

**THE WINSTON CHURCHILL MEMORIAL TRUST  
OF AUSTRALIA**

**CHURCHILL FELLOWSHIP 2004**

**THE USE OF INTERACTIVE MULTIMEDIA  
IN THE PROMOTION OF  
MENTAL HEALTH IN SCHOOLS.**

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Signed

Dated

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## 1. Precis and Acknowledgments

This report details the findings from the 2004 Churchill Trust Travelling Fellowship to investigate the use of interactive multimedia in the promotion of mental health in schools. Specific areas of investigation included:

- The role of Information and Communication Technology (ICT) in promoting learning in school programs
- The use of (ICT) to engage challenging and/or alienated students
- Interactive multi-media in health promotion and education
- Specific mental health applications for interactive multimedia in school settings.

I would like to thank a number of people and organisations for their support and encouragement in undertaking this study:

- The Winston Churchill Memorial Trust for their financial, logistic support and enthusiasm for the area of enquiry and personal back-up to me as an applicant
- Central Coast Health and the Division of Mental Health, and in particular my managers Deb Howe and Sue Leonard for supporting this study as a part of service professional development.
- All the contacts I made overseas in media, education and mental health who gave freely of their time and expertise and the friends with whom I stayed whilst away.
- My family Lou, Miriam, Hannah and Isobel who were supportive of my endeavours and forgave me for disappearing for the duration of the study tour.

My apologies to anyone who feels their views or work are not accurately represented in this report. I assume full responsibility for the descriptions of the programs and projects contained in it.

## 2. Executive Summary

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**Fellowship Objective:** to study the use of interactive multimedia in the promotion of mental health in schools.

### Fellowship Highlights:

- Attending and presenting on interactive multimedia in mental health promotion at the 3<sup>rd</sup> World Conference on the Promotion of Mental Health and Prevention of Mental and Behavioural Disorders, in Auckland, New Zealand.
- School Mental Health Project at UCLA, Los Angeles, that operates as a clearing house for information and programs relating to mental health in school settings.
- Rippleffects: met with Lew Bretano to view demonstration of Rippleffects social/emotional skills, whole spectrum learning system in San Francisco.
- Morphonix: met with Karen Littman to discuss the development and dissemination of the CD ROM "Journey into the Brain" and the current development of "Neumatrix"
- MIT Media Lab in Boston, examining their work in new technologies and how they promote exploratory education and improve engagement in learning.
- Harvard Graduate School of Education: Dr Chris Dede who has developed a Multi-User Virtual Experiential Environment Simulation (MUVEES) a shared interactive problem solving game environment that promotes interaction between students the learning task and the ICT medium.
- McGill University Psychology Department: Assoc. Prof. Mark Baldwin: developing of gaming technologies to condition positive social vigilance in young people with low self esteem.
- Media Lab Europe, Dublin: John Sharry who has helped develop a detective computer game called "Personal Investigator" to explore issues of depression and coping strategies in a gaming format
- Ultralab, Anglia Polytechnic University, Chelmsford: Stephen Heppell and Ultralab Team who use digital media to involve and motivate dis-engaged, anxious and alienated students in learning and production of creative media works.
- Caspian Learning, Andrew McPherson, working on a programmable learning platform using an immersive 3D real time gaming format to engage and teach a wide range of curriculum subject areas.

### **Lessons Learnt and Recommendations:**

- Young people through their recreational and educational exposure to interactive media find it a comfortable, easy and engaging way to learn that captures both their interest and motivation. It matches their predisposed neurological disposition for accessing and processing, and expressing information.
- Multimedia is already being used extensively in education settings with mainstream curriculum content areas but not so widely with student welfare/emotional wellbeing.
- Students can be involved in completing multimedia tasks but also in the creation of gaming formats that require group activities and complex digital research and development that is engaging and builds a sense of self competency that matches youth cultural values
- Digital learning needs to be supported on a platform of funding that enables schools to have a minimal level of technological sophistication to support this kind of learning.
- Digital learning requires teachers to re-define their roles from being repositories of knowledge to facilitators of learning and requires training and development to support this through the medium of technology.
- Interactive multimedia with physical health focus has clear applications to mental health issues.
- Innovative multimedia products require a substantial funding investment for research, development and implementation but deliver a significant return in improved student performance, attendance, engagement in learning and positive self regard.

### **Dissemination/Implementation**

- Report to NSW Department of Health
- Keynote speaker at MindMatters Plus Conference, Terrigal, March 2005
- Writing article for INFORM magazine distributed to all state schools in NSW.
- Presenting to Australia College of Educators, 2005
- Presentation to NSW School-Link Co-ordinators Network Forum, March 2005
- Abstracts will be submitted to Mental Health and Media, Mental Health Promotion and Technology in Education Conferences.
- Presentations to e-Learning (Feb 2005), Psychology (April 2005), Mental Health, Department of Education and Training (DET) (Feb 2005), in-service training.
- Applications for funding are being sought to produce in partnership with DET, a CD ROM resource on effects of mental health disorders on learning.
- Copies of Churchill Report will be forwarded to all centres visited.

### 3. Program

September 13<sup>th</sup>- November 8<sup>th</sup> 2004

#### **Auckland, New Zealand**

- Attended 3<sup>rd</sup> World Conference on the Promotion of Mental Health and Prevention of Mental and Behavioural Disorders
- Presented a paper at the pre-conference meeting of International Alliance for Child and Adolescent Mental Health in Schools (INTERCAMHS) on "Digital Learning and Mental Health Literacy"
- Presented a conference workshop paper on "Using Interactive Computer Software Applications to Promote Mental Health in Students Transitioning from Primary to High School"
- Met with Mark Weist the Director of the Center for School Mental Health Assistance in the University of Maryland School of Medicine, Department of Psychiatry, Baltimore, USA
- Met with Cheryl Vince Whitman, Senior Vice President of Health and Human Development Programs, Education Development Center Inc, Boston, USA

#### **Los Angeles, USA**

- School Mental Health Project, Department of Psychology, University California, Los Angeles (UCLA), Linda Taylor and Perry Nelson

#### **San Francisco, USA**

- Pupil Services Department, at the San Francisco Unified School District (SFUSD), Howard Blonsky
- Ripple Effects Inc., Lew Bretano and Alice Ray
- Stanford University, Stanford Center for Innovations in Learning, Wallenburg Hall, Reinhart Steinbeck and Claudia Engel
- School Health Programs Department, San Francisco Unified School District (SFUSD), Meyla Ruwin
- Morphonix Inc., Karen Littman.

#### **Boston, USA**

- Massachusetts Institute of Technology (MIT). Media Lab, Adam Boulanger of Dr. Tod Machover's "Opera of the Future" Team
- Harvard University, Graduate School of Education, Dr Chris Dede and Jody Clarke
- Harvard University, Medical School, Center for Mental Health and Media, Cheryl Olson and Dr Lawrence Kutner
- Inflexion Inc., Dr Michael Davis, Meredith Watt, Bobbie Chiauzzi
- Boston Museum of Science, Computer Clubhouse

#### **Montreal, Canada**

- Kutoka Media, Richard Vincent
- McGill University, Department of Psychology, Dr Mark Baldwin

#### **Dublin, Ireland**

- Media Lab Europe, John Sharry, Mark Matthews and Eileen Brosnan
- Diageo Liberties Learning Initiative, Clifford Brown

**London, England**

- Royal College of Psychiatry, Patricia Hart and Alexi Westburn
- Mental Health Media, Rachel Bailey
- H8US, Zubia Masood

**Chelmsford, England**

- Ultralab, Anglia Polytechnic University, Kris Poppat, Matt Eaves and Hal MacLean, Richard Millwood, Tom Stacey, Alex Blanc and Tim Ellis, Jonathon Furness, Leonie Ramondt, and Vicky Swan

**Newcastle-on-Tyne, England**

- Dr Val Besag, Educational Psychology Consultant
- SMS Media and Rotary International, Colin Sawyer
- Caspian Learning, Andrew McPherson

**Dundee, Scotland**

- University of Abertay, International Centre for Computer Games and Virtual Entertainment (IC CAVE), Penny Crowe, Lucy Joyner, Francis Emmerson

**York, England**

- Key-note speaker at “Keeping Kids Connected, Serious Games: Playful Approaches to Mental Health” workshop at the Bell Convent Centre, convened by Val Besag Educational Psychology Consultant

## 4. Introduction

### Digital Learning

**“The empires of the future will be the empires of the mind”**

**Winston Churchill.**

McLuhan (1994) in his seminal writing, “Understanding media: The Extensions of Man” suggested that Gutenberg’s printing press produced the first generation of an illiterate public. Each successive stage of media development has produced a new form of literacy. So it is with digital media with a new generation of young people who through their exposure to interactive media have developed new ways of learning, perceiving and constructing reality.

Royal Australasian College of Physicians Paediatric policy paper, “Where We Stand”, indicates that in the US the average child spends six hours per day interacting with various media and that by age 18, the time spent watching TV and using media exceeds the time spent in the classroom. A further compounding factor is the amount of time spent with unsupervised access. 1999 figures indicate that children aged 8-18 in the US, 53% had TV’s, 29% a VCR, 16% a computer in their own bedrooms. Parents are traditional gatekeepers of media exposure but this influence is being undermined by unfettered access through isolated unsupervised usage.

There is increasing evidence relating to the impact of early exposure to highly stimulating events on the developing neurology of the brain (Glaser 2000). These concerns have been expressed particularly around the effects of exposure to violent material and traumatic events. Concerns expressed around children and multimedia include unintended as well as intended exposure in the form of unsolicited exposure through advertising and that other activities aren’t happening when the child is in front of a monitor, such as exercise and social interacting.

The effects of digital learning on brain functioning have real implications for how we structure learning and classroom environments. Prensky (2001) and Tapscott (1998) talk of ten aspects of digital learning:

- Speed of information processing through multiple access points, simultaneous processing and using multiple channels for communication to share understanding.
- Task approach is characterised by parallel processing, multi-tasking and sustained partial attention. Learners have developed a more diversified form of attention that enables several tasks to be performed simultaneously but with less intensity and focus.
- Image subsumes text in understanding where the learner has developed a visual intelligence, representation shifts from verbal to iconic which are representations critical to scientific, technical and artistic thinking.
- Spatial versus linear learning. Text and language is linear, sequential and ordered. whereas digital images are spatial, kinaesthetic and dynamic. Students exposed to large amounts of multimedia exposure have developed attentional vigilance predisposed to spatial understanding and processing.
- Information access: Digital learners are less organised and more randomised in their acquisition of information. Information is arranged in ways completely different to text composition meaning that concepts are developed in a less ordered fashion.
- Connectivity: students access and process information with others multi-modally through other forms of digital technology such SMS, email, web bulletin boards etc.

- Active versus passive: interactive media is immediate with constant feedback and involves dynamic participation of the user.
- Immediate reward: interactive media produces immediate feedback as to performance and the utility of their learning with contextualisation of the learning.
- Fantasy: digital media usually involves the participant in a fantasy role that engages their involvement with the task being completed, thus improving engagement and motivation.
- Positive view of technology: users who are familiar with the technology will engage with it positively and place greater value on tasks that involve its use.

Gee (2003) in his book, “What Video Games Have to Teach Us about Learning and Literacy” identifies 36 learning principles addressed through the playing of video games that constitute a new literacy of interactive experiential learning. These include how one forms an identity, learning about sign systems and graphic meaning, choosing different ways to solve problems, learning from non-verbal cues and learning skill transfer from one task to another. Gee’s concept of embodied empathy in complex systems, means that players relate at an empathic level with characters in the story but also with the fictional context that the characters operate in at a direct experiential level.

Seymour Papaert (1993) has articulated a philosophical position that learning is education through play and that students are biologically predisposed to acquire knowledge through trial and error learning and that the role of teaching is to provide a means to facilitate this exploration. MIT Media Lab are interested through their Lifelong Kindergarten program in developing technologies to help children learn new things in new ways. They have developed a multi-media authoring system called Scratch that allows students to create games, animations and interactive art and share these creations with others over the Internet.

### **Multimedia in Schools**

**“Men occasionally stumble over the truth, but most of them pick themselves up and hurry off as though nothing ever happened”  
Winston Churchill**

The Games to Teach Project being conducted at the MIT Department of Comparative Media Studies under the leadership of Prof. Henry Jenkins are developing an educational pedagogical model grounded in current educational theory.

Gaming is being adopted in classroom practice because it:

- is engaging and motivating by allowing “immersion” in the learning task.
- assists in maintaining task attention.
- allows learning to be self-paced, and by trial and error that doesn’t expose the student to the possible ridicule of a public audience.
- means more challenging tasks can be graded for difficulty.
- develops learning through observation and hypothesis testing involving as it does deductive reasoning.
- provides opportunity for repeat practice immediate reinforcement for successful performance and the development of memory strategies.
- increases strategies of parallel attention.
- can be adapted to accommodate the learning styles of different students.
- frees the teacher to work more individually with students who are struggling or who have behaviour issues.

- allows teachers to be able to electronically monitor student performance and receive printed reports.
- can cover large areas of content that can be matched to curriculum outcomes.
- develops computational skills of hardware software navigation and visuo-spatial manipulation.
- can encourage gaming in the classroom that can be socially active and supported by communities of practice, as game activities increasingly become linked electronically in the classroom and on the Web.
- is a useful medium in working with students with learning/attention difficulties, from social minority groups or with psycho/social and behavioural problems.
- is fun! Game users describe the main reasons for playing are: curiosity, fantasy, challenge and interactivity (Malone, 1981)
- can be used outside of a traditional classroom setting such as in home schooling, alternate learning settings or in after school programs.

### **Mental Health Applications**

**“I consider myself to be an optimist, I can’t see the point of being anything else”  
Winston Churchill**

There have been numerous applications of interactive multimedia around physical health conditions. These have included games on Asthma (Bronkie the Bronchiasaurus), Diabetes (BG Pilot, Packy and Marlon and Captain Novolin), Cancer (Ben’s Game), HIV Aids (AIDS Avenger, Catch the Sperm and Super Shagland), Surgery Simulations (Virtual Surgeon), and Smoking Prevention (Rex Ronan).

A “Games for Health Conference” was held on September 16-17th 2004, at Madison Wisconsin ([www.gamesforhealth.org](http://www.gamesforhealth.org)), proceedings ([www.watercoolergames.org](http://www.watercoolergames.org)). The program explored the application of gaming technology in health settings. Presentations included, virtual reality therapy programs, biofeedback games, health/medical simulations and development guidelines for health games. One of the speakers Debra Lieberman outlined four goal concepts for health games. These included they should enhance self concept, promote self efficacy of the players, increase their knowledge and skill and that they should encourage communication and social support.

A “Serious games” Conference was also held on October 18-19th in Washington DC ([www.seriousgamessummit.com](http://www.seriousgamessummit.com)) and included presentations on such issues as using games to shape behaviour, and gaming applications in health-care settings. Gaming multimedia is more easily adaptable to physical health conditions as the programmable format required is more amenable to clearcut content areas that these illnesses represent.

Mental health issues are more problematic because of the undifferentiated issues relating to emotional wellbeing and the highly emotive nature of the content areas that could risk confusing or traumatising the user if not supported by trained facilitators. The issues around mental health are also strongly related to attitudes and beliefs that are difficult to address in a programmable format.

Mental health CD ROMs have tended to limit themselves to information about mental illnesses, impact of stigma on emotional wellbeing, quizzes that test knowledge, where to get help and video coverage of peoples experiences of mental health issues and help seeking. More recently however they have explored issues around emotional literacy, and coping strategies but funding restrictions have limited their sophistication.

## 5. Findings

### 5.1 Digital Learning and Multimedia in Schools (include web addresses)

School Mental Health Project, Psychology Department UCLA

(<http://smhp.psych.ucla.edu>)

- Project provides a web based clearinghouse of up to date information of mental health projects being used or suitable for use in school settings. The project has developed a Technical Assistance Sampler called “Using Technology to Address Barriers to Learning”, including the use of technology to access mental health assistance through directories, self-help guides, email and real time electronic counselling, support groups and accessing research. Also explores the use of technology in the classroom linked to the federal “No Child Left Behind” policy initiative

Stanford Center for Innovations in Learning (SCIL), Wallenberg Hall.

(<http://scil.stanford.edu>)

- Provides a high-performance learning space and state of the art facilities for research on learning and education. It is a classroom environment that will technically support multimedia education applications across all fields of learning. New learning environments create opportunities to engage learners by adapting medium and content to match the learning predisposition of the student.

MIT Media Lab ([www.media.mit.edu](http://www.media.mit.edu))

Games to Teach Project, MIT, Department of Comparative Media Studies.

- The use of media applications to engage students in learning, developing gaming pedagogical models grounded in contemporary educational theory.

Opera of the Future Project:

- Using programs such as “Hyperscore” to develop students interest in music composition and performance and engage them in a highly reinforcing music based activity..

Harvard Graduate School of Education (<http://www.gse.harvard.edu>)

- Developing a Multi-User Virtual Experiential Environment Simulation (MUVEES) that enables students to develop skills in scientific methodology in co-operation with other students through scientific investigation and information sharing and exchange in a historic virtual environment.

Kutoka Media Inc ([www.kutoka.com](http://www.kutoka.com))

- Developed educational packages with fictional, animated characters around such topics as maths, science, creativity, and learning a second language. Uses extensive marketing of program related merchandise such as soft toys, figurines, rubrick’s cubes, mouse pads etc to support students identification with the product. Has high levels of commercial acceptability to parents and pick up by age appropriate students and has been translated and distributed internationally

Diageo Liberties Learning Initiative ([www.thedigitalhub.com](http://www.thedigitalhub.com))

- Using programmable bricks (Lego’s “Mindstorms”) to use robotics in a cross curriculum format to engage alienated students in learning and raise levels of digital literacy to improve employability in developing digital industries in the Liberties area of Dublin.

Computer Clubhouse ([www.computerclubhouse.org](http://www.computerclubhouse.org))

- After school computer clubhouse funded through major computer hard-ware supplier (Intel) and staffed by volunteer computing students to work with young people in developing their computer literacy and assist in the development of games and other digital media, such as animation and clay-mation.

Ultralab ([www.ultralab.net](http://www.ultralab.net))

- Summer School: using digital cameras to film short (100sec) clips around a theme (such as transformation) to develop media skills, to promote teamwork, build self efficacy, promote re-engagement in learning and provide a prominent platform to showcase skills.
- Not School: program for alienated students, who are either excluded, anxious, chronically ill, avoidant, or travellers, that networks students with broad-band connected computer hardware and mentor support to develop learning projects that can be shared remotely with other students on or off the program.

Caspian Learning ([www.caspianlearning.co.uk](http://www.caspianlearning.co.uk))

- Developed a programmable learning platform that uses an immersive gaming format around selected 3D interactive learning tasks. The program allows teachers to add or change content areas, receive electronic reports on students performance and evaluate outcomes achieved. The program has been developed using a model of knowledge mapping, around a repertoire of 15 different types of learning tasks employing 6 types of cognitive skills including: acquisition, comprehension, application, analysis, synthesis and evaluation. Students report high levels of engagement, enjoyment and learning.

International Centre for Computer Games and Virtual Entertainment, IC CAVE

([www.iccave.com](http://www.iccave.com))

- Play2Win project exploring the application of computer technologies in solving learning challenges such as risk taking, working in teams, managing change and learning through simulations.
- Research and evaluation of gaming formats for specific learning objectives.

University of Abertay Dundee, Scottish Enterprise Tayside, Dundee City Council

([www.daretobedigital.com](http://www.daretobedigital.com))

- Working with students to enhance computer game development skills, though the “Dare to be Digital” computer game competition. Competition has now been expanded internationally to encourage wider participation.

## 5.2 Mental Health Applications

San Francisco Unified School District, School Health Programs ([www.sfusd.edu](http://www.sfusd.edu))

- Programs developed in conjunction with Little Planet Learning ([www.littleplanet.com](http://www.littleplanet.com)) to address smoking and drug and alcohol issues including drug refusal strategies. “Basement Bums”, 7 CD ROM package covering issues of stress, peer pressure, drug refusal, communication, decision making and problem solving, and “Bay Net 4”, a 2 CD ROM set covering stress management, academic pressure, effects of nicotine and goal setting, parental authority and self definition. Content areas developed around the adventures of fictional age related characters struggling with dilemmas and challenges associated with substance use.

Ripple Effects Inc ([www.rippleeffects.com](http://www.rippleeffects.com))

- Social/emotional training package, “Relate for Teens” described as a “whole spectrum learning system” that includes behavioural training, peer modelling, empathy building, affective motivation, transfer training and role playing, internalised thinking and writing that covers 189 topic areas. The program aims to develop assertiveness, self understanding, decision making affect and impulse control, empathy and social connectedness.

Morphonix Inc ([www.morphonix.com](http://www.morphonix.com))

- “Journey into the Brain”, neuro-anatomy education package for 7-11 year old that aims to develop students understanding of their brain functioning and its impact on their behaviour. In development since 18 months, “Neumatrix” a gaming program for teens aimed at drawing connections between brain function and emotion, behaviour and learning.
- ‘Interview’, a program designed to assist in the interviewing of young sexual assault victims.

Harvard Medical School, Center for Mental Health and Media ([www.hms.harvard.edu](http://www.hms.harvard.edu))

- conducting research on the use of computer games by young people and possible behavioural sequelae including motivation, learning, violence etc.

Inflexion Inc ([www.inflexion.com](http://www.inflexion.com))

- Development of programs that:
  - teach emotional literacy and affective skills to junior primary students, “Comprehensive Affective Training” (CAT)
  - explore decision making and problem solving around drink-driving (Crashsite)
  - cover coping with divorce and separation, “Kidcare”
  - deal with issues of body image, “Trouble on the Tightrope: In Search of Skateboard Sam”
  - cover issues of tertiary student health including drug and alcohol use, sexual health, smoking etc. “My Student Body”

McGill University, Department of Psychology ([www.psych.mcgill.ca](http://www.psych.mcgill.ca))

- researching social vigilance in people with low self esteem and how computer games such as self-esteem games could be used to re-condition a more positive pro-social scanning that develops positive self perceptions. ([www.selfesteemgames.mcgill.ca](http://www.selfesteemgames.mcgill.ca))

Media Lab Europe, Dublin ([www.medialabeurope.org](http://www.medialabeurope.org))

- developed a program where young people explore their experiences of depression called “Working It Out” to be launched in January 2005. Program includes explanations of examples of coping strategies.
- developing a detective computer game, “Personal Investigator” that examines depression and in a real time, 3D gaming format and explores coping and help seeking options for combating depression.
- Developed bio-feedback game, “Race to Relax” that trains participants to recognise a relaxation response through Galvanic Skin Response (GSR) feedback in a gaming format.

Royal College of Psychiatry ([www.rcpsych.ac.uk](http://www.rcpsych.ac.uk))

- “Changing Minds” CD ROM package addressing issues such as mental health stigma and specific topics such as eating disorders, depression, addiction, stress,

schizophrenia, and self harm. To be used in schools as part of the Personal Social Health Education (PSHE) curriculum.

- College exploring options to develop resources around issues relating to transition from Primary to High School

Mental Health Media ([www.mhmedia.com](http://www.mhmedia.com))

- L8R (later) project, an interactive web based drama that poses ethical dilemmas especially in the area of teenage pregnancy. Episodes of a video drama were distributed to schools for classroom discussion around the issues portrayed. Students could then email their decisions and vote about what choices they believed the characters should make regarding their prospective dilemma. This decision was then incorporated into the next filmed episode of the drama so students could experience the consequences of the choices they voted for and discuss these further.
- LOOP project: video and interactive web-site designed to raise issues relating to mental health and address stigma. The project includes digital stories, text testimony and information to be disseminated through schools.

H8US (Hiatus) ([www.hi8us.co.uk](http://www.hi8us.co.uk))

- Digital film project working with young people significantly disadvantaged in the education sector

Dr Val Besag ([www.valbesag.co.uk](http://www.valbesag.co.uk))

- Consultant to the Rotary International's "Coping with Life" Project on bullying and violence in schools.

Rotary International and SMS Media ([www.coping-with-life.org.uk](http://www.coping-with-life.org.uk))

- package of CD ROMs called "Coping with Life" covering issues of bullying, family change (break-up), loss of a loved one (bereavement) and citizenship. Projected titles in the future will include Coping with Growing Up and Coping with Danger. Resources distributed by Rotary to be used in schools to address these issues through curriculum at student welfare level.

## 6. Conclusions and Recommendations

Interactive digital multimedia has wide acceptance in education. It has been found particularly useful in settings such as:

- Self directed learning packages
- A tool of engagement with alienated and unmotivated students
- Connecting learning in meaningful ways with students in and outside the classroom.
- Education for students in rural and remote settings.

Interactive multimedia has been extensively adapted for use in health promotion/education circles for a range of physical health related conditions.

There are limited available and evaluated programs that address mental health issues that can be used as school resources. The few that are available have a high level of user acceptance and preliminary evaluations indicate they significantly impact on emotional wellbeing. There is substantial evidence ([www.case1.org](http://www.case1.org)) indicating a link between student emotional wellbeing and improved academic outcomes.

To successfully implement school based multimedia approaches, schools need to be resourced with ICT infrastructure to support the applications and teachers trained to re-orient their educational approach to exploit the educational potentialities of the medium. Schools are already using small hand held computers, Personal Digital Assistants (PDA's) as a low cost, portable means for students to access broad-band internet. The Stanford Centre for Innovations in Learning indicated that one of their greatest challenges was to get lecturers to re-think their teaching approach from a didactic style to more collaborative explorative learning that digital multi-media uses to greatest advantage.

Some of the most promising applications are those being used on the fringes of mainstream school settings with alienated, low achieving, behaviour disordered and disengaged students with very promising results. These applications have clear potential in the teaching of mainstream classes and students.

Interactive multimedia provides rich opportunities for departments such as education, mental health, alcohol and other drug and media companies to collaborate on projects by pooling resources and funding to develop programs that address contemporary mental health issues in schools. These could include depression, anxiety, violence, co-morbid mental health conditions and more general health concerns such as childhood obesity.

Producing a multimedia resource where the content is based on using the relationship between brain functioning, learning and mental health disorders would seem to be a useful medium to explore. Its very amenable to an adventure story telling scenario with engaging graphics that could interest students and teachers alike in developing an understanding about brain function and its effects on learning and emotional wellbeing.

Many of the most innovative projects involve using multimedia to give young people a voice regarding their issues. This has been through music, digital video, web-sites, bulletin boards, computer games and ICT affiliated interest groups like computer clubs. Digital media is after all the literate medium of this generation and educators and mental health workers only need to provide the means to give this voice. As Chris Dede says, *“Computer programs are the gateway to engagement. What we put in them can turn them into gateways of learning”*.

## **6.1 Dissemination and Implementation**

### 6.2 Dissemination:

- Report on findings and recommendations to be made to the NSW Department of Health on attendance at the Mental Health Promotion Conference in New Zealand and Fellowship findings.
- Presentations to divisions and departments of North Sydney/Central Coast Health such as Mental Health Grand Rounds, Children and Young Peoples Mental Health, Department of Psychology, e-Learning Focus Group.
- Presentations to Department of Education and Training, School Education Area, Professional Development program. Presentation booked for Australian College of Educators.
- Keynote speaker for NSW MindMatters Plus Conference at Terrigal, March 2005, highlighting the impact of mental health issues on learning.
- Present to the NSW School-Link Co-ordinators Forum, March 2005
- Conference abstracts will be submitted to such conferences as Mental Health and Media and Technology in Education Conferences.
- Submit article to INFORM Magazine, distributed to all teachers in NSW on the uses of interactive multimedia in mental health promotion in schools.
- Meet with the NSW Centre for Innovations in Learning to discuss findings and implications for new funded projects.
- Copies of the Churchill Fellowship Report will be forwarded to all agencies visited

### 6.3 Implementation

- New school based mental health multimedia resources could be compiled as a database by such international centres as the School Mental Health Project at UCLA and the Center for School Mental Health Assistance at the University of Maryland
- Negotiate with the NSW Centre for Innovations in Learning and groups such as the Brain Dynamics Centre based at the Department of Psychological Medicine, Westmead Hospital and NSW Department of Health on the development of a CD ROM on brain functioning and effects on behaviour and learning.
- Funding is being sought for the development of a multimedia resource with Health and Education covering mental health issues in schools, especially around the issues of engagement in school, impact of mental health issues on learning and emotional regulation
- Ongoing discussions are being held with some of the overseas programs visited to explore the feasibility of producing Australian voice over versions of their existing resources as a more cost effective alternative to new resource production.

## 7. Bibliography

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