November, Melbourne.

Schutt, S & Linegar, D 2011, *The Lab: a technology club for young people with Asperger's Syndrome*, TAFE Development Centre Diverse Learners Symposium: Strategies for Challenging Learning Environments, 29 June, Melbourne.

# Appendix 2: Interview and Focus Group Protocols

This document shows the lists of questions that formed the basis of focus groups and interviews. All questions are labelled with the associated evaluation question as given in the evaluation plan. (P=process, I=impact.)

## Roaming Interviews with Participants

- What do you think of The Lab? How satisfied are you with The Lab? (P4)
- What keeps you coming back to The Lab? (P5)
- What could be improved about The Lab? (P5)
- Has The Lab had any impact on you (eg health, happiness, skills, good or bad impact)? (I1, I2, I4)
- How and why has it had those impacts? (I5)

## Focus Group with Parents

- How satisfied are you with The Lab so far? (P4)
- What aspects of The Lab are helpful in terms of your child's engagement? (P5)
- What aspects of The Lab could be improved to maintain your child's engagement? (P5)
- Has The Lab had any impact on your child's health and wellbeing, in your opinion? If so, in what way? (I1)
- Has The Lab resulted in learning or development outcomes for your child? If so, please explain. (I2)
- What specific aspects of The Lab have contributed to positive impacts for your child? How? (I5)
- Has The Lab resulted in any negative impacts to your child? (I4)
- What specific aspects of The Lab have contributed to negative impacts on your child? How? (I5)
- What positive impacts have there been for your family, do you think? (I3)
- What specific aspects of The Lab have contributed to positive impacts on your family?
- Has The Lab resulted in any negative impacts on your family? (I4)
- What specific aspects of The Lab have contributed to negative impacts on your family? How? (I5)

## Interviews with The Lab Staff and Focus Group with Mentors

- How satisfied are you with The Lab so far? (P4)
- What factors have helped implementation of The Lab (including recruitment and engagement of participants)? (P5)
- What factors have hindered implementation of The Lab (including recruitment and engagement of participants)? (P5)
- Has The Lab had any impact on participants' health and wellbeing, in your opinion? If so, in what way? (I1)
- Has The Lab resulted in learning or development outcomes for participants, in your opinion? If so, please explain. (I2)
- What specific aspects of The Lab have contributed to positive impacts for participants? How? (I5)
- Has The Lab resulted in any negative impacts to participants, to your knowledge? (I4)
- What specific aspects of The Lab have contributed to negative impacts for participants? How? (I5)
- What positive impacts have there been for participants' families, do you think? (I3)
- What specific aspects of The Lab have contributed to positive impacts for families? How? (I5)
- Has The Lab resulted in any negative impacts for participants' families, to your knowledge? (I4)
- What specific aspects of The Lab have contributed to negative impacts on participants' families? How? (I5)

## Appendix 3: About the Evaluators

*Daniel Donahoo, Project Synthesis Director*

Daniel Donahoo is the Director of Project Synthesis.

He is the author of *Idolising Children* (UNSW, 2007) and co-authored *Adproofing Your Kids* (Finch, 2009). He currently writes for GeekDad, a Wired.com blog recently named by Time magazine as one of its top 25 blogs of 2010.

A former fellow with public policy think tank OzProspect, Daniel's research and work has explored issues relating to child and family policy including young parents, work/life balance, early childhood intervention and the role of technology in early childhood and primary education. Daniel has a background in government and not-for-profit communications and policy including overseeing change management of a major disability workforce initiative involving 5000+ staff, and overseeing public relations and issues management for Victoria's aged care industry.

Daniel has been engaged in developing and creating new ideas for over 15 years. Along with his books and writing, this includes developing and managing the NSW Young Parents Forums and delivering a final video-based report to government, collaborating on the virally-successful In B Flat Project ([www.inbflat.net](http://www.inbflat.net)), developing frameworks to support health management in multicultural communities using ICT and building new client-centred models for youth services.

His ideas and work can be found at [www.danieldonahoo.com](http://www.danieldonahoo.com) and [www.projectsynthesis.com.au](http://www.projectsynthesis.com.au)

*Emily Steele, Project Synthesis Associate*

Emily Steele is an Associate of Project Synthesis, and Director of Emily Steele Consulting.

Emily is an experienced evaluator and researcher in the area of health and wellbeing, and has a PhD in social epidemiology.

She began her career as a practicing physiotherapist, and later obtained a Masters of Public Health. She has extensive experience conducting evaluations for NGOs and government departments. Her expertise extends across a range of quantitative study designs and methodologies, and she has experience with focus groups and one-on-one qualitative interview techniques.

Her recent work and interest is in exploring innovative evaluation techniques, particularly the use of photography and other visual expressions in process and impact evaluations.