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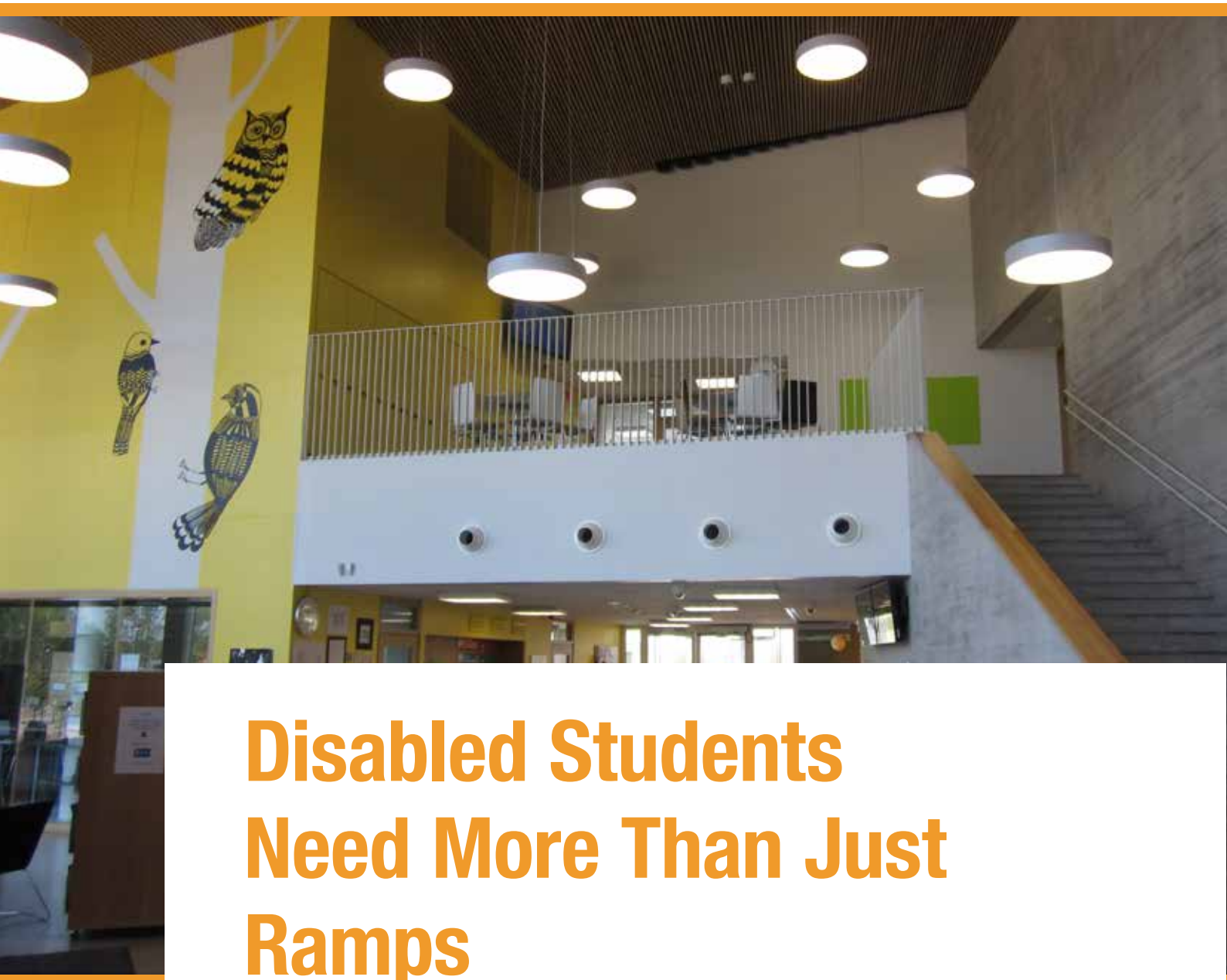

Disabled Students Need More Than Just Ramps

Paul Hede

2014 Sir James Gobbo AC CVO Fellowship

An ISS Institute Fellowship sponsored by

Sir James Gobbo AC CVO

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i. EXECUTIVE SUMMARY

This research looked at the need for all schools to create an environment where students with a disability can feel more in control of their learning by being provided with spaces that offer them comfort and flexibility, this enables them to remove themselves from situations where they do not feel at ease and go to a better space suited to their needs.

Schools in Denmark, Finland and the USA were targeted for this applied research study tour, both specialist in their setting and mainstream schools with disabled students. It uses the Fellows experience at designing many schools in Australia both mainstream and specialist.

The study identifies characteristics that are worthwhile in twelve different schools. It seeks to establish a guide to the types of spaces that should be provided in a mainstream school to enable students with a disability to improve their learning. It also identifies that non-disabled students may also benefit from this provision.

The study identified the need for all mainstream schools to be able to provide support to disabled students, specific training for them around their disability and for the student to control the extent of time they spend in the base area versus time in the general learning environment of the mainstream school. It identifies also, how learning areas can offer greater individualization to enable students with a disability to operate more effectively.

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ii. ABBREVIATIONS, ACRONYMS & DEFINITIONS

ASD

Autism Spectrum Disorder

CEFPI

Council of Educational Facility Planners International

DEECD

Department of Early Education and Childhood Development

DET

Department of Education and Training (formerly DEECD)

SPECIAL SETTINGS SCHOOL

A school specifically set up for disabled students with reduced class sizes, usually low teacher/student ratio, offering withdrawal calming rooms and ‘specific’ spaces such as therapy.

MAINSTREAM SETTING

Standard schools that may or may not have disabled students in them.

1. ACKNOWLEDGEMENTS

Paul Hede thanks the following individuals and organisations that have generously given of their time and their expertise to assist, advise and guide him through this Fellowship program.

Awarding Body – International Specialised Skills Institute (ISS Institute)

The International Specialised Skills Institute (ISS Institute) is an independent, national organisation. In 2015 it is celebrating twenty-five (25) years working with Australian governments, industry education institutions and individuals to enable them to gain enhanced skills, knowledge and experience in traditional trades, professions and leading edge technologies.

At the heart of the ISS Institute are our individual Fellows. Under the Overseas Applied Research Fellowship Program the Fellows travel overseas. Upon their return, they are required to pass on what they have learnt by:

- Preparing a detailed report for distribution to government departments, industry and educational institutions
- Recommending improvements to accredited educational courses
- Delivering training activities including workshops, conferences and forums.

Over 300 Australians have received Fellowships, across many industry sectors. In addition, recognised experts from overseas conduct training activities and events. To date, 25 leaders in their field have shared their expertise in Australia.

According to Skills Australia's 'Australian Workforce Futures: A National Workforce Development Strategy 2010'.

> *Australia requires a highly skilled population to maintain and improve our economic position in the face of increasing global competition, and to have the skills to adapt to the introduction of new technology and rapid change. International and Australian research indicates we need a deeper level of skills than currently exists in the Australian labour market to lift productivity. We need a workforce in which more people have skills and knowledge, but also multiple and higher level skills and qualifications. Deepening skills and knowledge across all occupations is crucial to achieving long-term productivity growth. It also reflects the recent trend for jobs to become more complex and the consequent increased demand for higher-level skills. This trend is projected to continue regardless of whether we experience strong or weak economic growth in the future. Future environmental challenges will also create demand for more sustainability related skills and knowledge across a range of industries and occupations.*

In this context, the ISS Institute works with our Fellows, industry and government to identify specific skills and knowledge in Australia that require enhancing, where accredited courses are not available through Australian higher education institutions or other Registered Training Organisations. The Fellows' overseas experience sees them broadening and deepening their own professional knowledge, which they then share with their peers, industry and government upon their return. This is the focus of the ISS Institute's work.

For further information on our Fellows and our work see http://www.issinstitute.org.au.

Paul Hede also thanks the CEO (Bella Irlicht AO) and staff (Ken Greenhill and Paul Sumner) of ISS Institute for their assistance in planning and development of the Fellowship and completion of this report.

Governance and Management:

1. ACKNOWLEDGEMENTS

Influential Individuals and supporters

The following people supported Hede and without their continual support, this Fellowship would not have been possible.

- Ms Bella Irlicht AM, CEO - ISS Institute
- Mr Jens Guldbaek - LOOP – Denmark
- Mr. Peter Lippman - EIW Architects, Western Australia
- Ms. Maria Hede - Hede Architects Pty Ltd

Hede also thanks Ken Greenhill and Paul Sumner of ISS Institute for their assistance in planning and development of the Fellowship and completion of this report.

Influential Organisations and Peak Bodies

The Staff of Hede Architects Pty Ltd also gave the Fellow considerable support throughout the Fellowship journey, and enabled him to devote the time need to this research and writing of the report

2. ABOUT THE FELLOW

Paul Hede commenced his own architectural practice in 1982. Since then he has designed all types of buildings. From around 1990 he began to increasingly be requested to design for the disabled in special schools. Gradually his practice developed a reputation for sensitive design in this area leading to its specialisation and design of 3 schools specifically for students with Autism Spectrum Disorder. These schools have contributed to development of the understanding of space for education of disabled students with 2 of the schools awarded the 2011 and 2013 best new school in the CEFPI (Council of Educational Facility Planners) Australasian awards system. These awards are for both design and the educational outcome within the school. Paul now is acknowledged as having a practice that is leading in design for the disabled and it now is designing spaces for adult disabled education, housing for disabled and the homeless as well as assisting other architectural practices in their work.

He recently presented a paper on design for the disabled in mainstream schools at the CEFPI USA National Conference in Portland, Oregon USA. His work has been published in Spoonful Magazine – a magazine for Health and the Arts where the design for those with ASD was discussed.

This fellowship enabled Hede to see some of the newest inclusive mainstream schools as well as a range of examples of the way schools are providing education for disabled students in specialist settings. The schools ranged from small suburban special schools in Denmark to large new full mainstream schools in Finland, through to high rise New York City special schools

Qualifications:

Bachelor of Architecture, Melbourne University ,1978

Honours in Design, Professional Practice and Building Projects Organisation

Professional Affiliations/ Pro Bono Support

- FAIA (Fellow of the Australian Institute of Architects)
- Board Member CEFPI Victorian Chapter
- Board Member Bayley House, Brighton (A centre for disabled adults)
- Committee member – Bayley House Day Service Committee
- Committee Chair – Future Vision Committee, Bayley House
- Current Sandringham Foreshore Association Committee Member
- Former Committee member, ACA (Association of Consulting Architects)
- Former Committee Member – Port Phillip Specialist School
- Former Publicity officer, ACA, Victoria
- Former ACA representation committee member on planning and subdivision fees review)
- Former Chairperson –Kensington Community Health Centre

2. ABOUT THE FELLOW

Recent Awards and Publications:

- Western Autistic School
  - » 2011 Regional CEFPI Award – New Construction Entire New School.
  - » 2013 Dulux Colour Awards - Shortlisted
- Northern School for Autism
  - » 2013 Australasian Regional CEFPI Winner – New Construction Entire New School
  - » 2013 Australasian Regional CEFPI Winner – Overall Winner
  - » 2013 World Architecture Festival Awards – Longlisted
  - » 2013 Victorian Architecture Awards – Shortlisted for a Sustainability Award.
- Brentwood Secondary College
  - » 2010 Finalist State of Victoria DEECD
  - » Best School under $3.0 million

Recent Publications:

- Bayside Architectural Trail, Head Street, Brighton
- Best Abodes, Issue 5,
  - » Head Street, Brighton
  - » Napier Street, Essendon
  - » Vista Avenue, Kew
- Spoonful Magazine, Issue 2, Australia
  - » Autism Friendly Architecture, featuring the Northern School for Autism, and
  - » Western Autistic School.
- The Age, October 9th 2013
  - » Stephen Crafti article on Taylors Hill Youth Hub entitled:
  - » 'Youth Hub's wide appeal down to clever design
- CEFPI Publication 2015, USA
  - » Educational Facility Planner Journal Volume 48 Issue 2 & 3
  - » Article – 'The Disabled Need More Than Just Ramps"
- The Globe and Mail, 26th April 2015, Toronto, Canada
  - » "Sensitive Design" Northern School for Autism

3. AIM OF THE FELLOWSHIP PROGRAM

Hede sees this research as a start to the process of designing for disability moving on past the question of physical access. The disabled have a need to feel comfortable in learning spaces, to be able to communicate and learn with other students and teachers in a way they feel suits their needs. Schools need to give these students alternative spaces they can go to for support to learn separately if required and/or calm themselves. Those with a disability need to be in control of their environment and choose how they learn. All schools should be capable of providing this for all students as these spaces can assist many students that are not coping, are isolated or bullied or are in need of support.

This design therefore follows from student centred and initiated learning which has been an integral part of special education and is increasingly becoming the model for mainstream learning.

The outcome of this fellowship will therefore expand that provision of learning and support that caters for students who may be disabled or need difference, flexibility and support in their learning.

4. THE AUSTRALIAN CONTEXT

Having designed many mainstream schools, special schools and particular schools just for those on the ASD Spectrum, Hede has seen how mainstream schools have not been designed to cope with a range of disabilities.

The Australian system has developed some capacity for enabling early intervention in pre-schools and then students with a range of disabilities are given the opportunity to attend special schools in primary and secondary years. Some mainstream schools have made students with a disability welcome but the predominant modifications are for physical needs of access which is increasingly required by building regulations anyway.

Early Intervention in pre-schools, where students identified as having a disability are given assistance in their development in areas such as speech and fine motor skills for example, prior to the school years, assist in their capacity to learn when they go to school.

Disability can come in many forms such as physical and intellectual disability and various syndromes such as Autism Spectrum Disorder. The range of disability is large but the need for a student to get support from both people, teachers and the learning spaces is equally large.

This Fellowship enabled Hede to identify where the mainstream schools can be designed and have a supporting pedagogy to fully enable students with various disabilities such as ASD, and /or actual physical disability to be educated in them, should the Australian preference be towards greater inclusion in mainstream schools. It looks at the environment for a disabled student, their ease of use of spaces and their capacity to control how and when they learn in the schools.

SWOT Analysis of Current System

Strengths

- Provision of early intervention programs/activities (as identified above) in kindergartens is improving outcomes for children in pre-schools. Early Intervention Programs seek to assist the child with development in a kindergarten type environment and therefore increase their capacity to successfully join in the school programs on offer
- The range of special schools, specialist schools, schools for ASD and other disabilities is accessible to the wider community due in part to public funding.
- Special settings are generally designed to enhance the capacity for children with a disability to learn.
- Adult centres generally have relationships to the special education schools enabling strategies learnt at schools to be continued in a post school environment.
- Teacher training for ASD teachers is well set up in Victoria enabling mainstream schoo to get access to teachers with ASD experience and qualification upgrades enabling them to accommodate students with ASD in mainstream schools.

Weaknesses

- Mainstream schools are often only altered on a needs basis to resolve physical access issues for students with disability.
- Most mainstream schools generally are designed to suit fairly abled students in a uniform standard of accommodation with limited capacity to offer spaces more suited to some students with disability.
- There are not a large number of private alternative schools for the students with disability.
- The current segregated system may not achieve the benefits of inclusion for some students.

4. THE AUSTRALIAN CONTEXT

- Mainstream schools need to be designed to take in viable numbers of students with a disability to enable them to be properly catered for in building design and in teacher provision and support.

Opportunities

- By changing the way mainstream schools are designed to enable students with a range of disabilities to attend, the wider community would benefit in knowledge of disability.
- By having the capacity to attend mainstream schools, students with a range of disabilities can experience a fuller education and be potentially better prepared for life in the community.
- Technology and building design would enable the strengths and skills of some students with disability to benefit other students and develop meaningful interaction between all students and teachers.
- Specialist settings for people with disability can be expensive. Alteration to design of mainstream schools can offer benefits to all while directly enabling students with disability.
- Specialist education for the people with disability has always sought to engage the individual student in what interests them and develop learning from this starting point. This is now forming the basis for educating all students as we move away from a teacher centred approach. Therefore the incorporation of aspects of design for students with disability may lead in some areas mainstream education to a better learning environment for all students because of its student centred approach.
- All students would benefit from a school that caters for their need for support and alternative spaces.

Threats

- The incorporation of design aspects in the schools design will not take the place of the teacher/ school leadership that is needed to enable students with disability to learn. The provision of support aides and pedagogical commitment is always needed.
- The philosophy of the design is to create spaces that enable students with disability to be comfortable in many ways, not just physical. The perception of a student's needs, reactions and disability will always need to be high to allow the space to be used to everyone's benefit.

5. IDENTIFYING THE SKILLS AND KNOWLEDGE ENHANCEMENTS REQUIRED

There are examples of areas in Australian professions industries where there are weaknesses in innovation, skills, knowledge, experience, policies and/or formal organisational structures to support the ongoing successful development and recognition of individuals and the particular sector.

The focus of all ISS Institute Fellowships is on applied research and investigation overseas by Australians. The main objective is to enable enhancement and improvement in skills and practice not currently available or implemented in Australia and the subsequent dissemination and sharing of those skills and recommendations throughout the relevant Australian industry, education, government bodies and the community.

Specific skill and knowledge enhancement areas addressed through the Fellowship were as follows:

The following spaces should be available in all schools:

- Development of a Base Area within all mainstream schools for students with a disability or special need. This area should be central to the school, accessible to parents/carers, and close to drop off and departure points.
- Attached to the base area would be spaces for support teachers, specialists and for students to have a controlled individual space if necessary.
- Learning areas should have capacity for smaller spaces within them, allowing for a controlled environment for students with special needs. These spaces may be acoustically quieter, with less distraction, able to offer relaxation or a less stimulating environment. They would have the capacity for a support person as well as the student.
- Special areas with devices such as tablets, headphones and other electronic connections that enable students to potentially connect with the teacher and class group in a way that works for them should be provided for students to use.

Action:

- The provision of the above spaces need to form a part of the schools masterplan process
- Schools should identify where these central spaces can be located to meet the criteria of being easily accessed by the whole school and parents.
- In existing schools the conversion of existing spaces should occur to achieve a base area if new spaces are not available, with a programme of adjustment to general learning areas to be implemented.
- The use of these spaces should be promoted as being available to all students not just those with a known disability. These spaces therefore need to offer support to all students rather than being specifically labelled as the ‘disability areas’.
- The design of spaces for learning should include the capacity for those spaces to offer the variety of space, size, acoustic performance, distraction and technology connectivity that enables a student with disabilities to operate and learn in their particular way that is comfortable for them.

6. THE INTERNATIONAL EXPERIENCE

The Fellowship involved visits to the following schools and centres for adults, in Denmark, Finland and the United States of America (USA). The schools ranged from small special schools totally made up of students with a range of disabilities, through to adult centres working with younger adults who have been to either special schools or mainstream schools. Also visited was an existing secondary school in Denmark that had a program of inclusion for ASD students as well as a new Finnish large secondary school with a fully integrated number of students with disability.

Each school and service gave particular insight to successful components of providing meaningful education or re-education in some cases for students with disability. They offered their own methods for providing a sense of calm, or comfort for students to enable them to learn to have confidence and to enable them to exert some control over the environment that made their learning improve as a result.

In New York City USA, multi storey schools were visited which gave an insight as to how special schools could operate in smaller tight sites.

The Fellow would like to thank all of the people who gave their time and insights to enable these visits and to enable the Fellow to assemble some of the valuable ideas and design principles to support them; and to produce a report that will hopefully contribute to the improvement of design for all students with a disability, including people with disability in all settings - mainstream or specialist.

The following pages document a range of school visits undertaken by the Fellow.

6. THE INTERNATIONAL EXPERIENCE

Visit One:

School	Gentofte Kommune, Denmark
Main contact person	Knud Nordentoft , Principal
Enrolments	120 students
	5 years old through to 18 years old
Student population	Mixed range of students with disability
	Specialised High school for ASD students

Visit comments

This is a special school with a range of student disabilities. A highly motivated staff under leadership of Kund Nordentoft gave the school a wonderful feeling, like a family. The students all gathered together each day for singing and presentations for any important event of the day such as birthdays.

This happened in a central space with a casual performance area as well as stepped, seating areas. The school worked with students in pre-school to Year 9. It worked around the need to have the students be 'part' of the community and that it made sense for them to be there, they were not in competition.

The buildings: The school has traditional smaller classrooms, a woodwork room and a physics lab. It had been extended in house-like buildings offering a greater sense of fitting in to the surrounding houses.

Its colour environment was generally white with white strawboard ceilings.

Small rooms with relaxation furniture and generous corridors that had soft furniture offered students the capacity to take time out, be alone or quiet; with small group furniture they could create more private areas.

The school did not have fences and did not feel the need for them as might occur in the USA or Australia, as most Danish schools do not dwell on security and visitor security. The school was considered part of the residential area, not a separate entity.

Due to traditional school design, some windows were dorma style roof based, meaning rooms were limited in outlook, and this may have added to a lack of distraction for ASD students.

Some points of note:

- Students had created, from a disused area, a garden for senior students featuring a BBQ. This came about by a visit from former students who were working in a student built organisation where they had learnt to build a BBQ. The woodwork room became the centre for current students, the garden, its furniture and BBQ.
- Some ASD students who were not making friends or not interacting well were encouraged to take home pictures of their schoolmates on the iPad and interaction on a screen based arrangement began. Gradually this increased friendships which were eventually built on at school, face to face
- Senior students wished to meet the Fellow and converse in the English language, which they did successfully. On noting our Australian nationality, a student referred to didgeridoo music. Later on in our meeting we heard in the background a didgeridoo playing. The student had found it on an

iPad and got it playing for everyone. This was a shining demonstration of the capacity of students with disabilities to learn and enhance their learning and communication using technology that would be available to them anywhere. This demonstrates the educational achievement of this school for students with disability.

Concluding comments:

- The sense of community in a school is vital
- All students must understand why they are there
- The school spaces should offer a large range of malleable spaces to enable students to control their environment to calm, relax, learn and control interaction
- The house-like spaces create an 'integrated into the community' feel without the need for security to dominate
- Former students can be inspirational for the students with disability and should be a part of the school
- The use of technology can enable students to control their exposure and connection and add to their capacity to express themselves and source information
- Alteration and creation of spaces leads to ownership by the students and enables them to feel at home, safe and that they belong.

(above) School extension in home like form

6. THE INTERNATIONAL EXPERIENCE

(above) School extension in home like form
(below) Sensory Room with wrap around chair particularly like by disabled students

(above) A variety of spaces, nooks exist for students to calm themselves or retreat to learn in smaller areas.
(below) Central daily gathering area for whole school celebration of the day and events

6. THE INTERNATIONAL EXPERIENCE

(above) Learning your own way

Visit Two:

School	Centre for Asde. Herlev Hovegade, Herlev, Denmark
Main contact person	Mads Rasmussen, (Mentor)
Enrolments	80 students (18-32 years old)
Student population	Range of ASD students – good functioning, not so functional, including Asperger's (some only diagnosed in their 20s)

Visit comments:

This centre was privately funded and grew out of the first private school for ASD. It has a training centre for adults generally 18-25 years old, mostly with ASD. The majority of the people attending were only diagnosed post school due the concern of parents and others that they were not functioning well. In many cases they had been to school but learnt the skill of not being noticed. They were taken to this centre for help due to concern regarding their general withdrawal from active involvement with society, lack of friends and lack of interest in doing things.

This centre therefore acknowledged their disability and began to train them and develop skills to engage them in society in a way that improves them and gives them confidence. They were given support in accommodation and employment if they could get in. Basically these people show how some people may go through a mainstream school and not really be given an education that suits them and their abilities. The result can be a total lack of skill to deal with the real world and a lack of knowledge of their place in it and what they can do.

The buildings:

This centre operated from a former 1950s office building computer factory which had basement spaces, canteen and a large range of commercial spaces. Many of these spaces were altered each year to suit the needs of the student group of that year. It included a gymnasium, full commercial kitchen, a recording studio, photographic studio, fashion studio, woodwork, lecture theatre, digital studio, print workshop, commercial cooking, graphic design and cafe.

Students were encouraged to develop their interests in items such as music:

- Students were in bands
- CDs were recorded in the studios
- Students then designed CD covers
- Students ran a radio station to play their music, selling CDs to listeners.

Some points of note:

- Education took place on food and nutrition
- Many students had developed a code of habits that needed to be broken to open them up to a broader world
- These people had not been identified in standard school settings because they knew how to not be noticed
- The use of this tired building from another era gave the centre the opportunity to introduce students to a range of worldly spaces; spaces that matched activities. They also had lounges and relaxation spaces that they were encouraged to learn to work in and become part of a group; activating them socially

6. THE INTERNATIONAL EXPERIENCE

- The art produced by this group was particularly 2-Dimensional although it was often all about faces. They had adopted the Japanese graphic method which suited their ASD view of faces
- The use of technology, which can be a strength of people with ASD, was encouraged in a group setting and led to development of interests. Life skills were taught in a range of real commercial spaces which broke down habits that were insular and isolated.

Concluding comments:

Any building can offer opportunity to teaching for students with disability. Buildings must offer a range of spaces, relaxation and calming zones. Mainstream schools having a one size fits all approach may be offering virtually no education to some students with disabilities and will not equip them to be part of society. Engagement via a range of activities is essential.

(above) External view converted former office

(above) Film studio room.

(below) Recording studio in action

6. THE INTERNATIONAL EXPERIENCE

(above) Converted office space. Central gathering space

Visit Three:

School	Sorgenfriskolen, Denmark
Main contact person	Henrik Bjerg-Pederson, Principal
Enrolments	Three groups of children in the school: • A – 8 classes children learning • B – 1 x extended low IQ • C - ASD
Student population	94 total students: • 30-35 ASD • ADHD • Kinder to Year 9

Visit comments:

This school operated from a two storey 1970s standard school building as well as two former two storey villas which adjoined the school via a small wooded garden. It has a range of students with varying disabilities and about a third of them were ASD.

The buildings offered the mechanism to slowly ease young students into school life. One villa had kindergarten to early years' students in small home spaces, with a kitchen close and small rooms offering appropriate sized spaces for children to feel secure and relaxed. Small single desks were separated by attached partitions to enable focus and pin board. The children had all activities located on an interactive touch screen day planner which enabled them to commence day activities when they arrived in the morning and in after school care. It was child initiated learning which had led to projects such as digging a place for rabbits in the garden. Parents were welcome in the villa. A second villa operated for leisure time that was also necessary due to the climate. Every student had an iPad and external spaces were both structured for formal sessions and unstructured for more informal activities. The school moved students out of the villas after two years and introduced them to the main school environment. The combination of buildings created a sub school environment and demonstrated the success of the graduation of the scale of spaces for students enabling them to move to more large-scale 'school' spaces when they were ready. The range of sizes allowed particular students to operate at their comfort level. The interactive whiteboard gave a sense of order and planning managed by the student and reinforced by the use of iPads.

Concluding comments:

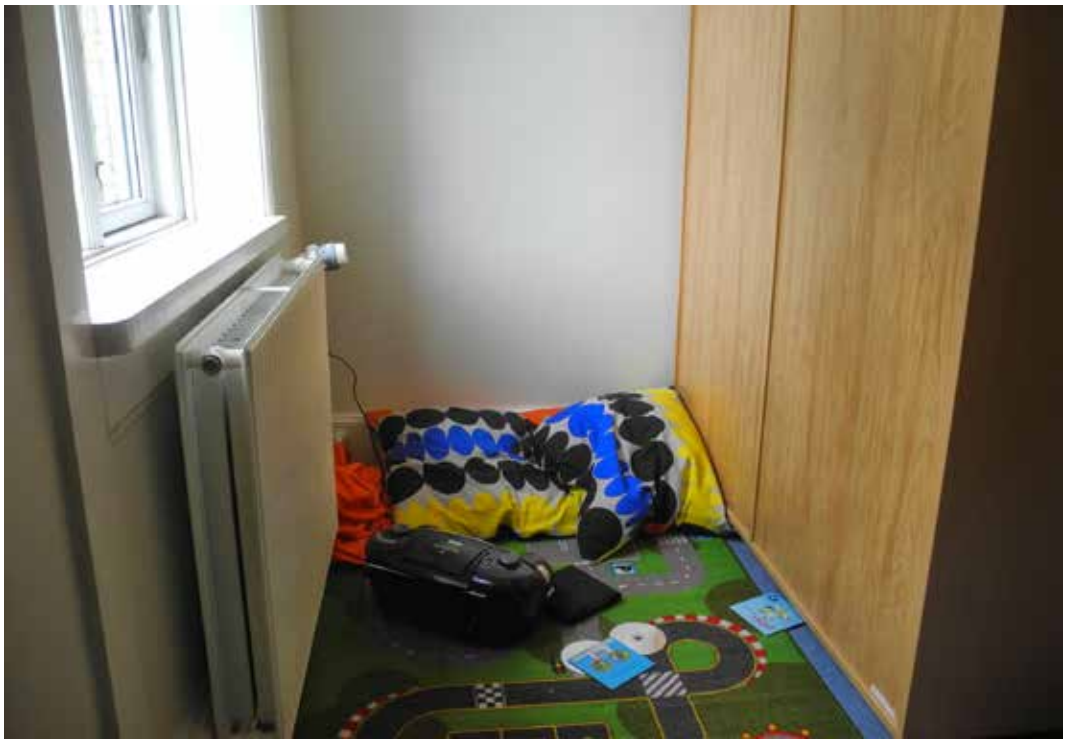
The capacity to give students smaller spaces to feel comfortable in can take stress away from children with disability and allow them to progress at their appropriate pace. Technology can assist in giving ASD students the order they need to feel in control of the situation. Child-led learning leads to students exploring the whole school when they are ready and motivated.

Preschool and afterschool periods can remain learning based with a building that students are comfortable in and with tools to assist them. These spaces can be accessed by parents to learn how their child learns and in what environment they need to learn.

6. THE INTERNATIONAL EXPERIENCE

(above) Former home converted into Early Intervention Centre

(above and bottom left) Small base room showing central communal area surrounded by personally controlled spaces
(below)Small retreat/withdrawal nook



6. THE INTERNATIONAL EXPERIENCE

(above) Student led outdoor play

(below) Junior sub school

Visit Four:

School	Hummeltofteskolen School, Copenhagen, Denmark
Main contact person	Axel Duckert, Teacher and Head of Consultant Support for Disabled Students
Enrolments	28 secondary students with ASD
	Two girls with ASD soon to increase to four
Student population	High performing ASD
	ASD students have lifted the average of academic achievements of some classes

Visit comments:

This school was a standard secondary school which had an inclusion program. The base for the inclusion program was a series of rooms and small outdoor areas that acted as the 'home' for 26-28 students with ASD, ADHD and Tourettes syndrome and included two girls. It offered with this base a space for students to commence the day, recline on lounges after arriving from sometimes a stressful journey and also their 'office', consisting of a separated desk with storage and a privacy curtain. Central discussion and work areas were in the middle of the room surrounded by 'offices'.

Students with disability therefore had a home within the main school, their own small but self-controlled work or retreat space and a generally calm and relaxed space to go to from the main school.

Two teachers and three pedagogic supports (Special Danish concept of an assistant that teachers in social skills, family and creative areas) are there to work with these students and develop their knowledge of themselves in order for them to be able to understand their position in the greater school and classes. Within this space is a 'small school' for two students who are unable to function socially. They decorated it themselves, they come out when ready, they can withdraw and they can invite visitors to their 'school'. Gradually they will be assisted and encouraged to grow into the other school.

The space therefore is intended to give these students the capacity to build their skills, get support, achieve calmness at the start of the day, manage their mood and advise when they are ready to join in the main school. Their 'offices' give them a sense of control to re-establish calm and to reduce what they have been coping with to enable them to manage themselves.

Most importantly:

The teachers are training these children to know how their brain works, what is their state of mind or anxiety and for them to assess their capacity to be included in the school's mainstream classes. It supports inclusion but with the involvement and control of an increasingly skilled student with a disability to monitor its appropriateness and timing.

The building:

The building here is not particularly appealing and not specifically designed for its purpose. The notable feature is in how it is being used by the creation of spaces within spaces and giving the students a system of control of these individual spaces, their 'offices', a controllable connection to joint spaces and spaces that are aimed at enabling calmness. Outdoor spaces also offer this to students. It gives a valuable insight for the need of this base within a mainstream setting. Other students with a disability are part of the mainstream school and are supported by special teachers from this base.

Parents are counselled and taught the brain knowledge as well.

Point of note:

While this base is working well and offers a guide to what is needed, the prospect of the capacity to offer some of what it offers to every learning space may give students with disability, and all students in the room, the capacity to achieve throughout the school, what is being achieved in the base area.

The learning of the students with disability of what is going on in their brain which can lead to their reduced capacity to cope, needs to be extended to all students in any school so they can learn what is going on in their fellow students with disability brain but also in their own. The concept that all students are the same, learn the same and can learn in the same environment is gone. Students with disability have to be engaged and so do all students. A learning environment that enables all students to manage their learning is what is needed.

Concluding comments:

This school is breaking the myths. Empowering all students via a school environment that allows them to control scale, noise, privacy and interaction would lead to full inclusion and learning improvements for all students.

(above) Mainstream school. Converted standard room to Base room for Special Needs (ASD) students

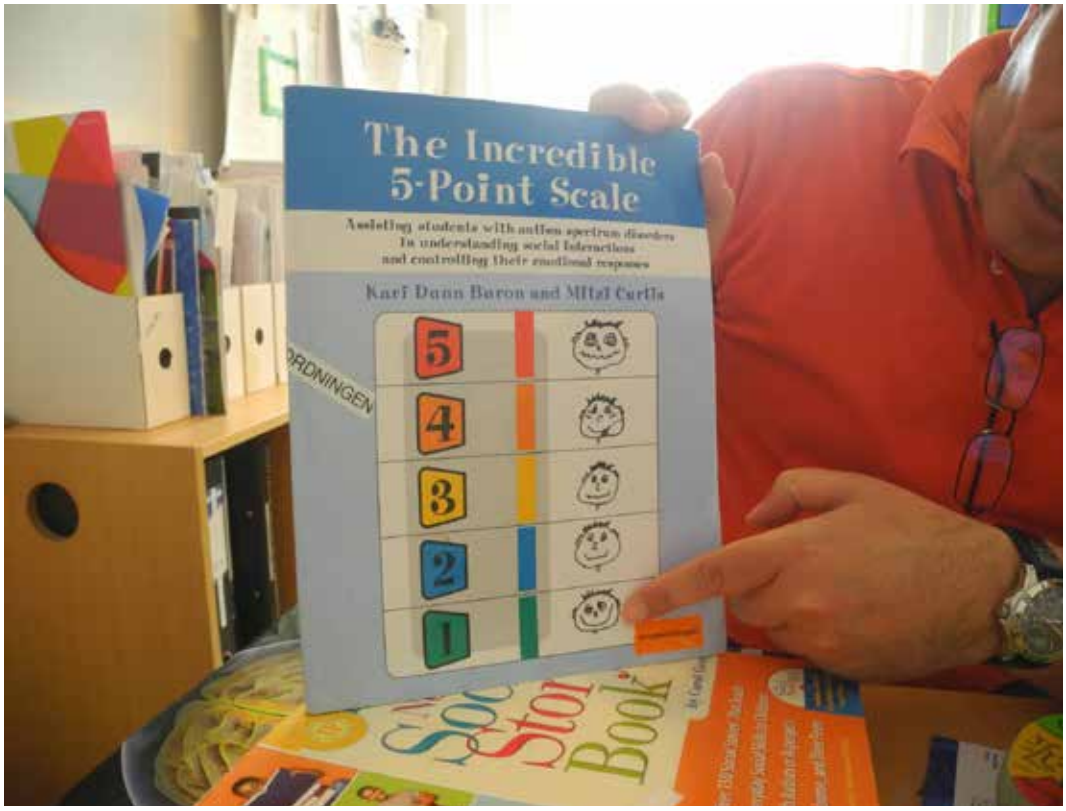
(above) Students 'office' Open for contact

(below) Closed for privacy/calm

6. THE INTERNATIONAL EXPERIENCE

(above) Student controlled relaxation space

(below) Student Training Methods for ASD students



(above) Hummeltofteskolen School, A standard secondary school including students with ASD.

6. THE INTERNATIONAL EXPERIENCE

Visit Five:

School	Specialisterne, Copenhagen, Denmark
Main contact person	Johnnie Kragh, Principal
School Scope	Operates in 13 countries
	Opening soon in Australia
Student population	32 students, 16 support staff
	16 students are being assessed to determine their potential to become consultants; a three to five month training will then be undertaken to be a candidate to be a consultant.

Visit comments:

This is a centre for preparing young adults with ASD to become employed in industry and to utilise their special talents. It was developed by a parent who wanted his son to be fully engaged and to use his skills. The students/workers are trained to be 'consultants'. They have 40 consultants currently in Copenhagen and 32 students being assessed and trained by 16 support staff. It is a 3-5 month training program to look at their needs to teach them the skills to operate in various work situations. By learning these skills they are then able to be employed and apply their particular skills which can be unique and highly useful to many businesses

The philosophy being encouraged by Specialisterne is that a business cannot afford not to have a 'consultant'. Their skills range from the development of games, computers, music and Lego creations etc. They are engaged to identify patterns and faults that other people would never see. The Fellow saw an example of a mechanical solution to solving a Rubik's cube via a Lego scanner within a Lego creation.

This centre is in an office park and students are trained in an office environment. Training is in areas that work:

- Science
- Technology
- Mathematics
- Engineering.

Students are also trained to operate in an office environment, using whiteboards, computers and iPads. They are not in a special environment but have a 'buddy' in their workplace. They earn wages, pay tax and absolute success is when they become independently employed. Speciallsterne have a goal of 1,000 jobs in Denmark in the next five years and are now operating in 13 countries. Lego, being a Danish company, has 'consultants' assisting it as one of the biggest toy creators in the world.

The building environment was a cross between offices and small workshops and they shared a canteen with other tenants of the building. Students had a desk space where they worked and communal work areas. They had interaction with other groups such as Lego Robocup competitions using Lego Mindstorm. They have regularly been the winners of the Robocup competition.

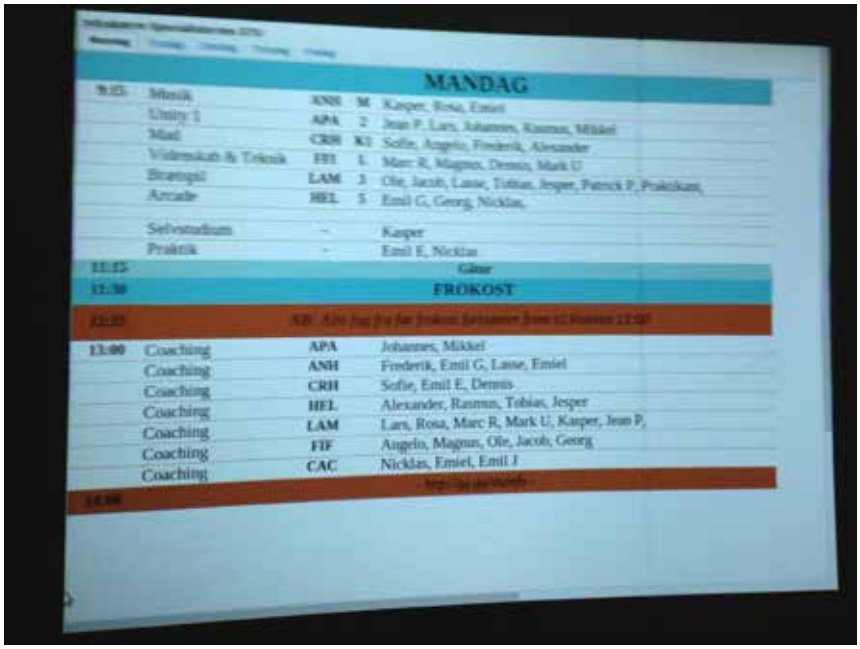
They tended to work in small office spaces when working as consultants. Some firms have special rooms for them. As part of their assessment their skills are improved in eating, cleanliness, dressing and the capacity to cope with social needs of employment.

Concluding Comments:

This visit demonstrated the potential of ASD adults to be appreciated for their unique qualities and skills and for those skills to be taken up by the community, especially business. This is occurring post school but with better planning it could occur within the school years if the students are given the right environment more suited to their needs.

(above) A machine designed by a student to solve the RUBICS cube

(above) A prize winning lego construction



(left) The days program

Visit Six:

School	Nittykumpu, Espoo, Finland
	Elementary School.
Main contact person	Maija Sinisato (Principal)
Enrolments	Whole school 300
	Prep to Year 6 – Elementary
	One teacher per six students, four assistants per six students, 17 total assistants
	Finnish and English – preschool in those languages
Student population	18 ASD (three classes)
	The school is making preparations for additional students with special needs.
	Not many schools for ASD; but four ASD schools in Espoo
	Many distractions in school

Visit comments:

This is a 65 year-old school for 300 students, with 18 ASD students fully integrated into the school. The school works in two languages: Finnish and English.

Some students have full time assistants with them. Two classes operate under the Montessori method with mixed vertical teaching. The Finnish system does not rely on testing and teachers are highly respected and trusted. The dual language system works via the preferred language of the teacher so if that teacher speaks English and teaches Maths then it is done in English.

The school uses computers, whiteboards and has 32 iPads which interact with the whiteboards and are taken home by the students. The school does not distinguish many of its activities for students with disability. Life skills training is done additionally for some students and parents meet the school twice yearly for students with disability but otherwise all school meetings are the same for all students.

The building:

This school is about to make some alterations to cater for its students with disability. A large space at the end of a corridor will become a base room for these students. Some carpet areas are to be installed to create greater calming areas. They do have resting rooms which are occupied voluntarily or a student is asked to go into it and monitored by an assistant. They would like to have such a space in all classrooms due to the ASD students finding a class of up to 30 students sometimes too hard to cope with. They have created 'booth' type desks for some students; however generally the ASD students are just part of the school. Most of the ASD students go to an ASD secondary school. Students with disabilities are identified as soon as possible and receive help early under the Finnish system. The school without much in special education facilities is allowing its teachers to work with all students under a system that uses various methods and is not examination oriented.

Point of note:

The school is pursuing the capacity to reduce the spaces to enable students with disability to self-calm and cope better. It is creating a base for students with disability and looking to give the ASD students capacity to have a smaller space within the general learning area that may assist them to cope with the level of noise, distraction or personal contact. Gradually the school is recognising the benefits to the ASD students of some capacity to withdraw and control their environment.

(above) Formal and informal learning spaces

(below) Learning area, with a range of options for student interaction

6. THE INTERNATIONAL EXPERIENCE

(above) Learning area, with a range of options for student interaction
(below) Small before/after school space/Early intervention house like space with weeks program for disabled students

(above) Standard local school with 18 students with ASD included

Visit Seven:

School	Svenska Skolan for Synskadade, Helsinki
	A school with live in accommodation for the blind
Main contact person	Maj-Len Heikel, Principal
Enrolments	5 students at present.
	Designed for 15 children
Student population	Designed for 15 children, but currently only five so no need to have withdrawal spaces

Visit comments:

This school has been designed to have a school and a live-in component for the blind. It was within a new apartment building with one apartment on level four for the school and level five being used for residential purposes by students and by families with the students. Families are entitled to two to three days per week accommodation for their child. Five students live there with one adult per child.

The building is owned by a foundation that mostly does outreach work. The training of students is all aimed at enabling them to move to mainstream schools. They and their teachers have up to three days in standard schools twice a year.

With this innovative model of conversion of apartments, the school is not identifiable in the building and the apartments can be converted back for sale if the school wishes. The school building exhibits many features. It is specifically designed to aid the vision impaired but this has been done using materials that would not differ greatly from the materials used in a typical school. A local kindergarten adjoins the school that serves the local community.

Some features of the building are:

- Cork flooring with stripes used at room changes
- A lounge space for calming
- Rugs are used over vinyl floor as carpets are not allowed in Finnish schools due to cleaning standards and rain/snow effects
- Lighting is mainly indirect
- Kitchens are designed to have colour contrasts with panels on cupboards and edge trim to benches
- Floors are grey with white desks
- Dark walls are used on occasions with an individual light next to the bench to enable them to learn within their scope of vision. They can get over stimulated but without stimulation they may fall into their own world
- Sound absorption is needed to enable a lowering of the stimulation
- A ‘silent room’ enables training in hearing and identifying sound
- Technology on iPads is being pursued and laptops with Braille; however they do not want to pick programs etc. that schools may not be able to pursue
- A moveable pad at the bottom of stairs plus indicators changes on impact to note the reaching of the bottom

- The spaces generally are subdued with coloured contrasts and careful use of striping. In being subdued they also match the dominant white painted nature of Scandinavian schools.

Points to note:

The starting point for this school and live-in accommodation was created by converting new apartments, thereby fully immersing the school in the local community while creating a real living environment:

- The design for the vision impaired is still within the parameters envisaged to exist in a mainstream school
- Catering for visual impairment in many ways still reduces the amount of stimulation and gives capacity for self-calming and control that is necessary to enable learning for students with many other disabilities
- Life skills and social skills are a vital part of any education and especially for people with disability. All schools must look to teach them to all students not just in 'special' schools.

(above) Training kitchen

6. THE INTERNATIONAL EXPERIENCE

(above) Apartment building that houses the school and live in accommodation
(below) School dining area. Colour contrast furniture. Sound absorbing chair legs

(above) Textural colour contrasting elements - Bedroom

Visit Eight:

School	Saunalahden Koulu, Espoo, Finland
Main contact person	Hanna Sarakorpi, Principal
Enrolments	750 students total when fully occupied 32 ASD students as part of that number Maximum of four ASD students operate independently
Student population	Disability range: • Learning disabilities/concentration • ADHD • Disability with speech • Cerebral palsy • Delayed development.

Visit comments:

This is a large new school as yet not fully occupied which will have capacity for 750 students and has 32 ASD students as part of that 750. Some students have a range of disabilities and the school has a base room.

The main features of this school are in how it interacts with the community. They are as follows:

- Library – This is actually the front door of the school. It becomes the local library out of school hours. There is no receptionist to the school
- Fireplace – Immediately following the library a large open fireplace dominates the space and is deliberately visible at the entrance to the new suburb from the freeway exit
- The Youth, Computers, Art and Homecrafts wing of the school faces the street and has large windows deliberately aimed at the community after school hours and is a major youth centre for the area seven days a week
- The sports facilitiy is large and fully open seven days a week for the community and offers gym and judo during use out of school hours
- A very large central gathering area with stage and large volume wide areas overlooking it dominates the middle of the building. It is double height with full glazing to the outside terraced area and again fully visible to the community
- A small office adjoining this space is home to a manager who runs the building outside of school hours.

Learning areas:

The school has wings for grouped learning areas that have open visible curriculum spaces that are wide and furnished with viewing into adjoining learning areas:

- All rooms have student desks as well as a lounge area offering an alternative relaxing space. Rugs are used to provide contrast in a generally light colour environment with natural timber furniture
- A central open home base sits within each wing
- Televisions promote activities and timetables throughout.

Space for the students with disability:

A base room has been created centrally in the school and it does appear to have been selected for its limited outlook thereby reducing distraction.

The school did not seem to have pursued a specific design for the students with disability; however the base room appears to be coming into being as the school evolves. The school learning spaces offer some opportunity for all students to affect their environment. ASD students may be offered reduced class sizes to assist them.

Points of note:

This building is effectively a community building that has a school in it. The students with disability are part of that school but have not been particularly catered for but the school has the mechanisms for them to operate within it. The Finnish system will give the teachers the power to change the pedagogy, class size, location and type of learning if required to suit a student with disability. They can do this for any student.

The inclusion of the community in the school is strong and the openness of the school to other uses expresses a philosophy of inclusion of everyone. It is a beautiful building and it will be interesting to see as is evolves into a community building or school or both, how the students with disability needs are met.

(above) Central gathering space, performance area

6. THE INTERNATIONAL EXPERIENCE

(above) View to library which is entrance to the building

(above View to external community/gathering
(below) Youth activity area used by school in day and community at night

6. THE INTERNATIONAL EXPERIENCE

(above) Food skills training used by school by day and community by night
(below) Connecting spaces after relaxing /meeting options

(above) View down to central space

(below) Typical learning area with larger space

6. THE INTERNATIONAL EXPERIENCE

Visit Nine:

School	Gateway Private School, NYC, USA
	Started 1965
	Lower school/ middle school
	Offer standard and modified programs
Main contact people	Carolyn Salzman, Principal and Andrew Bartic, Architect
Enrolments	140-160 Kindergarten to Year 8 children
Student population	Learning disabilities (special)
	Special language emphasis

Visit comments:

This is a private school in NYC started in 1965 with a lower and middle school of 140-160 children Kindergarten to Year 8. It costs USD$60,000 USD per year for a child to attend. The state may pay up to USD$35,000 per year for a student to attend who has proven the need (currently 60 students attend under this provision).

It is a school that works with children with disability focusing on language development as a tool where small groups are focused with classes of eight to ten students with one teacher and an assistant (students in lower school; ten students in middle school).

Some students have moved to Gateway for some years and then go back to public school. This occurs due to the training of students to develop skills in speech and personal presentation of their learning. As a result they may overcome their early learning difficulties and develop the capacity to move to mainstream schools.

The program has children working in their classes then coming together for 'grandstand' which is like an assembly but with an emphasis on group problem solving. Children learn to take their skills to a larger group in public with other children. This takes place in a larger room. They learn to use language as an individual and then as part of a group. In a similar way movement is worked with by the occupational therapists with a larger experience in the gymnasium, based on a theory of movement and learning.

In this visit we were fortunate to be joined by the Architect Andrew Bartik. He pointed out the highly thought out planning, materials, transition spaces and details of spaces and their treatment to support the pedagogy. Central to the school's upper floor is a glazed roof over a wide stair. The stair has two components, one half being a direct set of risers and the other having double height and double width ledges for sitting to enable the stair to be used as an alternative learning space. It picks up on the principles of the learning stair in the Hellerup School in Copenhagen. This central connecting space is the life of the school and also has patterned screens adjoining it and a coloured artificially lit translucent patterned ceiling over the reception area.

The transitions from this space are colour coded with changes in floor colour to introduce zones of the school. Corridors are also the home of brightly coloured contrasting shaped relaxing/ withdrawal nooks for an individual or small group. These offer students the capacity to withdraw from a space and quietly work and relax.

An occupational therapy room is available as well as a gymnasium. The school also has a chemistry room. Special schools in NYC have physics and chemistry labs unlike Australia. Vinyl finishes, ceramic

tiles and timber floors are used as there is a high incidence of allergies. Carpet is used to quieten spaces.

Learning areas have a withdrawal room and all have a sink and use blackboards. In line with the theory of movement, the letters of the alphabet are felt in form as they are written. Electronic whiteboards will soon be used. This also follows the emphasis on language.

A movement room is where students learn about physical movement, shapes, climbing, swinging etc. An occupational therapy room supports this as well as a gymnasium. Based on Gestalt theory the 'grandstand' large gathering space employs a perimeter patterned screen which allows for light to enter, storage and small activities to occur in a perimeter zone yet they give the room a sense of order in its edges despite the range of things in the perimeter zone.

Small lounge furniture, mirrors, patterned wall dividers and displays occur throughout the spaces with contrasting colour, giving visual stimulation and offering activity options to students.

The building demonstrated a careful thoughtfulness to articulate the components that make up the physical needs of the school's implementation of its pedagogy. The school is working with the students in language, movement and visual stimulation to help them gain these essential skills. The design works in parallel with the teaching, starting at a smaller intense scale and working into a larger group/ larger space language.

The totally internal nature of the school due to its New York location does not offer the openness to the outside for the students to explore; this has to be organised as an excursion.

Points to note:

This school in the NYC location demonstrates the alternative education option without the traditional outdoor 'play 'space. The building offers many spaces specifically designed to meet the students' needs and moods. The building is a contributor to the education process. It gives constant reminders of the purpose of spaces and works also on the children's perception of space, patterns material and colours.

The school is a focused place in its pedagogical commitment to language and movement and the building has worked with architectural language and made movement and experience of the spaces a more intense and revealing experience.

(left) Learning stair at centre of both floors

6. THE INTERNATIONAL EXPERIENCE

(above) Retreat Nook

(below) Alternative small learning space

(above) Gym space with light/distraction controlling metal screening to perimeter

Visit Ten:

School	Reece School, NYC, USA
	Founded in 1948
Main contact people	Dr Thomas Colasuonno, Principal
	Steven Dodds, Project Architect
Enrolments	90 students
Student population	Full range of students

Visit comments:

This is a public funded, not for profit school for 90 children with a range of disabilities. Generally, the intention is for children to attend from early years up to middle school then transition into mainstream school. However, only four of the 90 are expected to go to mainstream schools and the rest will go on to special schools.

The school began in a house and sought to keep the overall scale model. The school is five floors with capacity for an additional two floors. A small outdoor area exists at ground floor at the rear. The multistorey building has natural light access to the front and rear so its configuration puts a gymnasium partially underground at the rear and children learning areas at the front and rear with withdrawal, therapy, offices and amenities in the middle of the building.

The Principal Dr.Thomas Colasuonno explained the NYC state system of having 15 categories of disability such as emotional, learning disability, speech impaired etc. The classification of children's disability would be subject to assessment of performance at an 'appropriate' placement. This system brought about a system of a child needing to fail at one location in order to move to the next which meant years of development and intervention could be lost before moving eventually to the appropriate setting.

The building:

Quiet rooms were provided but half of them were converted to become speech therapy rooms. There is now one quiet room per floor. Due to the front and rear learning areas and a need for a stair for circulation, the floors are strictly arranged using corridors. Smart boards are in every room with two mobile laptop groups. A sound amplification system provides direct sound to all parts of rooms via a microphone that makes each child feel that a teacher is next to them. The school runs a life skills program and a full academic program. The goal is always to get children back into mainstream schools. They shall all have to sit examinations for the City of New York curriculum.

The building presents to the street a coloured a horizontal striated façade of glass which links children's learning spaces to the strict orientation. It controls outlook and provides in room interest and connection.

Points of note:

The connection between learning spaces and withdrawal/ quiet rooms is not particularly free and the general street planning does not induce children to move to them of their own volition. Student centred learning around free movement is restricted. Learning appears to be classroom based and the only other spaces are formally moved for specific function.

(above) Reece School street view

(below) Entry foyer with view to lower basement gym

6. THE INTERNATIONAL EXPERIENCE

(above) Gymnasium

(below) Rear open space

(above) Typical Learning area

Visit Eleven:

School	Learning Spring, New York City, USA
Main contact people	Margaret Poggi, Principal
	Erica Gaswirth, Project Architect
Enrolments	108 – High performing ASD students
Student population	ASD

Visit comments:

This school was designed by the same firm of architects as the Reece School. It is a school for 108 ASD high performance students. The school is on a corner and has eight levels with a two level basement gymnasium at the entry level. The goal is for students to go to mainstream high school in 9th Grade. It has glazing to almost three sides with the creation of a light court. It includes a science laboratory room, a roof garden, a cafeteria and a library that is run by parents. The students are in sub-schools of upper floors seven to eight, shared between six and three and the lower on three and four. Each room has a teacher and two assistants.

The architects have built on their experience at the Reece School and added a large degree of design thought in areas of acoustics, colour, quiet spaces, light control and textures. The entrance to the school has a security guard at the ground floor and shows photos of all students with contrasting facial expressions under the title 'these are our moods'. This building has taken into account the 'moods' of an ASD student.

They use whiteboards for academic and social skills training and individuals have iPads. The building colour is deliberately subdued and learning areas are given names of trees. Small corridor time out spaces are cut into the passages with a cushion/ seating and separated lighting. They are used for controlled durations. A quiet room is also available with internal padding, dim lights and a staff member joins a student there. The acoustics control between all rooms has been designed to quieten the whole floor. The building uses external louvers to control the light access and the main stair has become a glazed connector between floors with outlook to the outside and courtyard.

The therapy rooms and music rooms have had sound deadening vinyl floors installed to reduce structure borne sound transference to floors below. The laboratory and computer lab are conventionally placed 'high school' type rooms which prepare students for mainstream and demonstrate the curriculum matching in the school. Displays and a strong art program are spread throughout the school. Staff offices are interconnected and occur on the glazed perimeter.

A small roof garden, secured steel with wall mesh gives some outdoor play; however the gymnasium is the dominant physical space.

Life skills training is held by an occupational therapist three sessions per week and there is a high emphasis on relationship development. This development is considered the most important part of the education.

Parents are involved heavily in the school with monthly parent support groups and their management of a large library. The school has an outreach connection to other public schools with a home base where they assist the schools to work with ASD students.

Point of note:

This building has developed the concept of a high rise school from the Reece School. It has greatly increased the tools to offer better learning to the students. It has particularly advanced the role acoustic separation can play in the high school footprint and looked to give better outlook and therefore more vibrancy to the necessary circulation corridors and stairs. It has given a greater variety of textures to spaces and controlled the lighting environment with natural and artificial to give a subdued atmosphere to promote calmness and quietness.

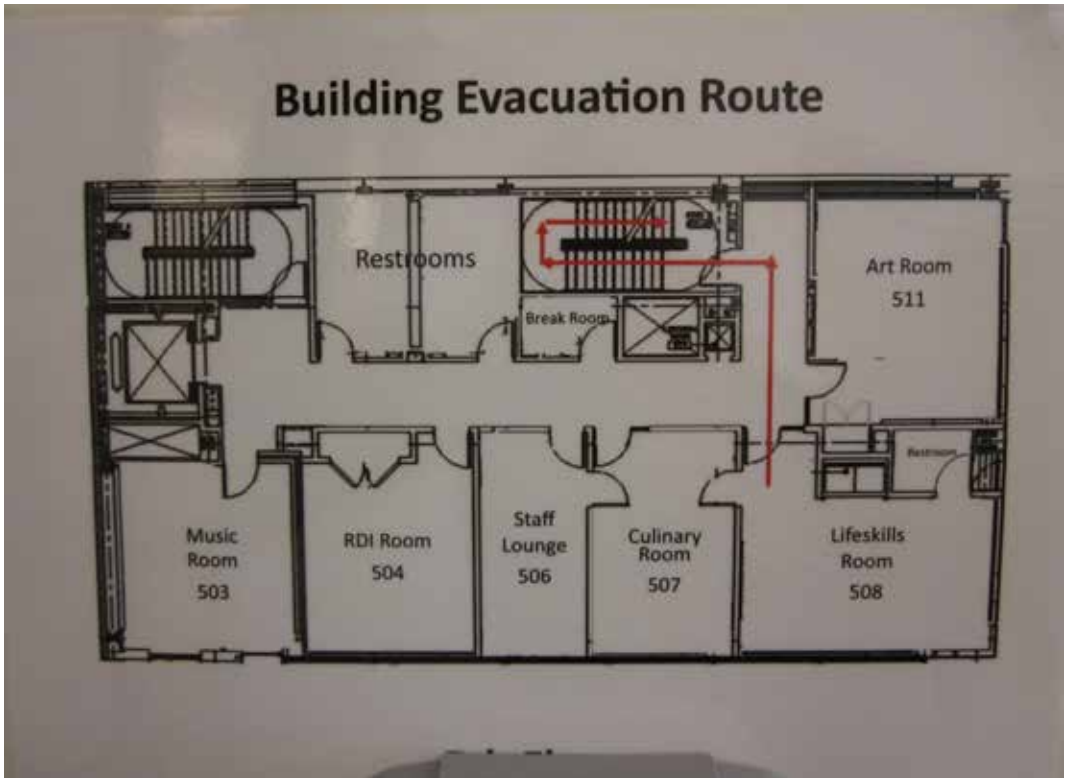
The building has done all these things with a particular emphasis on environmental principles in choice of materials, energy consumption, light control and orientation.

(above) Small hallway nook

6. THE INTERNATIONAL EXPERIENCE

(above) Laboratory space

(below) Plan special areas



(above) Plan Learning Area

(below) External Play equipment corner

6. THE INTERNATIONAL EXPERIENCE

(above) Typical hallway showing room front, display and nook

(below) Typical learning area

(above) Dining area

(below) Parent run library

6. THE INTERNATIONAL EXPERIENCE

(above) Student art work

Visit Twelve:

School	St Colletta, Washington DC, USA
Main contact person	Janice Corazza, Principal
Enrolments	Three adult programs involving 280 students
	Same number of staff
Student population	Three years old to 21 years old all disabled.
	Allowed to stay in school till 21
	Intellectual disability; 40 per cent of students' non-verbal

Visit Comments:

This school was designed by Michael Graves in 2006. It offers 280 students from three years of age to 21 years a full program that can go from early intervention to work placements in the school canteen. It is a 'charter' school which is publically funded but private. It has an extensive waiting list and entry is via a lottery. Seventy per cent of the students are in extreme poverty with high needs and the ASD students are also of especially high needs. The goal is always to get students back to mainstream. The school follows the Reggio Emilia philosophy and is broken up into a series of houses (these are visually referenced in the design). Each house works on a theme and goes into the community for training frequently. It is not geared to an academic outcome as is the curriculum at many schools. Other students from mainstream also come into the school under a 'best buddies' system to enhance contacts.

The school uses all forms of electronic teaching tools. Programs used are deliberately low tech for the student must know what to do next. The building, being in suburban Washington, has a surrounding garden and a horticulture/ science program developing plants from seeds and working with other schools. It trains its own teachers and runs a large training program in nutrition and due to the poverty, lunch and breakfast are provided to students with a nutritional education emphasis. The cafeteria is staffed by adult students and some ex-students. The school promotes high parent participation and the school is used for children's holiday activities and parent education on Saturdays. Bicycles are used by students in the central hall.

The houses:

These two storey components of the building are broken up and form a joined group of buildings each displaying its own 'house' appearance. Each house has its own lift and at upper level it has two classrooms, conference, therapy office and kitchen. Downstairs it has three classrooms with direct connection to the garden and between houses there is a studio space for performance and music. The houses are colour themed and the connecting spaces are heavily coloured to a theme. There is one withdrawal space and a sensory room that is only used under a therapist's control. The school has a hydrotherapy pool for one on one physical therapy. The organisation of the houses is off a central formal checkerboard floored two storey hall, that seems to be a reference to an image of formal learning and 'halls of learning' feel.

Points of note:

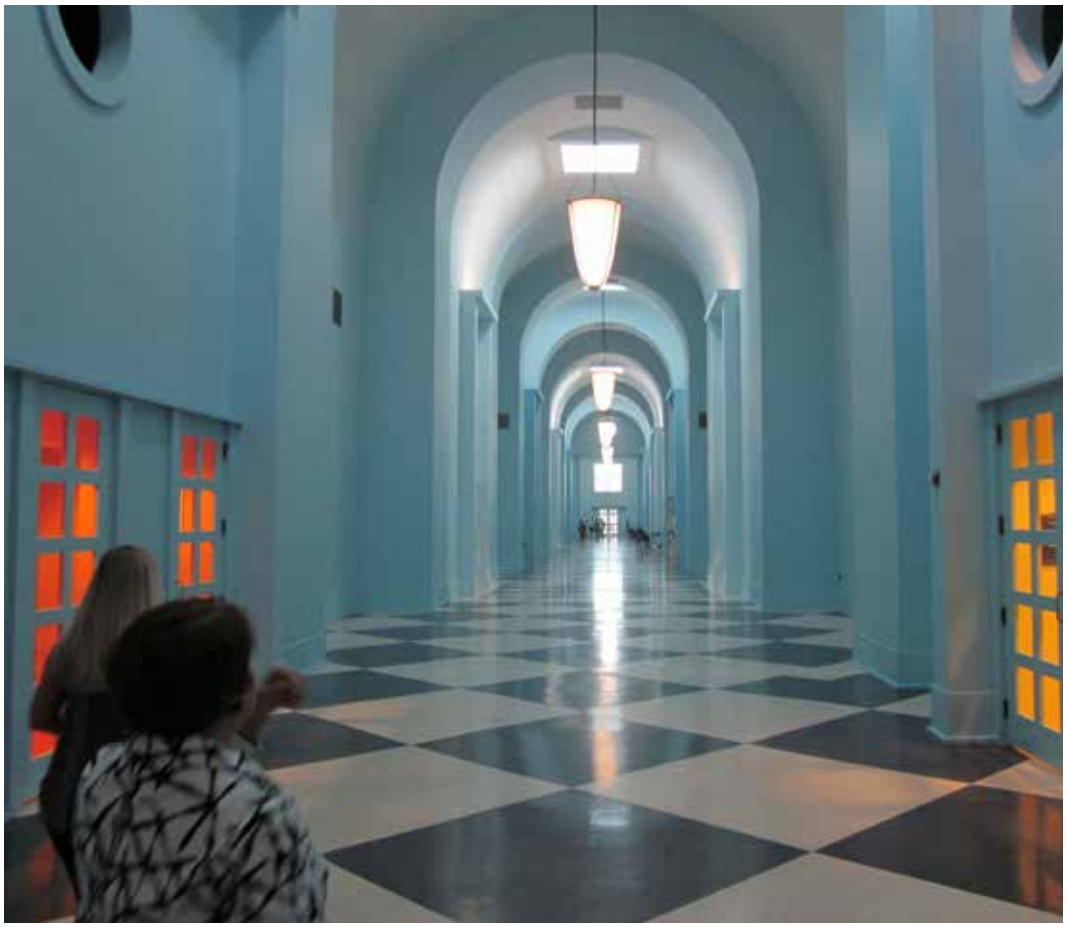
This school is working with extremely poor students with disability who would be lost in a mainstream school. Its unique arrangement of houses created physical sub schools that work on theme based curriculum. Life skill orientated education is reinforced by a building responding to its brief and using that in an exaggerated post-modernist building language.

6. THE INTERNATIONAL EXPERIENCE

A central organisation of the building around a lifeless formal hall is highly questionable and not in keeping with the schools houses interconnection to the outside. The visible arrangement using lifts in all houses is not cheap or efficient but may have been created to allow the ground floor direct access to the large inspiring garden.

The imagery of the building follows the architect's predisposition and may assist the children in identification of their home away from home. The school's full range of services, emphasis on learning through experience in things such as planting seeds and watching then grow into food, through to working in the cafeteria is special education being done to really meet the needs of its students. This special setting has been able to fully develop its own curriculum based on the need of its students and the building's themed houses reflect that. It appears that this real need, due to the extent of poverty and disability, has enabled the school to break free from the need to match mainstream curriculum. The school explored sub schools via its themed houses and planning. It uses indoor/ outdoor learning opportunities to enhance the outcomes of students. It follows the themes through in life skills.

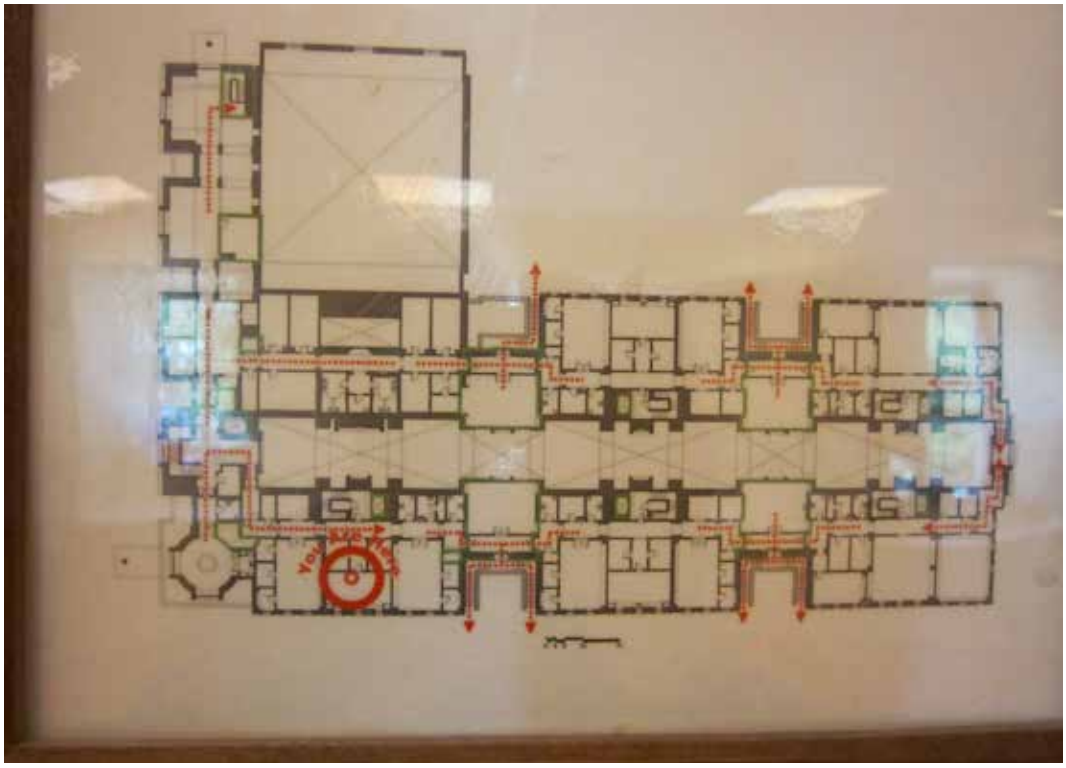
It is a shame that it does this only for those who get selected in a lottery, and due to the extreme poverty many possible students are rejected.



(above) Central Hallway 'Learning' homes to right and left

(above) House forms over 2 levels with direct garden access

(below) Plan



6. THE INTERNATIONAL EXPERIENCE

(above) Front Entrance

(below) Side view to learning houses and learning gardens

(above) Working/Learning garden

(below)Typical Learning area

6. THE INTERNATIONAL EXPERIENCE

(above) Art Room

(below) Project Board Learning Display

7. KNOWLEDGE TRANSFER: APPLYING THE OUTCOMES

The providers of education in Australia have a responsibility to provide an environment where all students can learn to the maximum of their ability and talents. All students are not the same, some are able to learn in any environment, some require motivation to initiate learning and education is no longer about being fed information by a teacher. Students need to be motivated to learn, engaged with the learning process and in an environment that assists them to do so.

Hede has designed many 'special' education schools for students with disabilities. These separate environments reduce the scale, increase teacher availability for students and in many cases seek to engage a student via their interests in order to begin a process of lifting their skills and assisting them to learn. The need for engagement with a disabled student may be to overcome a lack of communication, physical disability, difficulty in concentrating or behavioural control.

Mainstream education is now heading more towards this model looking to student initiated learning where students are encouraged to select topics they wish to pursue and learn in an area that motivates and excites them. In this process, the teacher is a co-ordinator, a partner in the process. This shift is occurring in spaces that are increasingly loosely planned, flexible and malleable to allow students to move to areas that suit group work, use flexible technology, and work in a self-motivated productive way. This is not that different to the needs of a special student, where such a student needs to be engaged, in an environment that suits their disability to enable them to begin to learn effectively with a teacher assisting.

All students therefore need their educational environment to give them an inspiring, comfortable environment that allows them to feel in control of their learning and able to pursue their individual interests.

This study looked at how students with a disability can be properly catered for in mainstream schools. It does not conclude that inclusion is the only option, but rather that inclusion should allow spaces that give the disabled student the capacity to control their inclusion, feel comfortable in their school environment with proper support but also to have the capacity to withdraw from the general environment if they wish to or need to. By planning these spaces and creating them, all students in the school would have the option of seeking extra support or having it offered to them. Students would also be encouraged to learn about disability and see it as part of everyday life. Disabled students would be taught about their disability and the skills they need to live and learn in an environment where they are facing the full range of students and school opportunities.

This approach to mainstream education needs to be understood by those providing services to children through to adulthood. The greater the effectiveness of education experienced for the disabled, the better their lives, and the lives of those around them, benefiting the whole community.

7. KNOWLEDGE TRANSFER: APPLYING THE OUTCOMES

The following subgroupings need to see and apply these findings.

Local Government, Private Early Childhood Services Providers

The capacity for inclusion of disabled children in pre-schools is now catered for in regard to toilet and shower aid access provisions. The need for the early intervention capacity and specific spaces as outlined in this report should be considered for inclusion in the all mainstream schools and specialist schools, at the future building development or redevelopment, at the planning stage.

1. Government and Private School Providers of education.
2. DET (formerly DEECD), and Independent schools generally in Victoria and other states of Australia
3. Disabled Adult Service Providers

   Given the role of schools in preparing the disabled for life in the community, adult service providers to the disabled need to adjust existing facilities and design new environments. This would then enable continued development of the skills students develop in their new environment as adult centres are really continuing the education process due to the arbitrary age based end of school not being totally applicable to the disabled student.

8. RECOMMENDATIONS

All school planning should therefore include the following aspects:

1. Early **intervention capability** to assist students to be prepared for school proper
2. Sub-schools, breaking the school down into **smaller units** (i.e. sub-schools) that allow for more comfortable environments for disabled students.
3. The creation of a **base area** for students with disability and special needs that offers support and an alternative to all students including the disabled.
4. Learning spaces that offer a **variety of options**, aids and adaptable environments for students and particularly disabled students.

Each of these aspects is covered individually, with recommendations and supporting information:

1. Early Intervention Capability

These rooms should be available and can form part of the Special Needs Base.

Room	Purpose
Small calm spaces, homelike	Extend home learning in comparable environment
Support to allow identification of needs	Capacity for assessment of skills – speech, hearing
Spaces to allow capacity to learn to control environment	• Quiet room • Sensory room – encourage exploration, cause/effect • Close to main school spaces
Spaces that inspire the student to have interest and learn	• Indoor/Outdoor • Physical learning
Relevant themes of learning	• Early skills • Food nutrition, eating skills • Opportunity » Garden » Art » Therapy » Sound

These spaces occur now in some local government kindergartens, some primary schools and some special schools. They need to be installed in all primary schools.

2. Sub-Schools

The creation of smaller units or 'sub-schools' would have the following features and offer the following to students:

- Smaller scale
- Students are able to operate better in a quieter, more familiar environment
- It reduces distraction and movement around the school and has a calming effect
- A smaller environment enables the students to have greater control over their learning with the reduced number of students.
- Students gain a sense of advancement through the school as they progress through sub school to sub school.
- The learning spaces need a smaller space capable of being more personalised for a disabled student with aids available.
- The advance to larger areas of the school is gradual as the student develops skills to cope with them.
- Toileting, medical rooms, therapy and teacher support spaces can be closer and more readily accessible to the early years sub school. The need for these may diminish as the student grows in skill and therefore progresses to sub schools that are less geared to these support areas.

Factors Common To Specialist And Mainstream Schools

Schools should be broken down in scale (use of sub-schools) to enable better learning outcomes for all students including disabled students.

Comparative situations / response

Specialist Settings	Mainstream Settings
SCALE • Small keeps the scale appropriate	• Allows capacity for student to be calmer, control environment
CONTROL OVER • Deals with distraction • Small numbers assist in this aspect	• Learning space needs smaller time out, capacity for slight separation
• Movement through school – allow for calmness, reduced exposure in separate environment of larger/more interruptive students	• Base room to enable support 1:1 is available for student to retreat, seek support
• Can be themed	• Begin capacity to learn about mood, state of mind and how to use the school environment
• Class sizes allows for individual features tuned to a students need	• Begin by giving a personal space that is controlled by student
• Slowly expand scale of school environment • Outreach to mainstream	• Supporting therapists more necessary in early years • Slowly expand from base to mainstream class
• Higher emphasis on therapists to bring skills up early	• Capacity for calming. » Time out » Acoustic Separation » Outlook and indoor/outdoor » Access to therapists via base area
• Spaces have calming effect • May need to train students for more inflexible spaces and school environment	• Cannot be designed on a one size fits all system

8. RECOMMENDATIONS

Mainstream school design

- Building needs to offer spaces for students with disability in all parts to separate themselves, if needed, to calm their anxieties, to concentrate to reduce the impact of a larger group
- Acoustic treatment of the environment to assist their capacity to operate
- May need distraction reduced
- Base for students with disability to go in the school which they control
- At base they receive more intensive support
- They have control down to a single person space in which they can get to stability mentally and they choose when to re-enter the mainstream school.
- Learning space should therefore have pockets of space that may reduce the scale, sound and exposure to a large group while connection is still there
- The capacity for a disabled student to interact via a device such as a laptop or IPAD may provide an advance in communication with the greater class such as through a whiteboard. This can be extended into social and relationship development
- A sense of community in learning and therefore allowing a disabled student to get to feel more comfortable in a group, therefore their confidence builds. This should involve the disabled student learning about their disability and its effect on their state of mind if possible, and at the same time the wider class group also learning about disability and their fellow students' situation. The result is an enhancement of their understanding in the class and the community. The class may then learn to assist the learning of the disabled student by their behaviours and use of the learning space.
- This could occur by the creation of smaller quiet spaces within a room/learning space controlling the lighting and sound level and allowing the space to become a quieter, calmer environment that the whole class understand was assisting the disabled student to cope, learn and feel confident. This would lead to increased mainstream learning by that student and less use of the base room as they increasingly felt confident in the mainstream learning space.
- Assisting this would be the opportunity for a disabled student to move to a quieter space nearby if necessary when the class space cannot offer the right conditions.
- In this environment the mainstream setting is offering more than a specialist setting due to the broadness of exposure, the reality of the range of people in the room and the benefits of inclusion to all involved.

3. Base Room for Students with Disability

This space should have the following:

3.1 Relaxation areas that students can feel comfortable in and take a sense of ownership of. It should have a lounge and be of subdued nature. This space offers a calming space for students after they arrive at school and before they commence classes as often the journey to school can be stressful, tiring or agitating and they need to calm to prepare for learning.

3.2 A space that they can have personal control over and remove all distraction if desired. It should be openable in that they can be there (such as a cubicle) and choose to have it openable to the broader space or closed off

3.3 The base space should have an interactive whiteboard or similar organisational tool that offers the capacity for the students to see how their work and day is planned and for them to be able to communicate their desires and mood for inclusion.

3.4 Special support staff need to be accommodated to offer assistance and training in skills for the student to learn that enable them to enhance the effectiveness of their time in the mainstream school.

3.5 This space must have the capacity for the students to learn here as a sub school for periods either before they join the mainstream school or as an alternative at times.

3.6 Some students may stay in this base/sub school for a while before they enter the mainstream school classes.

3.7 This base/sub school must have a program in educating the students in methods to cope with their disability and about their disability so that they get to know themselves. Then they will be able, with support, to get to know where they fit into the wider school community.

3.8 The sub school should have the capacity for parents/carers to receive support, monitor their child's progress and be up skilled in dealing with their child's disability

3.9 The sub school also acts as a support to children in the mainstream school who only occasionally might need help or be observed by the specialist staff as needing support. Counselling rooms and small group learning rooms are needed for this as these students may not need to fully access the base/sub school.

3.10 The base room should also have a room for medical treatment to meet any special needs in privacy.

3.11 Physically disabled students would need fully disabled toilets and adult change facilities

Recommendation for Mainstream Schools

- All existing and proposed schools should have the spaces provided for the inclusion of students with disability. These spaces do not need to be new additions but could be created out of existing spaces and should be centrally located in a school rather than at its periphery.

Recommendations Summary List - Special needs Base/Sub School

- Arrival/Departure Room
- Central Learning Space
- Individually controlled spaces for each student off a central lounge
- Support staff offices
- Counselling spaces for students and parents including a group learning in space for mainstream school students
- Counselling / parents resource room
- An outdoor area for relaxation/calming
- Disabled toilet facilities
- Medical treatment room
- Location – This group of spaces should be central to the school, for students to access it equally from most school areas
- The space should be accessed quickly from drop off areas and pick up areas
- The space should have the capacity to operate as a sub school for students to stay there and learn for extended periods if necessary
- The space should be an inherent part of the school rather than an identifiable 'odd' part

General Learning Areas and Other Mainstream Space

- All spaces should be designed to acknowledge that not all students are feeling the same in that space. Students with disability may be overwhelmed, stressed or highly stimulated by a space as there should be capacity for a component of the space to be smaller, calm and slightly separated.
- Spaces including learning areas, assembly areas and specialist areas, should be able to be dimmed in light, have controlled outlook and have acoustic separation from other spaces to enable students of all capacities to control their environment and assist learning.
- The school should identify areas at all times where the scale of its areas is able to be manipulated by students, by a disabled student or their aide, in order to enhance their learning capacity and confidence in a space. The uniform one size fits all approach to school spaces does not enhance individualised learning for all students and does not assist including students with disability to remain comfortable, confident and therefore reduces their capacity to learn.
- All students at mainstream schools are not identical. In Denmark it was identified that young adults that were retreating into isolated lives with no external contact or relationships were products of mainstream schools. They were later diagnosed as being ASD and underwent a whole program of reengagement around their interests with a view to developing life skills and relationships. They had gone through an education system and learnt how 'not to be noticed'. A proper base sub school and support staff potentially would have noticed them, engaged with them and given them a relevant education rather than letting them through.
- A renewed mainstream school also will identify the skills of students such as those with ASD that Specialistene is working with in Denmark to promote their unique skills and install them as 'consultants' in leading world companies.

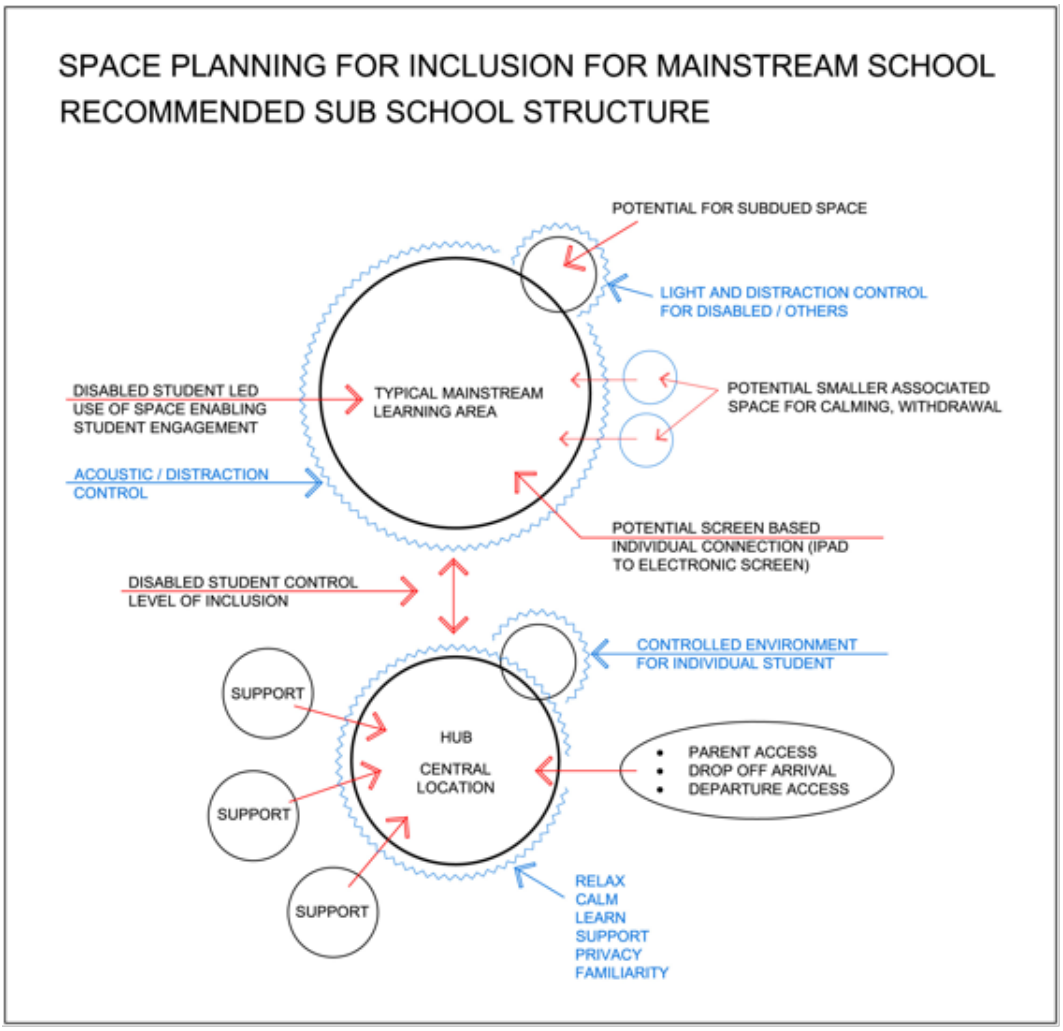
They have the spaces referred to above but are using them to prepare and train these adults post school.

Again this identification and support within mainstream and specialist schools could mean students leave with greater social, life skills and workforce readiness than they have received from mainstream schools and specialist settings.

4. One Size Does Not Fit All

As education generally moves to student initiated learning so it should be the case for the disabled. They need however these changes, to enable them to operate in the mainstream environment to assist their learning to their potential, and give them an inspiring environment.

School Planning Model for Inclusion



9. REFERENCES

" All references quoted below were as general background to the planning and preparation of this Fellowship Research. No specific data or quotations have been used in the report ".

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