

International Encyclopedia of Rehabilitation

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Adult Education and Intellectual and Allied Developmental Disabilities

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Introduction

A broad approach has been taken in considering adult education in the field of intellectual and developmental disabilities, for the range and variability in performance amongst people with such disabilities is very wide indeed. Intellectual disability is regarded as a condition of arrested cognitive growth commencing in the developmental years of early and young childhood. It is not just associated with cognitive disability, but with a wide range of social limitations in areas known as social or adaptive skills (Brown 2007). The definition is further discussed in this series under [intellectual disabilities](#) (International Encyclopedia of Rehabilitation website).

Issues of Lifespan

In recent years it has become apparent that people with intellectual and developmental disabilities are, like the rest of the general population, living longer lives. Lifespan has been influenced, and improved, in part, as a result of positive economic, nutritional and educational factors, including reasons associated with deinstitutionalization and community inclusion. The important development of normalization and social role valorization is historically important in this regard (Wolfensberger 1998). The overall result is a pressing need for a wide range of education in preparation for and during the adult years. Increasingly, a number of people who start off with apparent intellectual and certain developmental disabilities gradually grow into citizens with jobs, certificates, diplomas and even degrees. There are often improvements in cognitive abilities, particularly when individuals are removed from very impoverished or adverse environments (Clarke and Clarke 2003). Such cognitive improvement often takes place as a later compensation for early delayed development and seems to be particularly observed in the late teens and 20's. This would appear, then, to be an optimal time for education for many people with intellectual and developmental disabilities.

The vast majority of people with intellectual disability have circumscribed development and few opportunities in the community. It is therefore absolutely critical that we look at their education across the lifespan, and the challenges that may arise from their disability and/or their environment. The last mentioned may include family lifestyle, social conditions or may result from restrictive or limited public policy.

The Need for Adult Education

Education needs to take many forms. It has critical and important goals. Because of the development of inclusive practices and community involvement, people with intellectual disabilities have been encouraged, as their families have been, to live normal lives away from institutions and in regular society. Individuals, to do this effectively, need a wide range of skills, and frequently these skills have not been learned during the normal school cycle. A number of challenging issues arise. These challenges may be best seen within the development of a quality of life approach to the field of intellectual disability. For example, one major characteristic of a quality of life approach is variability – people differ over time and differ between one another. In education it is extremely important to recognize this variability as a number of implications follow.

Table 1 Reasons for Adult Education

People with intellectual and developmental disabilities

- live and grow up in the community;
- live longer now compared with even a short while ago;
- require further education to reach their optimal level of functioning;
- who experience education during childhood find it is often insufficient for adult life;
- find their learning may be slower than others;
- often show increased maturity and further cognitive development in their adult years and therefore become more receptive to adult education;
- find that adult life requires people to learn different and additional skills to function effectively in the adult world;
- require adult education to take into account their variable learning abilities and skills and provide opportunities for individual choices.

One of the challenges is to see that during the school years individuals are prepared for life in the community, but since this is frequently either not fully attained, or individuals may be slow in terms of development, the issue of adult education becomes critical.

What are the types of lives individuals may be expected or encouraged to live?

It is important to ensure that individuals with intellectual and developmental disabilities are provided with opportunities and choices for adult life. Because of differences in developmental rates individuals may need education at later or different times than other individuals. Many people with intellectual disabilities leave school at a later age than children without disabilities, depending on local educational regulations. But when they leave school, life often stagnates and in many countries individuals still go to workshops of different kinds, to training centres, although others, more fortunate, increasingly attend colleges or go directly into employment. In some countries individuals are restricted to special schools, while others in many developing countries have little chance of formal education for a variety of reasons (e.g. issues of gender, distances traveled to schools, often on foot, work required around the home and limited employment opportunities later in life). All of these factors argue for extended opportunities for education across the life

span. Today, employment for people with intellectual disabilities varies considerably and the story that will be told throughout these pages is one in which change is occurring all the time, and accurate prediction is notoriously weak. Many people with intellectual and cognitive disabilities do much better than people expect, and particularly better than most professionals and many people in their families and communities expect.

Basic Adult Social and Adaptive skills

A very basic level of education is required for many adults with intellectual and developmental disabilities, who increasingly require opportunities to function in society. This means learning social and social adaptive skills, including the basic requirements for living a normal community life. For examples see list below.

- Take care of one's own clothing
- Look after personal hygiene
- Carry out basic cooking
- Have the ability to keep one's living space tidy and clean
- Make phone calls at least to key support persons, including family
- Make basic purchases which are reliable and effective
- Use money and the ability to use a bank account or / and an ATM machine
- Develop relationships with other people and behave in a socially accepted manner within society
- Work part or fulltime
- Make friends through the organizations that one is attached to
- Be aware of common dangers and to recognize one's self as important
- Protect one's self in terms of sexual rights and freedoms as well as in terms of other personal rights and against discrimination. This includes knowing who to go to for support.

(Brown et al. 2008, p. 22-23, with permission)

The move to such education started historically many years ago (Brown and Radford 2007). A few institutions in the United States and Europe tried out such basic education in the 19th century (A century of Concern). In the first half of the 20th century the attempts at social education improved, and by the last half of that century gained greater momentum (Gunzburg 1968).

Adult Activities

One of the major aims associated with the development of adaptive skills, apart from community living, is the need to seek employment. Today many individuals have part-time work, often making it up to full-time by taking on several part-time jobs. Others become fully employed within the community. Once people get into work, they begin to develop normal lifestyles. Eventually the normal issues of ageing will begin to emerge. This underscores the need for recreational and leisure time activities, which also require skill development in the adult years and should be the subject of education as well as enjoyment. This we can also regard as an educational issue. All the above can lead to

more and greater communication, friendship and stimulating activities. The quest for a normal lifestyle is an holistic one and opportunities for education are fundamental to this.

A number of people with intellectual and developmental disabilities wish to partner or marry, and in a number of instances do so, and do so successfully, but here also education is required (Brow 1996; Griffiths 2007). This can lead to the setting up of their own families, sometimes with young children, which for some professionals and parents is a challenge issue, but one where education has a role (IASSID [International Association for the Scientific Study of Intellectual Disabilities] Special Interest Research Group, 2008; also Healthy and safe website).

We need to look at variety and variability of performance, a wide range of lifelong learning which includes a definition of adult education recognizing the need to learn social and adaptive skills, skills for employment, home management, recreation and leisure along with partnership and marriage, and in some instances family life with young children. This issue is not that this may be too difficult for many, but rather these opportunities should be available to enable individuals to “travel” as far as they like and as far at they can. Each step opens up further opportunities. The role of policy makers, professionals and parents is to see these diverse opportunities are supported. This is consistent with WHO definition in International Classification of Functioning, Disability and Health, which requires the opportunity for “Participation” (World Health Organization 2006).

Individual and Society - A complex interaction

But there is another side to this. This issue of adult education must necessarily involve public education. There are issues of rights and concerns over discrimination, and the right to inclusion within community and society as a whole. Along with this goes access to the types of activities and environments that other people may be expected to have, and enjoy during their lifespan. We are talking about quality of life issues, such as empowerment and choices across a wide range of life domains. It may be useful at this point to list some of the life domains that are discussed in the literature. These come from both quality of life approaches and models (Schalock et al. 2002), and also the more recently developed approaches to family quality of life (Zuna et al. 2009). It must be remembered, in this context, that many people with intellectual disabilities live with their parental family for much longer than other people, and in a number of cases, for their full lifespan, so we also need to consider the issues of ageing and adult education within such a context.

Table - Some Major Quality of Life principles and Concepts

- Values
- Human rights and discrimination
- Domains of life
- Holism
- Lifespan
- Perception
- Choices

- Self image
- Empowerment
- Variability

Social and Community Education

The majority of people with intellectual and developmental disabilities need opportunities for an education in the area of social competency and community living. Such education represents the fundamentals of inclusion, which are critically important. The issues can be summarized as learning and experience within normal communities with competency education in basic skills which includes social sight vocabulary, and where the individual wishes full reading skills (at least to an 8-10 year reading age equivalent to ensure reading becomes a useful and growing skill). Aspects of numeracy sufficient to recognize money values, the basics of personal banking, use of ATM machines, the use of telephone and internet (see later), and the development of skills in social conversation, (including interviews situations and making friends) are also important.

It is important to recognize that observation and assessment are necessary to ensure that the key areas involved are covered for any particular individual in such a way, that they form part of the individual's normal life experience. A number of assessment tools have been developed to assess knowledge and needs. The Vineland Social Maturity Scale (Doll 1953) and the Progress Assessment Charts (Gunzburg 1969), which measure self-help, communication, socialization and occupation are two examples from different parts of the world. Recently the Supports Intensity Scale (Thompson et al. 2004) has been developed to assess needs and supports of people with disabilities.

Other aspects of assessment relate to quality of life issues. Because it is now recognized that individuals have a better understanding of their situation than professionals often think, along with an ability to make choices, these aspects need to be determined for adults (Brown and Brown 2009). There is also a wide range of tools in the quality of life area and a list of these has been provided by Cummins (1997), and see also Comprehensive Quality of Life Scale in referenced website, which should be used to understand an individual's interests and life satisfactions.

Analogous tools look at family quality of life and requirements for support of adults (see for example, Family quality of life instruments: Brown I et al. 2006, Poston et al. 2003). Such assessments lead to counseling that may involve the development of various supports provided by frontline workers, but also may include more sophisticated support from professionals in career counseling. Such persons must have a sound knowledge of the new approaches to intellectual disability (Brown and Percy 2007). Unfortunately, it must be stressed that choices for individuals may be limited by the individual's lack of knowledge and experience, as well as from the lack of opportunities made available to them by society (schools, social agencies, training and rehabilitation centers). Opportunities to explore their environment, which should have started in their pre-adult education, must now start or continue through the adult years. It is important that parents and guardians are aware of the possibilities and support the gaining of experience, which may have risks. Measuring the impact of risk and taking it into account is an important

consideration, and many require common sense precautions but usually not the removal of opportunity and choice (Brown RI 2007).

Where to obtain Social and Adaptive Education

There are a number of centres and services around the world that provide training and education at this level. Traditionally many training workshops provide such opportunities. Organizations, such as the Community Living Associations in Canada, provide individual support workers to assist adults with intellectual and developmental disabilities to establish themselves in adult life, often employing a quality of life approach. The aim is to follow choices and needs and provide experience and opportunity in the community. Courses are provided within a variety of colleges, which may offer specific opportunities for people with intellectual and developmental disabilities. There are other possibilities that may be of greater value, in the sense that the college programs just mentioned generally result in segregated situations, even if the programs are based in integrated services. For quite a large proportion of individuals, the required opportunities may be taken care of through on-the-job training and education with support workers, which may lead to certificates of competency, through work related situations. This is still an approach that is in its infancy and needs much further research.

The Internet and Interactive Technology

One major and growing area is now readily available to adults with intellectual disabilities. The Internet is increasingly used by people with intellectual disabilities. Initial instruction should be readily accessible covering basic computer and Internet use. There is also a need to cover major dangers implicit in the process.

Internet communication has a number of advantages. For many people with intellectual disabilities, particularly those who are isolated, it provides a means of communicating with individuals who become or are their friends. Many people with intellectual and developmental disabilities, for example, make friendships through experience at recreation and leisure centres, some of them at national and international levels (e.g. the Special Olympics). Friends made at such meets can be continued if the person has a basic knowledge of the Internet.

Interactive technology can be used to enhance a wide range of education (Ryba and Selby 2004). Such programs cover some of the basic social and adaptive educational skills mentioned earlier. Many computer games are suitable for enjoyment, learning and the promotion of problem solving. The software for such an approach needs to be evaluated and requires careful exploration and monitoring, including the extent to which such software generalizes its affects to other aspects of life.

Major aspects of adult education can be resourced through Information Communication Technology (ICT). This provides a wide range of opportunities for adults with intellectual and developmental disabilities and can provide opportunities in the use of new tools, new approaches to problem solving, and finding resources on the web. Importantly, it is a means of communication and therefore interaction with others, which leads to the improvement of language, the development of friendships and the

development of a wide range of knowledge and skills which can lead to an expansion of choice and opportunity.

ICT is directed, not only to specific knowledge, it is also about enhancing cognitive abilities and self-regulation. Computers are valuable for storing notes, and writing in clear font with spell checking. The computer can be used for storing photographs, not only of friends and places, but of events, systems and practical knowledge. Recent research is looking at the development of meta-cognition (i.e. the awareness and self-regulation of ones own thinking ICT is also used for storing information that individuals may not easily retain or think about, and this may relate to social and employment needs such as food that one needs to buy or menus for basic meal preparation, to more complex activities associated with ones work or learning at college or university.

There are also a number of other assisted technologies from a variety of societies. Many of these resources are described by Ryba and Selby (1993). Information Communication Technology for Adults with Down Syndrome, (2004), although particularly written for adults with Down syndrome, much of the material is highly relevant to all types of disabilities.

Leisure and Recreation

Leisure and recreation are generally seen as critically important aspects of lifestyle for people with dependent and intellectual disabilities. Again, it is often not recognized how effective and stimulating such activities can be in terms of overall development. One of the great advantages of such activities is that they can take place in community facilities and in many instances, can be of an inclusive nature. Again, a number of colleges and volunteer associations run suitable programs.

The argument for including leisure and recreation is also one that relates to the development of health, but increasingly scientific knowledge and practice indicates cognitive ability, memory and general speed of reaction are enhanced through a variety of leisure and recreation activities (see for example, Fidler and Velde, 1999). Knowledge about such opportunities is important for individuals with developmental disabilities, but access to, and the availability of well educated and specifically, well experienced support personnel are also very critical. Many associations for and about people with intellectual and developmental disabilities provide a range of leisure and recreation programs and often recommend local facilities, some of them inclusive (e.g. Swimming programs, basket ball, athletic programs). For further information consulting such organizations as the Community Living Associations, and the Allan Roeher Institute; in Canada, and in the United States, the American Association on Intellectual and Developmental Disabilities, as well as specialty organizations in a variety of countries such as the Down Syndrome Educational International). (see reference for websites)

Many facilities, such a swimming pools, have now been adapted for ease of access for people with physical disabilities and also for individuals with limited cognitive abilities or functional skills. They range from wheelchair ramps in swimming pools to specialized training programs under qualified personnel, providing appropriate supervision,

instruction and mentoring. The same applies to athletic events and team practice in a wide variety of towns and villages that are now catering to people with such needs. All such activities can and often do involve education and training that enhance abilities, health and social communication, thus positively influencing a wide range of human activities (motivation, self-image, friendship, partnership, travel skills, etc). That is; leisure and recreation may be fun but such activities also address issues of development, including the generalization of skills to various other aspects of living.

Training, Work Experience, and Employment

In terms of adult education, we need to examine a wide range of issues relating to preparation for employment. The issues are many, although examples of various employments possibilities are occurring (Capie et al. 2006). It is clear that the issues involved need to be carefully examined by a) the individual and their family and b) tutors and instructors. There is a wide range of issues and these include:

- Opportunity
- Choice by the person with intellectual disability
- Exposure to employment situations during the schools years and after
- Opportunities to try work out
- Volunteer work
- Preparation in terms of transition planning, including necessary social skills and language, plus basic numeracy, and at least social sight vocabulary skills
- the development of necessary work skills

Self-Determination is critical and the young adult's involvement is important in planning this transition. The young adult is the central member of the support team. Social skills are now recognized as a key component in the successful development of employment. Familiarity and learning are absolutely necessary and there should be sufficient opportunity for individuals to learn within the natural environment (e.g. Numeracy in the community, Faragher and Brown 2005). Both parents and young adults tend to agree, for the most part, on the types of knowledge that should occur if young adults are to take a greater role in the community. Both parents and individuals tend to identify similar skill needs. However, many young people have a much wider range of the choices they would like to consider in terms of employment. Guidance and counseling are required, but expectations from other adults tend to be restrictive rather than inclusive (Grantley et al. 2001). Greater opportunity to explore and see how development can take place is critical. Capie et al. (2006) give examples of transition to employment in their book for parents and frontline professionals, including teachers. The type of situations that have been designed for employment, include individual supported jobs in the community businesses, enclaves or work stations in industry, mobile work crews and small businesses (Belamy et al. 1985). People with disabilities have written about the economics and opportunities which are provided for people with intellectual and developmental disabilities. Many people with intellectual disabilities, unfortunately, live at poverty levels, and women with disabilities are more restricted in their opportunity to gain employment and earn less than the males who are already poorly paid. Government allowances in the developed world do not always facilitate the process. For example,

many parents and individuals themselves, from a number of countries, note that government disability allowances are either low, difficult to obtain or, when the individual starts employment the disability pension is docked by the amount the person earns. This is a disincentive towards full employment and should be changed through the efforts of parental and professional groups in collaboration with governments.

The Virginia Commonwealth University has been placing people with disabilities for over 20 years, and notes there are still major difficulties (See <http://www.worksupport.com>). Wehman et al. (2003) indicate that equal competitive employment is still not the most wide spread form of employment for people with disabilities. Such adults are frequently discriminated against.

Increasingly there are opportunities for individuals to gain work experience as well as paid employment through a) links between training centers and schools, and b) industrial and allied employment facilities. Around the world various catering firms and restaurants provide opportunities for learning on the job, while a variety of other vocational training centres provide outreach personnel who act as buddies or companions when individuals are placed in employment. (Neufeldt and Albright 1998). Self-employment is a further method which has provided success for some, but requires educational and other support (Arnold and Ipsen 2005). Applied research is required in this area.

Support workers have knowledge in the field of disability, but are also skilled in a wide range of areas of employment providing insitu support for individuals during the initial stages of trial or actual employment, and sometimes longer. There are many examples of placement in firms and factories and within the service and catering industry. In the UK, recently, the government has put forward possibilities of training people on the job with certificates provided for proven competency in those jobs.

Some examples of employment

- Bus boy or girl
- Support worker in large stores (e.g. Safeway – collect food buggies)
- Motel staff – room service
- Food preparation jobs (e.g. McDonalds)
- Car wash
- Recreation & leisure worker
- Cleaning personnel
- Gas station attendant

These are all examples of employment carried out by people with intellectual disabilities at normal wages after basic education and training through formal education or through support personnel. Yet, for some individuals with intellectual and developmental disabilities a more challenging educational environment is warranted.

An number of adults with intellectual disabilities are making their way to colleges and universities. The number of individuals now doing this is not great, but it has greatly

expanded in the last 20 or so years. Initially a number of colleges provided, in an adult setting, courses for people with intellectual and developmental disabilities, but these were often segregated in terms of classroom or lecture room instruction, and frequently dealt with basic issues around social living, interviews for employment, and actual opportunities to develop skills for employment. There is a place for such courses, but this section of the paper is particularly concerned with the inclusion of individuals with intellectual and developmental disabilities into tertiary education settings.

In the latter half of the twentieth century a few parents, seeing the potential and possibilities for their children with intellectual and developmental disabilities, worked hard to get their young adult into college in fully integrated and inclusive settings. Many of these young adults gained certificates and diplomas in applied areas (eg. hairdressing, recreation and various support services).

This no longer can be seen as simply a trial process, but one in which increasing number of individuals are successful. Some of the courses are very practical, such as in hotel and motel training and basic management, enabling individuals to take on basic employment with some skilled education to assist them in carrying out various kinds of work. Experience shows that there is, amongst people with intellectual disabilities, a desire to be included and to carry out work in a dignified, inclusive manner, which means the right pay for the job and the same conditions as other people. It is an issue of both inclusiveness and human rights. Inclusive tertiary education at the adult level, when chosen and possible (and it is more possible than most suppose) is reinforced and expanded by the very things that go on in normal or regular society. It is not a process of just being there and being 'so-say' included. It is, at its best, a structured process that requires understanding and knowledge on the part of college and university, the support of willing professors and instructors, and the understanding and support of other students to foster and enable their peers with intellectual and developmental disabilities to gain knowledge and skills. It may not be successful every time, anymore than every student who attends college without a disability is successful. But it does require an acceptance that people can learn, that choices need to be explored, and monitored along with natural supports. These ideas challenge many people's (parents, professionals and the like) value systems and perceptions.

Hughson and Uditsky (2007) have provided a short but very useful book on Inclusive Post-Secondary (tertiary education) for Adults with Down Syndrome and other Developmental Disabilities. These authors note that it has been easier within the Province of Alberta, Canada, where they work, to get greater inclusiveness within the tertiary education centres than it has been in general secondary education. Yet there are major challenges, and in their opinion one of the greatest lies in learning how to enable relationships between traditional students and those with severe and multiple disabilities. They list areas in which people with intellectual and developmental disabilities have taken courses.

- Communication Studies
- Musical Culture
- Geology

- Music History and Appreciation
- Music Performance
- Political Science
- Historical Studies
- English
- Geography
- Anthropology
- Sociology
- Women's Studies
- Classical Mythology
- Physical Education
- Religious Studies
- Canadian Studies
- Zoology
- Art Fundamentals
- Physical Education Activity & Theory
- Ballet
- Jazz
- Law
- Botany
- Open Choir
- African Studies
- Kinesiology
- Russian
- French
- Spanish
- Psychology
- Archaeology
- Film Studies
- Early Childhood
- Police and Security
- Teacher Assistant
- Hotel Management and Hospitality
- Fine Arts
- Agriculture
- Nursing
- Forestry
- Home Economics
- Journalism
- Graphic Arts
- Equestrian Studies
- Outdoor Education*

*Reproduced with permission of the authors Hughson and Uditsky and Down Syndrome Education International).

It is also enlightening to see the range of activities in which students with developmental disabilities have been included for these stress the importance of a setting, which provides holistic activities that assist in various aspects of development (self image, mutual support, friendship, skill development, empowerment and choice). See examples below* :

- Student's Union Committees
- Clubs (Communication Studies, Women's Centre, electronic games, faith groups)
- Toastmasters
- Fitness Centre
- Private tutoring
- Literacy tutoring
- Acting classes
- Piano lessons
- Basketball team member/support
- Symphonic band, choral groups
- Radio station, newspaper
- Volunteering (student food bank, civil liberties society)
- Wrestling
- Rock Climbing, wall climbing, rappelling
- Archaeological digs
- Sports trips with varsity teams
- Figure skating
- Canoeing
- Skiing
- Golf
- Football
- Baseball
- Hockey
- Intra-mural Sports

They also provide a comment on recent research (see www.aacl.org or www.pdd.org). For example, the authors found that over 70% of students with developmental disabilities included in post-secondary education became employed either part-time or full-time and that sometimes included more than one part-time job per person. A wide range of employment positions were often supported by the individual's co-workers. As in other studies, the individual did better than parents or others expected (Grantley et al. 2001), and salaries ranged from minimum wage to twice this amount. Others, who did not become employed did, however, become involved in volunteer work. Hughson and Uditsky give advice about the role of families, co-workers, co-students and university administrative and teaching personnel. Organizations such as the library of the Roehrer Institute in Toronto are effective resources, as are such books as Building Bridges (1996).

The positive involvement of family in supporting, understanding and accepting the challenges involved should also be recognized.

Many parents have been surprised at the success of their children with intellectual and other disabilities, as have instructors and university professors. In Australia, for example Parmenter (personal communication, 2008) gives the following example. “ Two students, ostensibly classified as having an intellectual disability, were admitted as candidates in the University of Sydney’s Postgraduate Program in Developmental Disability under a special provisions regulation. They subsequently graduated with a Postgraduate Certificate in developmental disability, having successfully completed 4 units of study. They received special tutorial assistance, but no concessions were made in terms of examination requirements, both students were active members of a Self Advocacy organization. The tutorial assistance was provided by the regular Student Centre.”

It is apparent that somewhat different approaches have been taken in different countries. Getzel and Wehman (2005) in their edited book on going to college, also indicate ways people with intellectual and developmental disabilities can greatly benefit from college and university knowledge and experience.

Getzel and Wehman also provide strategies, along with resources and stories, which are valuable in helping to orientate faculty, staff and the administrators towards inclusion of people with intellectual and developmental disabilities. There are, at times barriers to this process and administrators and instructors need to look at ways of promoting inclusion and reducing discrimination. The opportunities, once these aspects have been overcome, for people with such disabilities to be included and supported by other students, who may act as mentors, and by positive faculty members, who readily accept diversity in their courses, and are willing to learn about the supports their new students require, is providing them with opportunities for studying, learning, expanding their knowledge, and in many cases, obtaining future employment which in many instances promotes positive lifestyles in the community. There is little doubt that the human rights legislation in Canada and the Americans with Disability Act (ADA), provide a backdrop in which to consider the responsibilities and approaches that can be taken in these types of inclusive education. The issues that now have to be dealt relate to the preparation of faculty and staff for education of people with developmental disabilities, as well as helping faculty to recognize the needs of people with disabilities. It is apparent that senior management have to be convinced of the efficacy of such an approach, but this is often best done by pilot demonstrations where individual examples already exist. The literature, though rather sparse to date on the topic of tertiary education, suggests that, in colleges and universities across several countries, where there are empathetic instructors and administrators, there are gains for everybody concerned. The “keys” are choice, motivation and support amongst students with disabilities and the college and university networks, including student peers. Learning new ways of instruction, support amongst fellow students, and the impact not on just the person with a disability, but their families as well, can lead to productive results and a useful new approach to inclusion and effective community living as well as adult employment. However, much further demonstration and research, including long term studies, are required to obtain greater

knowledge about this process including the impact on individuals across their lifespan. Adult education also requires, at its best, opportunities for internship and practice during formal education, for many people with intellectual disabilities learn through visual and hands-on experience as much as through lecture and textbook information.

Tertiary education has indicated that the above can lead to a wide range of leisure and recreation activities. Activities such as basketball, create companionship and friendship. Universities now have learning resource centres and counseling for students who have particular and specific needs. Many people with such disabilities often have areas of specialized skill, which they can develop in terms of adult education . Many more tertiary resources now need to gain the ability to promote the learning of people with intellectual and allied disabilities many of whom have particular skills in certain areas (eg. gifted at music or mathematics). Such students sometimes need to have modified examinations and have different assessment and test needs, which though of the same standard as other students, allow for duration of the assessment and also may allow for tape-recording of the responses. In other words, the direction of assessment is changing with our increased knowledge of people's cognitive and related skills. Some courses lend themselves to such an approach much more than others.

Tertiary Education: Summary

Only a small number of studies report full inclusion at the post-secondary level. In this paper examples of successful application have been presented, and this area still remains one of the major challenges, for there is still skepticism on the part of many university personnel. However, a growing number of professors and administrators recognize that opportunities should be made available and situations modified so that learning and assessment of people with intellectual and developmental disabilities can take place with full inclusion fostered through adaptive procedures. Such approaches generally modify the way instructors instruct, the way administrators administrate, and the advantages are seen in the collective tertiary communities as well as in the daily living and employment of people with intellectual disabilities.

Resources in this area, such as Hancock and Redekopp (1997), and various college and university websites give details on fees, admission criteria and process, as well as a wide range of course and job opportunities which have been found appropriate in terms of people with intellectual disabilities. They also importantly discuss the "side benefits" associated with such adult education, which relate to volunteerism, employment, social living, partnership, friendship, health, leisure and recreation and so on.

A national survey (Hart et al. 2005) in the United States provides a description of 25 programs for students with intellectual disabilities on campuses across the US, but only 8 were defined as fully inclusive. Unfortunately there is still a lack of adequate information on opportunities that do exist and the experiences gained, which is why the Hughson and Uditsky book is particularly attractive. They indicate that in 2006 there were 13 universities and colleges and technical institutes in the Province of Alberta, Canada, that offer tertiary educational opportunities. In other provinces of Canada there are some opportunities for inclusive post-secondary initiatives for people with developmental and

intellectual disabilities. It would also be fair to state that to some limited degree in the United Kingdom, and Australia (Grantley 2000) and also in New Zealand, opportunities are beginning to be developed and expanded (Hart et al. 2004).

Final Comment

The field of adult education for people with intellectual and developmental disabilities has slowly grown from the world of institutions, through special schools and other segregated options in the community to, in recent years, inclusive practices. A more socially oriented view of intellectual and developmental disabilities has gained ground. During this time aspects of intellectual disability, itself, has changed. Many of those with milder disabilities have gained inclusion during their schooling years, but the challenges increase for many of them across the life span. Further, more individuals with severe intellectual and developmental disabilities survive the early years, only to find a society which has not resolved many of the inclusive issues and opportunities required. Adult education represents one of the challenges. In itself there must be flexibility and variation to deal with the variability amongst those most concerned. Knowledge, lateral thinking, cultural experience, risk taking and careful planning and longitudinal research are, amongst other needs, required to deal with these issues. One solution will not fit all.

It is clear that there will need to be a different array of approaches to life-long education, along with training providers who can link together the necessary opportunities to fit individual needs across the life span. This paper has attempted to provide a view of some of the major approaches which are occurring and need to be developed further if the results of adult education are to bear substantive gains.

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Additional Web Resources

Accessible computer games at
<http://www.arcess.com/index.htm>

Allan Roeher Institute, Toronto, Canada
<http://www.roeher.ca/>

American Association for Intellectual and Developmental Disabilities
<http://aaidd.org/>

Closing the Gap, Changing Lives with Assistive Technology
<http://www.closingthegap.com>

Comprehensive Quality of Life Scale.: ComQOL Manuals
http://www.deakin.edu.au/research/acqol/instruments/com_scale.htm

Down Syndrome Education International
<http://www.downsed.org>

Inclusive Technology Limited: The Special Needs People
<http://www.inclusive.co.uk>

International Encyclopedia of Rehabilitation (Intellectual Disabilities , [PDF](#))
<http://cirrie.buffalo.edu/encyclopedia/contents.php?language=en>

Healthy and Safe. An Australian Parent Education Kit
http://www.healthystart.net.au/developing.php?p=parent_education_resources&r=healthy_and_safe