

Information and Communication Technology (ICT) and Special Education System in the Kingdom of Saudi Arabia: A Case Study

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Abstract. The focus of this paper is to study the current information and communication technology (ICT) in special education system in the Kingdom of Saudi Arabia (KSA) and reveal its issues. This research was conducted by the ministry of education (MOE), Kingdom of Saudi Arabia and University of Hail. A qualitative approach was used to reveal the issues of information and communication technology and the special education system in the Kingdom of Saudi Arabia. The research was carried out by direct observations of a focus group, conducted during one-to-one sessions. The multiple case-study approach was adopted to increase the reliability of data, with the help of a team of researchers and tutors to reduce bias. In this study we have randomly selected 4 public secondary schools for boys having special education classes in Hail region in the KSA. In this study 50 special students 11 to 15 years old, 10 special educators and 4 special education administrators participated. Study revealed that special students (focused group) are facing huge amount of problems during their study and the ICT is not being used in full extent to help them to get education in order to live independently in future life.

Keywords: Information and Communication Technology and Special Education.

1 Introduction

In recent years, there has been an increasing interest in special education by the Government of the Kingdom of Saudi Arabia (KSA). In the Kingdom more than twenty two thousand special students are registered for the special education in the schools in year 2006-2007 (Ministry of Education, 2008). The number of institutes and programs offering special education (with normal students) with respect to the type of disabilities in the KSA is shown in Fig. 1. In addition, the number of special students with respect to different categories in the KSA is also shown in Fig. 2 (Ministry of Education, 2008). The statistics reveal that Saudi government inaugurated more than 38 audio programs in 18 centres around the KSA for deaf students for past four years, more than 362 programs for mentally disabled and blind students at intermediate and high schools level. Arabic enabled software is also provided to teach computers to

blind students by the education ministry (Ministry of Education, 2008), (Directorate General of special Education, 2011). Now the big question is that what is the outcome of these investments in the special education sector? Is Information and Communication Technology (ICT) is really implemented in special education school?

We have conducted a case study to investigate the use of ICT in special education in the kingdom of Saudi Arabia.

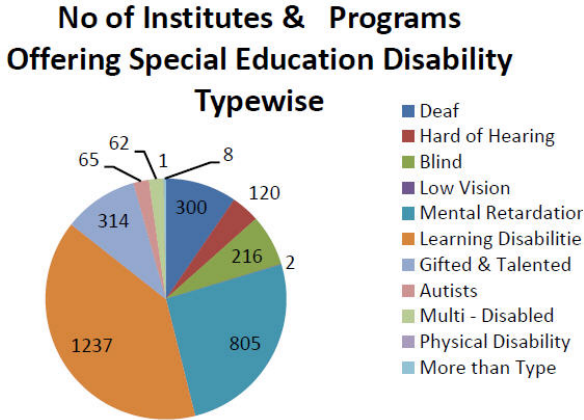


Fig. 1. Disability wise number of inclusive schools offering special education in the KSA

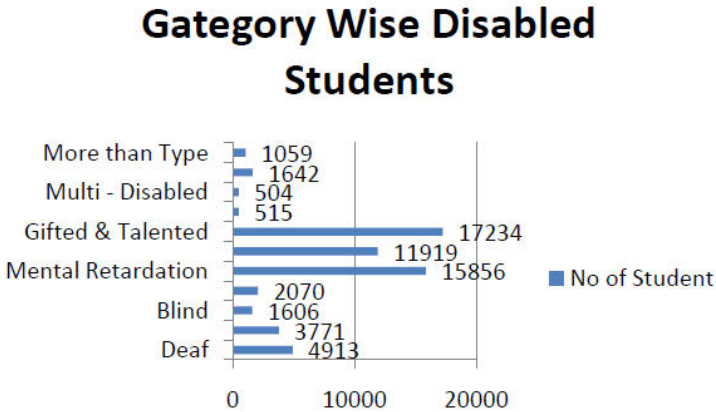


Fig. 2. Category wise disabled students in the KSA

2 Case Study

A qualitative approach was used to reveal the issues of ICT in the special education in the KSA. The multiple case-study approach was adopted to increase the reliability of data, with the help of a team of researchers and tutors to reduce bias (Stake, 1995; Yin

1994). In this study we have randomly selected 4 public secondary schools for boys having special education classes in Hail region in the KSA. In this study, 50 special students 11 to 15 years old, 10 special educators and 4 special education administrators participated. We have divided our study into the following subgroups

Group A: Teachers, tutors, head teachers and special education administrators

Group B: Special students

2.1 One-to-One Interview with Group A Participants

During the study, open ended interviews were conducted. Sample questions asked from group A participants are shown in the table 1:

Table 1. One-to-one interview with group A participants

No.	Question	To reveal the issue of
1	How many years of experience do you have in special education teaching ?	Teaching Experience
2	Do you have any training certificate or diploma or degree in special education?	Profession qualification
3	Did you get any training from the ministry of education?	MOE interest in special education
4	What was your training duration and when last time you have attended the course?	Faculty training
5	Would you prefer to mix special students with normal students or teach them separate in a school?	Feedback
6	Are you satisfied and motivated with your outcome of teaching to special students?	Feedback
7	How many special students do you have in your class?	Student-teacher ratio
8	Are you using your own methodology or you are following the methodology framed by the MOE?	Teacher's innovation
9	Are you satisfied with current curriculum of special education given by the MOE?	Feedback
10	What is the level of students (Good/Fair/Poor)?	Feedback
11	Do you have enough ICT infrastructure to teach special education to your students?	Feedback
12	Are you using ICT to teach your special students?	Teacher's innovation
13	Are you using ICT to teach subjects namely Mathematics, Science, Arabic and English Language?	Teacher's innovation
14	What is your suggestion to improve special education in your school?	Feedback

2.2 One-to-One Interviews with Group B Participants

We were not able to directly communicate with special students. Their teachers assist us in interacting with the students. We conducted many small test to check their skills and understanding different subjects. Sample questions asked from them are shown in the table 2:

Table 2. One-to-one interviews with Group B participants

No	Assigned Activity	To reveal the issues of
1	Do you know how to use computer, internet and email?	User orientation with ICT
2	Are you using computers at home?	Use of ICT
3	What will you do, if you have a computer (watch movies/play games/study)?	User trend
4	Do you like to study using computers?	Use of ICT
5	Do you have problems or any issues in your study?	Problems or difficulties

3 Results and Discussion

It was revealed that some subjects were taught along with normal students and other subjects were taught in separate class room. Students felt happy in mingling with other students and it also increase their confidence level to work with normal students. ICT infrastructure varies between the school to school and it is mainly depend on the strength of special students as well. In some schools, separate lab is assigned for special students and in some schools, only common labs are used. Ministry of education is providing Priel electronic lines and Priel printers for blind. It is also providing Perkins, White Sticks and French Cubical free of charge annually to blind students. It is also revealed that ICT available infrastructure is not properly utilized to teach all special education subjects namely science, mathematics and learning Arabic and English language. In brief, teachers are not properly using the ICT to design, plan and deliver their lessons to the special students to the focus group. In addition, we also find a lack of interest and motivation to learn ICT among the special students and teachers.

3.1 Textbooks and Curriculum

Although ministry of education has issued the textbooks to hearing impaired students at all level, teachers felt that current curriculum should be updated. Linguistic courses like Arabic and English should be given much preference to increase their writing and reading skills. Infrastructure for ICT is not utilized properly to educate hearing impaired students.

Ministry has not framed any specific curriculum to teach mentally disabled students. Ministry has set some objectives for each level and teacher has to teach according to the given objectives. Teachers are finding difficulty in fulfilling the objectives set by the ministry and they are adopting other countries methodology to teach these students.

Ministry has issued textbooks to all levels for blinds in Braille. There is no special book to teach assistive technology to blinds students particularly JAWS, Supernova or Windows-eye and other technology. Our study recommended that there is an urgent need to revise the curriculum of all subjects to teach special students and transform their lives by using ICT.

4 Conclusion

Study revealed that special students are facing huge amount of problems and have many issues during their study by using ICT. In future Assistive Technology issues in special education in the KSA will be explored.

References

1. Balanskat, A., Blamire, R., Kefala, S.: The ICT Impact Report: A review of Studies of ICT impact European Schoolnet (2006), <http://ec.europa.eu/education/doc/reports/doc/ictimpact.pdf> (15/03/2010)
2. Directorate General of special Education, Ministry of Education, KSA, Summary Statistics on Special Education (boys & girls) (2006/2007), <http://www.se.gov.sa/English/Statistics.htm> (20/03/2011)
3. JICA, Japan International Cooperation Agency Planning and Evaluation Department report on Country Profile on Disability, Kingdom of Saudi Arabia (2002), <http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1233&context=gladnetcollect> (20/04/2010)
4. Kirinić, V., Vidaček-Hainš, V., Kovačić, A.: Computers in Education of Children with Intellectual and Related Developmental Disorders. *International Journal of Emerging Technologies in Learning* 5(2), 12–16 (2009), <http://online-journals.org/ijet/article/view/1246/1320> (12/10/2010)
5. Stake, R.E.: *The art of case study research*. Sage Publisher Ltd., New Delhi (1995)
6. Al-Gain, S.I., Al- Abdulwahab, S.S.: Issues and obstacles in disability research in Saudi Arabia, <http://www.aifo.it/english/resources/online/apdrj/apdrj102/arabia.pdf> (15/04/2010)
7. Ministry of education, KSA, Statistics for the year 1426H/1427H
8. http://www.moe.gov.sa/openshare/englishcon/Statistics/Statistics-for-the-year-1426H_1427H.htm_cvt.html
9. Yin, R.K.: *Case study research design and methods*. SAGE Publisher Ltd., London
10. United Kingdom, 2nd ed. (1994)
11. Al-Obaid, A.S.: National Report on Education in the KSA, Ministry of Education in cooperation with Ministry of Higher Education and Vocational. In: 48th Session Educational Conference, Geneva (November 25-28, 2008)
12. http://www.ibe.unesco.org/National_Reports/ICE_2008/saudiArabia_NR08_en.pdf