

## DOES INCLUSIVE HIGHER EDUCATION CAN HELP FOR PHYSICAL DISABILITY HANDICAPPED PEOPLE IN INDIA? A COMPARATIVE ANALYSIS

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### ABSTRACT

It is evidence that the physical handicapped Disability people in higher education have lowered than from school education. While going through the policies and programmes in India it is found that not much has been done in the field of disability and higher education. The majority of the disability people have the reciprocity of poverty producing disability, and disability resulting in poverty. Therefore, there is a need to increase the Higher education for the physical handicapped disability people. If the government able to provide inclusion education for physical handicapped disability people, then the employability will increase and thus, affirming dignified life for the persons with disabilities.

This paper expand knowledge on the accessibility of higher education to students with disabilities, the study compared 170 such students in higher education institutions in Andhra Pradesh with 156 students without disabilities for formal achievements and overall participation in higher education. It creates unique challenges for the inclusive education movement in India.

However, the results revealed that academic achievements of students with disabilities were almost as high as those of students without disabilities, and overall students' experiences were similar. Moreover, within the sample of two groups of students differed in areas of experiences, as did students with various disabilities among themselves. The results indicates that students with disabilities invested more time to meet the demands of their studies, participated in fewer social and extra-curricular activities, and used computers and information technology less. Higher education institutes still have a long way to go to reduce the gap in social inclusion of students with disabilities and to adjust academic standards for their needs.

**KEYWORDS:** Inclusive Education, Physical Handicapped, Disability, Higher Education

### 1. INTRODUCTION

Inclusive education has increasingly become a focus of debate in discussions about the development of educational policy and practice around the world (Farrell and Ainscow, 2002). The education of children and young people with special educational needs (SEN) and disabilities is now an established key policy objective in many countries for (Lindsay, 2007). The legislative and policy trends of the past 30 years or so have seen a clear shift away from the acceptance of the orthodoxy of segregated education for children with special educational needs. The US paved the way with the introduction of the Education for All Handicapped Children Act of 1975, which was subsequently amended as the Individuals with Disabilities Act (IDEA) in 1990 and updated again in 1997, to promote 'whole-school' approaches to inclusion (Evans and Lunt, 2002). All EU countries now have legislation in place designed to promote or require inclusion. Some commentators (e.g. Pijl et al., 1997) have described inclusive education as a 'global agenda'.

However, the definition and meaning are still the subject of much heated debate, and defining best practice is no simple task (Slee, 2001a). The inclusive education movement has been endorsed internationally by UNESCO's Salamanca Statement (UNESCO, 1994) and reflects the United Nation's global strategy of Education for All (Farrell and Ainscow, 2002). Inclusive education is now seen as central to human rights and equal opportunities and a priority policy objective of liberal democracies. Inclusion challenges all those policies and practices that serve to exclude some children from their right to education. The underpinning ideal is that all children have the right to be educated together regardless of any special need or disability.

The inclusion agenda is also fuelling discussions around the roles of various specialists within the field of SEN, the purpose of those specialists, and special educational facilities that currently exist within the system (Farrell and Ainscow, 2002). It should not be assumed, however, that there is full acceptance of the wisdom of inclusion. There is considerable debate about whether it is achievable, how it could be achieved. Debate also exists regarding the extent to which this involves the deconstruction of the field of special educational needs and construction of a regular system that will meet the needs of all students (Norwich, 2002). Inclusive and integrated education.

Even today in a large number of developing countries started reformulating their policies to promote the inclusion of students with disabilities into mainstream in higher education. However, the developed countries now have policies or laws promoting "inclusive education," a number of developing countries continue to provide educational services to students with disabilities in "segregated" universities and colleges. Typically, inclusive education means "that students with disabilities are served primarily in the general education settings, under the responsibility of [a] regular classroom teacher. When necessary and justifiable, students with disabilities may also receive some of their instruction in another setting, such as [a] resource room" (Mastropieri & Scruggs, 2004, p.7). Historically, many educational systems have adopted an integrated education model as an interim approach in the move towards inclusive education. In the "integrated education" model "whenever possible, students with disabilities attend a regular college or universities".

## **2. DEFINING INCLUSION**

Despite the apparent convergence of international policy and legislation around the inclusion agenda, the definition and meaning of inclusive education is still the subject of much heated debate and defining best practice is no simple task (Slee, 2001a). The value of aiming for the development of an inclusive education system in which tolerance, diversity and equity are striven for is uncontested; the means by which this is to be achieved is much more controversial. Dissatisfaction with progress towards inclusion drove demands for more radical changes in many countries (Slee, 1996). In developed countries, however, it is easy to forget that an estimated 115-130 million children across the globe do not attend school at all. Just as alarming are the countless others within the school system who are being excluded from quality education or who are dropping out of school early (UNESCO, 2005). Inclusion involves a particular emphasis on the educational rights of those groups of learners who may be vulnerable or at risk of exclusion or underachievement. As noted earlier, inclusion appears to be a grand and elusive concept. The fact that a single accepted definition has yet to gain currency reflects its complex and contested nature (Florian, 1998). Inclusive education looks at both the rights of students, and how education systems can be transformed to respond to diverse groups of learners. It emphasises the need for opportunities for equal participation for any students with disabilities or special needs in the education system, preferably in a mainstream environment. Despite many developments, Ainscow et al. (2006) contend that the development of inclusive practices in schools is not well understood.

The concept of inclusion replaced the earlier term 'integration', which was used in the 1980s to refer to the placement of pupils with special educational needs in mainstream schools. As Farrell and Ainscow (2002) point out, the problem with defining integration solely in terms of placement is that it tells us little about the quality of the education received in that context. The integration movement was based on an assimilation model. Its emphasis was on providing supports to individual students to enable them to 'fit in' to the mainstream programme without any changes being made to that programme. In contrast to integration, inclusion is about the pupil's right to participate fully in school life and the school's duty to welcome and accept them (British Psychological Society, 2002). The British Psychological Society's definition of inclusive education is centred on the following concepts:

- Rejecting segregation or exclusion of learners for whatever reason, whether it be ability, gender, language, care status, family income, disability, sexuality, colour, religion or ethnic origin.
- Maximising the participation of all learners in the community schools of their choice making learning more meaningful and relevant for all, particularly those learners most vulnerable to exclusionary pressure.
- Rethinking and restructuring policies, curricula, culture and practices in schools and learning environments so that diverse learning needs can be met, whatever the origin or nature of those needs (British Psychological Society, 2002, p.2).

The term 'inclusion' shifts the focus from the child to the school. Unlike integration, which does not specify what should be done, inclusion is used to describe the extent to which a child with special educational needs is involved as a full member of the school community with full access to and participation in all aspects of education. 'Inclusion' better conveys the right to belong to the mainstream and a joint endeavour to end discrimination and to work towards equal opportunities for all (CSIE, 2002).

Florian provides a useful summary of a range of definitions of inclusive education and their various sources. This information is outlined in table 1 below.

**Table 1: Definitions of Inclusive Education**

Definition	Source
Being with one another, how we deal with adversity, how we deal with difference	Forest and Pearpoint, 1992
A set of principles which ensures that the student with a disability is viewed as a valued and needed member of the school community in every respect	Uditsky, 1993
A move towards extending the scope of 'ordinary' schools so they can include a greater diversity of children	Clark et al, 1995
Schools that deliver a curriculum to students through organisational arrangements that are different from those used in schools that exclude some students from their regular classrooms	Ballard, 1995
Schools that are diverse problem-solving organisations with a common mission that emphasises learning for all students	Rouse and Florian, 1996
Full membership of an age-appropriate class in your local school doing the same lessons as the other pupils and it mattering if you are not there. Plus you have friends who spend time with you outside of school	Hall, 1996
The process by which a school attempts to respond to all pupils as individuals by reconsidering its curricula organisation and provision	Sebba, 1996
Schools that are accepting of all children	Thomas, 1997

Florian also presents Inclusion International's (1996) definition as the only one which transcends the notion of normalisation as it underlines participation rather than normalcy. According to this definition, Inclusion refers to the opportunity for persons with a disability to participate fully in all of the educational, employment, consumer, recreational, community, and domestic activities that typify everyday society' (Florian, 2005, p.32).

Many definitions of inclusion have been advanced and presented here, as inclusion has been defined in a variety of ways. In many publications, an explicit definition is omitted and the reader is left "to infer the meanings it is being given for themselves" (Ainscow et al., 2006, p.14). The variations in definition and interpretation suggest that the meaning of inclusion may be contextual and that it will take different forms depending on the situation (Florian, 2005). This means that the demands for inclusive education will be different according to perspective of the individual or group concerned. It also means that inclusion will not look the same in every school even when it is argued on the basis of human rights.

### **3. WHY IS DISABILITY A DEVELOPMENT ISSUE?**

The World Health Organisation (WHO) estimates that 10% of any population are disabled (Thomas, 2005a). In addition, approximately 85% of the world's children with disabilities under 15 live in developing countries (Helander, 1993, cited in Robson & Evans, no date). It is further thought that with disability, or impairment, being both a cause and consequence of poverty, the Millennium Development Goals cannot be achieved without a specific disability focus (DFID, 2000). People with disabilities have health, nutritional, educational and gender needs too, yet the goals related to these issues currently ignore the often unique needs of people with disabilities within these goals. The WHO estimates that up to 50% of disabilities are preventable, with 70% of blindness and 50% of hearing impairment in children in developing countries being preventable or treatable (DFID, 2000). Although this can be seen as more of a health issue than a disability politics one, its link to healthcare, malnutrition and poverty makes disability a development issue.

#### **3.1 From Segregated to Integrated Inclusive Education**

Higher Education in general and post-secondary education in particular, is a predictor of gainful employment in meaningful occupations, opening opportunities for career development, hence for quality of life. Caring for "the old, the sick and the disabled" is a part of the cultural heritage of India (Karna, 1999; Ministry of Welfare, 1997; Singh, 2001). Exploring the roots of welfare services for persons with disabilities, Karna states:

From time immemorial, it has been the part and parcel of the cultural heritage of India to provide help and sustenance to the poor and destitute. The Hindu religion emphasised the value of compassion, charity, philanthropy and mutual aid. The guild system, as existed in ancient India, also contributed to the promotion of such practices for the disadvantaged strata of society. (p. 27)

The custom of joint family and kinship provided an in-built mechanism to support such practices. According to Miles (2000), rudimentary attempts to educate students with disabilities were made in India long before such attempts were made in Europe. He cites, for example, that specially adapted curricula was used 2000 years earlier as evidenced by children's toys that were excavated in diggings in Taxila. Also, the ancient "gurukul" system of education that existed in India for centuries was sensitive to the unique cultural, social, and economic needs of the students and their families and imparted life skills education recognizing the potential within each student (Singh, 2001). However, these educational and rehabilitation practices were lost during the colonial period (Singh, 2001).

The formal education of children with disabilities began in India in 1869 when Jane Leupot, with the support of the Church Missionary Society, started a school for "blind students" in Benares (Miles, 1997). Miles also reported that the first formal school for children with intellectual and physical disabilities was established in the eastern part of India in Kurseong in 1918.

The education of children with disabilities in segregated settings continued well after India gained independence from Great Britain in 1947, with various non-government organizations assuming increasing responsibility for their education. By 1966 there were 115 schools for students with a visual impairment, 70 schools for students with a hearing impairment, 25 schools for students with an orthopedic disability and 27 schools for students with an intellectual disability (Aggarwal, 1994). According to Pandey & Advani (1997), by 1991 there were about 1,200 special schools for students with various types of disabilities in India.

One of the major initiatives from the Government of India to promote "integrated education" is the program of Integrated Education of Disabled Children (IEDC). In 1974, the Ministry of Welfare, Central Government of India, initiated the IEDC program to promote the integration of students with mild to moderate disabilities into regular schools. The program was also designed to promote the retention of children with disabilities in the regular school system. Children were to be provided with financial support for books, stationery, school uniforms, transportation, special equipment and aids. The state governments were provided with 50 percent of the financial assistance to implement this program in regular schools. However, the program met with little success.

Rane (1983), in his evaluation of this program in the State of Maharashtra, reported that (a) the non-availability of trained and experienced teachers, (b) lack of orientation among regular school staff about the problems of disabled children and their educational needs, and (c) the non-availability of equipment and educational materials were major factors in the failure of the program. Also, a lack of coordination among the various departments to implement the scheme was another major factor in the failure of the IEDC plan (Azad, 1996; Pandey & Advani, 1997). Mani (1988) reported that by 1979-80, only 1,881 children from 81 schools all over the country had benefited from this program.

This finding is even more significant for people with physical and sensory disabilities, whose range of employment is limited to jobs that require fewer physical abilities and skills (Kendall & Terry, 1996; McGeary, Mayer, Gatchel, Anagnostis & Proctor, 2003). Accessibility to education is therefore especially important for people with disabilities (Drake, Gray, Yoder, Pramuka & Llewellyn, 2000; Dorwick, Anderson, Heyer & Acosta, 2005; Inbar, 2003; Inbar, 1991; Getzel et al., 2001; Rimmerman & Araten-Bergman, 2005)

Despite the revolution in social and legislative policies on provision of equal opportunities for education and employment for people with disabilities, there is still a long way to go (American with Disabilities Act, 1990; Canadian Human Rights Act, 1985; Individuals with Disabilities Education Act, 1997; Quinn & Waddington, 2009; United Nation Convention on the Rights of Persons with Disabilities, 2006). It is estimated that only 8-14% of all students in post secondary education institutes in the US and Great Britain are students with disabilities, while in these countries over 18% of working-age people are disabled.

Expectations of higher enrollment of students with disabilities have prompted academic institutes to introduce innovative programs to meet these students' needs. Special programs have been opened for students with visual impairments, students with learning disabilities, and students with psychiatric disabilities

(Oved, 2007; Sasson, Greenshphon, Lachman & Bonny, 2003; Stodden, Roberts, Picklesimer, Jackson & Chang, 2006). However, research initiated for legislation proposals in 2008 found a lack of consistency in policy, of evaluation criteria, of entrance requirements, and of support and supportive programs developed by the different institutions (Yorgan, 2006).

The opportunity these changes presented for the inclusion of students with disabilities in higher education institutions, and the resources dedicated to that purpose, call for an in-depth examination of the results: How do these students participate in academic and student life in general? The aim of the present study is to expand knowledge on the academic performance and experiences of students with various disabilities in higher education.

#### **4. ACADEMIC PERFORMANCE AND EXPERIENCES OF STUDENTS**

The two most traditional objective measures of academic performance of students are Grade Point Average (GPA) (McKenzie & Schweitzer, 2001) and the Success Index, which is the rate of courses the student has completed without failure (Foreman, Dempsey, Robinson & Manning, 2001). In recent years, subjective measures have been added, reflecting students' self-evaluation in self-report questionnaires. These measures refer to personal factors, such as self-perception of success and satisfaction (Pace & Kuh, 1998; McKenzie & Schweitzer, 2001).

Only in the last decade has students' performance begun to be examined from a perspective of experience in activities in the broader context of students' roles (Pace & Kuh, 1998). This change is embedded in an extensive definition of participation as an integrated term of involvement in activities, evident in the interaction process between an individual and her/his environment (Eriksson & Granlund, 2004). The term participation has several dimensions: taking part, inclusion, involvement in various life areas, and access to the necessary resources (Moller & Danermark, 2007). This conceptualization means that students' experiences include participation and learning in all aspects of academic institutional life, in and outside the classroom.

In addition, according to Pace & Kuh (1998), students should be encouraged to expand and exercise the knowledge gained in formal learning to interact with students, faculty members, and other people outside the campus. Thus, formal and non-formal learning experiences, on- and off-campus interactions, are part of students' roles. The present study chose to include, in addition to the usual academic performance measures, a broad perception of students' participation in diverse, multi-dimensional experiences related to their roles, and to evaluate their perceptions of their gains and satisfaction with their studies.

##### **4.1 Challenges to Inclusion of Students with Disabilities in Academic Studies**

Despite changes in many Western countries' legislation and the development of programs for students with disabilities, in recognition of the importance of higher education for individuals, families, and society at large, low enrolment and high first-year dropout have been found (Dutta et al., 2009; Mpofu & Wilson, 2004). Low enrolment and high dropout can be understood as the result of inadequate accessibility of higher education institutions, lack of support, adverse social attitudes and social isolation, as well as low financial capacity (Foreman et al., 2001; Jung, 2003; Johnson, 2006; McKenzie & Schweitzer, 2001; Mpofu & Wilson, 2004).

Among the supporting factors, studies have shown the importance of faculty's attitudes toward students with disabilities, their awareness of these students' needs, and their knowledge of the reasonable accommodations available. These attitudes influence success or failure of students with disabilities, and affect inclusion in higher education

(Rao, 2004). Negative attitudes of faculty and administrative staff may prevent students, especially students with invisible disabilities, from disclosing their disabilities and from requesting accommodations they are entitled to (Jung, 2003; Johnson, 2006).

In a survey, 50% of students with disabilities indicated that faculty members understood their needs, but only 25% of faculty members were willing to change the material covered in their courses to suit these students' learning needs. Most (82%) of the students indicated that faculty members needed to learn more about disabilities (Barazandeh, 2005; Kraska, 2003).

The emphasis, however, is upon the student to fit the system rather than the system to adapt to meet the educational needs of a student. In India, "integrated education" has been provided mainly to students with mild disabilities who are considered "easy" to include into regular school programs. Students with severe disabilities, in a majority of cases, do not attend a school, or in rare cases, attend a special school.

This has not translated in the entry of students to higher education because of various reasons. Infrastructural facilities within institutions, attitudes towards persons with disabilities, transportation facilities, and lack of support services are a few areas, which hinder the entry of students with disabilities into higher education. Interest in inclusive development is growing within governments, civil society, and the development community, but efforts in these areas are hamstrung by the lack of research exploring the link between disability and poverty and evaluations of good practices. This lack results directly from the scarcity of quality data. Therefore, a main priority of the Disability and Development (DD) Team at the World Bank is being proactive in generating the type of information that can make inclusive development possible and helping the Bank to become a leader in this area.

India has made impressive economic gains in the last few decades and currently has the 4<sup>th</sup> largest economy in terms of purchasing power parity. Despite this improvement, more than 260 million people in India live in poverty. This paper begins with a brief history of special education in India, including changes to government legislation and policy in the move towards more integrated educational provision. A number of strategies are presented to address the current challenges that Indian administrators and educators face in the move towards more integrated education.

In regard to academic achievements, studies have shown conflicting results. Some found the average grades among students with disabilities significantly lower, the percentage of course drop-out and failures in courses higher, and the study period (number of semesters) longer, than those of students without disability (Foreman, Dempsey, Robinson & Manning, 2001). Students with disabilities reported a subjective feeling that they were not succeeding like other students, as well as difficulty in coping with the required investment during the study period (Foreman et al., 2001; McKenzie & Schweitzer, 2001), and a sense of social isolation (Shevlin, Kenny & McNeela, 2004).

Other studies, however, found no difference between students with and without disabilities in average grades (Horn & Berkold, 1999). Several studies found average grades of the former higher than those of the latter (Willett, 2002; Jorgensen et al., 2005).

The importance of higher education in providing students with disabilities decent employment opportunities and social status is well documented. At a time of legislative endorsement of access to higher education, and of changes in attitudes resulting from the struggle for equal rights for people with disabilities, it is crucial to broaden knowledge and

understanding of the broad perspective of achievements and experiences of this group of students in higher education, and to compare them with those of students without disabilities. The aim of this study is precisely that, to examine the broad perspective of achievements and experiences of students with disabilities in higher education and to compare it to those of students without disabilities.

The major outcome measures chosen for comparison were academic performance, participation in student experiences, self-evaluation of personal gains and achievements, and students' satisfaction with their experiences throughout their studies. Respondents' personal characteristics, as well as their disability characteristics, were examined to evaluate their effect on the outcome measures. The research questions compared students with and without disabilities, and students with various disabilities (physical, sensory, and psychiatric) among themselves, on the outcome measures.

## 5. LITERATURE REVIEW

What is disability?

"I live in a cocoon of social making Peeping out at the world from behind a curtain." Asha Hans (Hans & Patri, 2003: 5)

A focus on disability in global development not only raises questions of diverse local interpretations of the same issue, but also the need to accept the diversity of needs within this 'group' depending on both the nature of impairment and cultural context. The linguistic translation, let alone personal understanding, of new, often 'northern', terminologies and ideas can be problematic, and the English word 'disability' does not escape this conceptual tension. In this light, it is useful to outline models and definitions of 'disability' which are in use.

The medical model defines disability scientifically, as a physical, medically-diagnosed deficit which handicaps. It is impairment-focused, isolating the experience of disability from external influences such as societal attitudes. In the UK, the medical model is reflected in the psycho-medical dominance of segregated education for children with disabilities in the 1950's (Clough & Corbett, 2000) which was transported to developing contexts by colonialists and development agencies. This model can be seen, however, as being dominant long before the 1950's, with philanthropic, charitable institutions being set up from the mid 1800s in both north and south, particularly for blind or deaf children, by Christian missionaries.

In India today, the Ministry of Social Justice and Empowerment, which is responsible for people with disabilities, has a medically-inspired classification system whereby one's disability either falls into the category of locomotors, visual, hearing, speech or mental (GOI, 2005). These broad categorizations cannot demonstrate the extent or exact type of impairment, which could assist in assessment of medical, and in some cases educational, need, and have no bearing on the social aspects of disablement, perhaps reflecting cultural perceptions of what 'disability' means in India. This is further explored in Section 3.1.

## 6. WHAT IS INCLUSIVE EDUCATION?

Until recently, most conceptual literature on inclusive education was Northern (European and North American) in origin, taking a 'whole-school' approach to institutional change (Peters, 2004), and influenced by the social model of disability. Children in special schools were seen as geographically and socially segregated from their peers, and the initial movement to locationally integrate these students in mainstream schools ('integration') shifted to one where the whole

school was encouraged to become more adaptable and inclusive in its day-to-day educational practices for all students ('inclusive education'). Pedagogy in particular was highlighted as the key to meeting all students' educational needs by making the curriculum flexible, and so more accessible. By recognising that teaching methods which can make curriculum accessible to children with disabilities can also make learning accessible to all students (Ainscow, 2005; Ainscow, 1991), a teacher or school principal is well on the way to improving the overall quality of their school. In this way, inclusive education is not a disability-only issue, but an educational quality issue (ibid).

The importance of higher education in providing students with disabilities decent employment opportunities and social status is well documented. At a time of legislative endorsement of access to higher education, and of changes in attitudes resulting from the struggle for equal rights for people with disabilities, it is crucial to broaden knowledge and understanding of the broad perspective of achievements and experiences of this group of students in higher education, and to compare them with those of students without disabilities.

## 7. OBJECTIVES

- To examine the broad perspective of achievements and experiences of students with disabilities in higher education
- To study the present situation of physical handicapped disability people in Andhra Pradesh
- To compare it to those of students without disabilities in higher education
- To suggest suitable policies and programmes to included the physical handicapped disability people in higher education.

The major outcome measures chosen for comparison were academic performance, participation in student experiences, self-evaluation of personal gains and achievements, and students' satisfaction with their experiences throughout their studies. Respondents' personal characteristics, as well as their disability characteristics, were examined to evaluate their effect on the outcome measures. The research questions compared students with and without disabilities, and students with various disabilities (physical, sensory, and psychiatric) among themselves, on the outcome measures.

## 8. RESEARCH METHODOLOGY

The present study is to examine the current status of physical handicapped situation in Andhra Pradesh. The researcher would conduct the survey of services and accommodations for students with disabilities in the various institutions as these students were recruited in a snowball sampling method and a study on students' academic performance and their participation in student experiences. Here we report the results of the latter. In the spirit of Disability Studies (Barnes, 2004), the research steering committee included people with and without disabilities and students' representatives. Students with disabilities played some part in the study's design, recruitment, and data collection. The term "students with disabilities" refers to students who reported themselves as people with physical, sensory or mental disability.

## 9. RESEARCH POPULATION

A total of 326 students attending higher education institutes in Andhra Pradesh (six universities and 22 colleges), who had studied at least one year in a higher education institution, participated and signed a consent form.

They formed two groups: (a) a research group of 170 students with physical, sensory or psychiatric disabilities, who were recruited in response to numerous advertisements and calls for participation disseminated on Internet websites, in offices of the Dean of Students, and in Student organizations; (b) a control group of 156 students without disabilities, who were matched as closely as possible, by education, age, and institution, to the research group; these students were recruited in a snowball sampling method.

## 10. DATA ANALYSIS

Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated for the whole research population, and for each group of students' personal and academic characteristics. Chi Square analysis and t-tests were conducted to compare personal and academic characteristics of students with and without disabilities.

To answer the study questions the following procedures were used: Analysis of Variance (ANOVA) and Chi Square test served to measure differences in academic achievements (GPA and course density) and in time invested in studies (time after classes and meeting deadlines), between students with and without disabilities. Level of significance was set at  $p=0.05$  for all analyses. Table 2 shows a resemblance between the characteristics of the two groups of students, with and without disabilities. No significant difference is seen in students' average age, family profile, and ethnicity. However, the group of students with disabilities had a higher proportion of males and immigrants than the group of students without disabilities, and a much smaller proportion of students who worked during their studies (40% as compared to 74%).

**Table 2: Description of Subjects by Demographic Variables**

Variable	Category	Students without Disabilities (N = 156)		Students with Disabilities (N = 170)		Difference
		Number of Subjects	Percentage	Number of Subjects	Percentage	$\chi^2$
Gender	Male	92	54.1	30	19.2	42.28***
	Female	78	45.9	126	80.8	
Place of Birth	Andhra Pradesh(Telangana)	143	84.1	142	91	8.67**
	A.P(Coastal A.P)	25	15.9	14	8.5	
Marital Status	Single/ divorced/ widowed	140	87.6	114	78.4	NS
	Married	24	14.1	31	19.5	
	In relationship	7	4.1	11	7.5	
Ethnicity	Hindu	140	84.4	134	85.9	NS
	Muslim	24	14.1	17	10.9	
	Christian	4	2.4	3	1.9	
	Other	2	1.2	2	1.2	
Education of parents	Higher education	56	32.9	56	35.9	NS
	No higher education	58	34.1	59	37.8	
	Mother's higher education	28	16.5	24	15.4	
	Father's higher education	24	14.1	17	10.9	
	Unknown	4	2.4	0	0	
Employment	Employed	65	40	115	74.2	38.78***

\* $P<0.05$

There were some differences in entry requirements for students with disabilities and those without disabilities. More students with disabilities were admitted to academic institutions without full matriculation certificates and with lower grades. A t-test for two independent samples revealed a significant difference ( $t = 1.66$ ;  $p = .000$ ). No significant difference was found in the psychometric exam grade, with an average of 628.13 ( $SD = 83.4$ ) for students without disabilities and of 591.86 ( $SD = 95.43$ ) for those with disabilities (This last finding should be taken cautiously due to many missing data.). In addition, more students with disabilities took transitional preparatory programs and transferred from another academic institution to the present one than did those without disabilities.

Students in the group with disabilities had sensory disabilities (sight and hearing) ( $n=65$ ), neuromuscular diseases (CP, neuromuscular impairments, spinal cord, muscle-skeletal) ( $n=61$ ), psychiatric disabilities ( $n=39$ ), and multiple disabilities ( $n=5$ ).

## 11. RESULTS

### Academic Characteristics

Entry requirements for students with disabilities are somewhat different from those for students without disabilities. More students with disabilities were admitted to academic institutions without full matriculation certificates and with lower grades. A t-test for two independent samples revealed a significant difference ( $t = 1.66$ ;  $p = .000$ ). No significant difference was found in the psychometric exam grade, with an average of 628.13 ( $SD = 83.4$ ) for students without disabilities and of 591.86 ( $SD = 95.43$ ) for those with disabilities. However, this finding should be taken cautiously due to many missing data. More students with disabilities took transitional preparatory programs and transferred from another academic institution to the present one than did those without disabilities.

**Table 3: Differences in Participation between Students with and without Disabilities**

Experiences on a 1-4 Scale	Statistical Value	Students with Disabilities (N=164)	Students without Disabilities (N=147)	F Values
• Library	Mean	1.26	1.17	NS
	SD	0.65	0.57	
• Computer and information technology	Mean	1.45	1.61	4.17**
	SD	0.67	0.67	
• Course learning	Mean	1.45	1.57	4.14**
	SD	0.52	0.5	
• Writing experiences	Mean	1.16	1.15	NS
	SD	0.58	0.57	
• Experiences with faculty	Mean	0.72	0.82	NS
	SD	0.59	0.58	
• Art, music and theatre	Mean	0.66	0.9	11.10***
	SD	0.59	0.68	
• Campus facilities	Mean	0.72	0.82	P= .59
	SD	0.4	0.49	
• Clubs and organizations	Mean	0.36	0.43	NS
	SD	0.53	0.60	
• Personal experiences	Mean	1.38	1.28	NS
	SD	0.61	0.52	
• Student acquaintances	Mean	1.41	1.49	NS
	SD	0.66	0.61	
• Science and research	Mean	0.68	0.77	NS
	SD	0.54	0.59	

Table 3: Contd.,

• Topic of conversation	SD	1.37	1.35	NS
	Mean	0.56	0.54	
• Information in conversation	Mean	1.38	1.35	NS
	SD	0.57	0.51	
<b>Overall Participation Score</b>	<b>Mean</b>	<b>1.11</b>	<b>1.11</b>	<b>NS</b>
	<b>SD</b>	<b>0.37</b>	<b>0.34</b>	
<b>Estimation of Gains</b>	<b>Mean</b>	<b>1.51</b>	<b>1.54</b>	<b>NS</b>
	<b>SD</b>	<b>0.55</b>	<b>0.58</b>	
<b>Satisfaction</b>	<b>Mean</b>	<b>2.83</b>	<b>2.65</b>	<b>11.52***</b>
	<b>SD</b>	<b>0.46</b>	<b>0.48</b>	

Chi square analysis revealed that students with disabilities invested more time in their studies and had difficulty adjusting to the required timetable. They studied 11 weekly hours more outside class than did students in the control group [ $\chi^2 = 38.47$ ;  $df = 6$ ;  $p < 0.001$ ]. They also submitted their assignments and papers later than those without disabilities, some of them

### Differences between Students with and without Disabilities

#### Academic Performance

Analysis of Variance (ANOVA) revealed a significant difference between the two groups in the total grade average ( $F(1) = 4.257$ ,  $p = .04$ . Eta square = .013). The students were asked to note their grade average on a 1 — 5 scale in five groups of grades (1 = 90-100; 2 = 80-90; 3 = 70-80; 4 = 60-70; 5 = 50-60). The GPA of students with disabilities was lower (2.11) than that of students without disabilities (1.93).

That is, the GPA of students with disabilities was close to 80, while the grade average of students without disabilities was close to 90. An ANOVA also showed a significant difference in the average of students' course density per semester ( $F = 24.714$ ,  $p = .000$ ). Students without disabilities attended an average of 6.67 courses, while students with disabilities attended an average of 4.40 courses.

## 12. CONCLUSIONS

The present research deepens knowledge and perception about participation and inclusion of students with disabilities in higher education. It indicates students' experiences and their satisfaction with them, rather than merely traditional academic achievements, as important outcomes of inclusion.

It also raises considerable dilemmas regarding inclusion of these students because of the great effort they must expend to meet the demands of their studies successfully in quantity, technology, and pace. Although the academic achievements and experiences of students with and without disability are notably similar, the gap in social inclusion and involvement in extra-curricular activities is still wide.

Apparently, accessibility rather than ability is the explanation for academic differences between students with and without disabilities. These findings may help higher education institutions, policy makers, and professionals to identify the accommodations and services needed to enhance inclusion of students with disabilities. First and foremost, the flexible admission procedures for students with disabilities proved itself as a justified opportunity for them to enter higher education.

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