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INCORPORATION OF TECHNOLOGICAL TOOLS FOR SUPPORTING LEARNING DISABLED CHILDREN

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ABSTRACT

In recent years, increase in class size, the diversity of student populations and changes in the expectations of students have all become challenges for a teacher to manage. The available and immediate resource is ICT. The developments in information and communication technology (ICT)leads to different and more flexible approaches to teaching and learning practice, often involving the increased use of ICT in the special classroom, specially handling students with learning disabilities. The policies and recommendations of our Government have been emphasising on special education and they have given important suggestions and guidelines for its implementation. One such suggestion is ICT in school education. This paper explains what special education isand how ICT plays an important role in a special classroom in achieving the objectives of a teaching programme.

KEYWORDS : *information and communication technology , suggestions and guidelines.*

INTRODUCTION: CONCEPT OF DYSLEXIA

Dyslexia is typically defined by 'an inability to perform of skills in an appropriate way'. Dyslexia is a syndrome: a collection of associated characteristics that vary in degree from person to person. Wikipedia says "Dyslexia is a very common problem and has an effect on the way our brain understands words. The most common signs of dyslexia are reading and writing problem". Define it further more than a good way to understand dyslexia is to establish what it is not. It's not a sign of low intelligence or laziness. It's also not due to poor vision. It's a common condition that affects the way the brain processes written and spoken language.

Dyslexia is primarily associated with trouble reading. Some doctors, specialists and educators may refer to it as a "reading disorder" or a "reading disability." But it can also affect writing, spelling and even speaking.People with dyslexia can still understand complex ideas. Sometimes they just need more time to work through the information. They may also need a different way to process the information, such as listening to an audiobook instead of reading it. During a review of the documents, it is found that different documents are using different terms. These are 'dyslexia', 'learning disability' and 'specific learning disability'. However all the three terms refer to similar conditions such as: poor reading; poor handwriting, known as Dysgraphia; poor movement coordination, known as Aspraxia; poor mathematical ability, known as Dyscalculia; and poor attention span known as Attention Deficit Hyperactivity Disorder or ADHD. Dyslexia word is used by JPDAS 1998, Sally Shaywitz 2004, and Abigail Marshall 2009. It is referred as Learning Disability by NUEPA 2011, 2012, 2013 DISE, Canada Columbia manual 2011, RCI manual, and as Specific Learning Disability in SSA 2013, PWD bill 2012, Los Angeles 2007. In this article, the term SPLD is used irrespective of the term used dyslexia or LD in the referred documents.

PROBLEMS OF DYSLEXIC CHILDREN

In the present scenario in an inclusive education, that ratio of children with learning disabilities is 3:5 in male whereas 1:3 in female. Now it is common that there will few students who have learning disabilities in a classroom. Worldwide many researches have been done on dyslexia and it is found that there are few common problems faced by children who have dyslexia.

- Learning to speak.
- Learning latters and their sounds.
- In Organise written and spoken language.
- Memorising number facts.
- Reading quickly enough to comprehend.
- Spelling.
- Reversing the shape of similar latter 'b,d'.

The Research Committee of the International Dyslexia Association also produced the Following Definition of Dyslexia, Couched in more Scientific Terminology:

"Dyslexia is one of several distinct learning disabilities. It is a specific language-based disorder of constitutional origin characterised by difficulties in single-word decoding, usually reflecting insufficient phonological processing abilities. These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities: they are not the result of generalised developmental disability or sensory impairment. Dyslexia is manifest by variable difficulty with different forms of language, often including, in addition to problems of reading, a conspicuous problem with acquiring proficiency in writing and spelling." (Orton Dyslexia Society, 1994)

The SarvaShikshaAbhiyan has published the following guidelines for identification of the SPLD child in the school (**SSA, 2013**), "difficulty in maintaining attention and completing the task while performing a given task without getting distracted when unsupervised, leaves letters or words while reading a line, uses finger for tracking while reading, Has difficulty organizing things for example by shape, colour or size such as placing books in a school bag systematically by size or arranging cloths on a rack in categories of size and use, difficulty in copying from black board without missing letters or words, difficulty in using mathematical symbols and understanding relation between numbers, difficulty in differentiating letter such as 'b' and 'd', or numbers like '9' and '6', difficulty in maintaining a straight line or leaving appropriate space between words.

INCLUSIVE EDUCATION

Inclusive education is an idea in the field of education. It means that persons with disabilities or persons who need special care can learn in schools together with people who do not have special needs. This idea comes from the idea of social justice, which demands that all people have human rights without any discrimination. The Convention on the Rights of Persons with Disabilities also says that access to education is a right. However, inclusive education may make special aid, care or knowledge for persons with disabilities difficult if enough reasonable accommodation is not given. Inclusion is not an experiment to be tested but a value to be followed. All the children whether they are disabled or not have the right to education as they are the future citizens of the country. Education is not simply about making schools available for those who are already able to access them. It is about being proactive in identifying the barriers and obstacles learners encounter in attempting to access opportunities for quality education, as well as in removing those barriers and obstacles that lead to exclusion. **(UNESCO, 2012)** In the prevailing Indian situation resources are insufficient even to provide quality mainstream schools for common children, it is unethical and impracticable to put children with special needs to test or to prove anything in a research study to live and learn in the mainstream of school and community (Dash, 2006). The principle of inclusive education was adopted at the "World Conference on Special Needs Education: Access and Quality" (Salamanca, Spain 1994)

and was restated at the World Education Forum (Dakar, Senegal 2000). The idea of inclusion is further supported by the United Nation's Standard Rules.

SSA: Inclusive Schooling is inclusion of students with disabilities, regardless of ability, into the same schools and classrooms with peers who are not considered to have disabilities. Inclusive schooling, however, extends disabilities far beyond mere physical proximity to providing students and adults the support required to belong and achieve in classroom and school communities. Inclusion is both a process for and outcome of understanding, acceptance and valuing of differences among today's school children and youth. It is potentially both a process and an outcome for achieving social justice and equity in our society.

Concept of Special Education

Special education is also known as special needs education, aided education or exceptional education; it is the practice of educating students with special educational needs in a way that addresses their individual differences and needs individually. Particularly, this process involves the individually planned and systematically organised arrangement of teaching procedures, adapted equipment and materials, and accessible settings. These interventions are organised to help learners with special needs to achieve a higher level of personal self-sufficiency and success in school and their personal life.

The National Policy on Education, 1986 (NPE, 1986), and the **Programme of Action (1992)** stressed the need for integrating children with special needs with other groups. The objective to be achieved as stated in the NPE, 1986 is "to integrate the physically and mentally handicapped with general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence"

SSA Policy on Inclusion: SSA is a response to the demand for quality basic education all over the country to all Children with Special Needs (CWSN) in the age group of 6-14 years irrespective of any diversity i.e. kind, category and degree of disability. The 'Zero Rejection Policy' which means that no child having special needs should be deprived of the Right to Education is the basis of Inclusion.To further facilitate the inclusion of CWSN in mainstream schools, the National Council for Education Research and Training has prepared books on curricular adaptations for children with visual impairment, hearing impairment, cognitive impairment and intellectual impairment for general teachers at primary and upper primary levels.

RMSA: The Scheme of Inclusive Education for Disabled at Secondary Stage (IEDSS) was launched during 2009-10 and replaces the earlier scheme of Integrated Education for Disabled Children (IEDC). The aim of this scheme is to enable all students with disabilities to pursue four years of secondary education in an inclusive and enabling environment, after completing eight years of elementary schooling.

The objectives of the scheme will be to ensure that:

- Every child with disability will be identified at the secondary level and his educational need assessed.
- Every student in need of aids and appliances, assistive devices, will be provided the same
- All architectural barriers in schools are removed so that students with disability have access to classrooms, laboratories, libraries and toilets in the school.
- Each student with disability will be supplied learning material as per his/her requirement
- All general school teachers at the secondary level will be provided basic training to teach students with disabilities within a period of three to five years.
- Students with disabilities will have access to support services like the appointment of special educators, establishment of resource rooms in every block.
- Model schools are set up in every state to develop good replicable practices in inclusive education.

National Curriculum Framework, 2005: A policy of inclusion needs to be implemented in all schools and throughout Indian education system. The participation of all children needs to be ensured in all spheres of their life in and outside the school. Schools need to become centres that prepare children for life and ensure that all children, especially the differently abled children from marginalized sections, and children in difficult circumstances get the maximum benefit of this critical area of education. Opportunities to display talents and share these with peers are powerful tools in nurturing motivation and involvement among children. In our schools we tend to select some children over and over again. While this small group benefits from these opportunities, becoming more self–confident and visible in the school, other children experience repeated disappointment and progress through school with a constant longing for recognition and peer approval.

General interpretation of the Recommendations and Policies

We have come to know that there are numbers of policies and recommendations that have been made for the inclusive education by the higher authorities in Indiato integrate the students with disabilities with the normal students in a same classroom. All the recommendations have some aims and objectives to be achieved in inclusive education. In the recommendations there are enormous methodologies and strategies to handling the inclusive classroom. It talks about infrastructure, curriculum, training for the teachers' etc. In an inclusive setup we have all type of students, when a teacher is going to face a situation where he has to handle a classroom consists of 30 to 40 students, among some are normal, some have impairments and few have learning disabilities. Then here comes the most important role of a teacher that how he maintains the classroom by fulfilling needs of all students in the classroom. To support or to reach each and every students with in the time limit he has to analyse the proper and productive teaching methodology or strategies to teach the whole class, he has to identify the technique by which he could able himself to reach each of the students in the classroom. It is the duty or responsibility of a teacher to know about all the students present in the classroom. Sometimes an inclusive classroom consists of high ability students with low ability and students with learning disabilities. To identify ability and the learning problems the teacher must use some technological tools. Technological tools help the teacher to identify the students who have learning disabilities; it is very helpful for a teacher to the lesson plans or teaching strategies in an interactive way by which he could enrich all the students in the classroom.

In inclusive setup sometimes the teacher may not understand or fail to identify the students with learning disabilities, as we have seen in all policies and recommendations that rare emphasis has given on identifying learning problems or learning disabilities with the help of technological tools among the students in an inclusive classroom. In an inclusive education every teacher must know about the learning disabilities and what are the available technological tools could be used to identify the students with learning disabilities then only he gives just toall students. Hence in a same way a teacher must know about the available technological tools to overcome the learning difficulties of the students.

Introducing ICT in inclusive education we have seen a tremendous development in the teaching learning process. After introducing the ICT in inclusive education, the problems faced by students with learning disabilities has reduced drastically. Teachers fell very comfortable for handling the students with learning disabilities with enormous sources of computerised applications. Teachers effectively make lesson plans with the help of technology to address all the students in the inclusive classroom. There is an important need for teachers to know different types of technological tools to identify or to overcome the learning disabilities.

Role of a Teacher in an Inclusive Education

In an inclusion classroom, students with disabilities and other special needs are taught along with normal students, instead of being segregated in a special education classroom. The teacher has to provide high quality, holistic support and focused involvement with the children with special needs based on a joint perspective, mutual understanding and networking. He should know the individuality in his classroom. He

must take the support of the principal of the school, colleagues, special educators and parents to develop effective ways of overcoming barriers to learning and supporting effective teaching through theuses of technology. The teacher should make the lesson plans in a specific away by which he could reach each and every student in the classroom. He could take all the students in a smart classroom where he makes teaching learning very easy and interesting with the help of ICT.

Technological Tools to support an Inclusive Classroom

Online course platforms like Moodle **and** Blackboard provide a structure for content, allowing teachers to organize materials in a way to make them easily accessible to students. Teachers who do not have access to a learning management through their schools can create their own class websites using any of a number of free tools, including wikis and template-driven website creators like Google Sites and Weebly**.** Teachers can also use web-based tools and screen-capture programs to create archived presentations that combine images, video, and voice-over narration. Some programs also feature the ability to insert screen-based annotations in the form of callouts to draw attention to a particular element visible on the screen.

A teacher may create a series of multimedia slides to illustrate a laboratory set-up for students in an inclusive classroom who have difficulty with task differentiation, or breaking a project down into its component elements. Then, using a screen-capture tool like **TechSmith's** Jing, the teacher could develop a tutorial, recording his or her voice to lay over the visuals. The end result is a stand-alone resource that allows the student to view it at his or her own pace, as many times as needed to understand the content. Most interactive white boards and associated tables have built-in capture software, making it possible to create or re-create a class demonstration or tutorial to be viewed at a later time. Features like these help teachers save time in teaching and planning.

Digital posters: Digital poster displays, like those created using Glogster EDU, incorporate media elements like images, videos, audio recordings, and drawings with text. Gifted students and students who thrive on creative freedom find engagement and challenge in such a format, and students with learning disabilities, especially children with dyslexia find support in the options for expression.

Voice Thread: Voice thread is an online platform where students can respond to a topic using text, audio, video, or images. The variety of options makes it possible for students with learning disabilities to contribute to the presentation using the method that works best for them. The option to record an oral response, rather than delivering it "live" in class, benefits students who need time to compose their thoughts, as well as students who have speech disorders like stuttering. In this third-grade example of a picture book of poetry, students have commented with both text and audio. Normal students also can develop their language proficiencies and critical thinking.

Digital storytelling: Digital storytelling projects, in which students tell fictional or true stories, are another example of differentiating product by student interest: Each learner draws on his or her background or interest to give the content for the product. Digital stories can be generated in a range of formats, including pure audio, image slideshows with static text, image slideshows with voiceovers, and pure videos. The options that prioritize audio over text benefit can be used in an inclusive classroom. Free, downloadable audio-editing software like Audacity can be used to create and edit digital stories. Students who need support in mapping out the characters, setting, events, and sequence of their stories can use concept mapping software to modify their thoughts.

Rubistar: All students need the support of clear project guidelines in order to succeed in an inclusive classroom. But students with special needs may need additional support to stay on task and complete each

step in completing a project. Creating separate rubrics for students who have different skill sets can provide the appropriate level of support for those students.For example, an oral presentation rubric might include criteria like, "Share multiple drafts with teacher," to remind students with organizational issues of the importance of viewing the final presentation as a series of tasks.

Checklist: Project-based learning checklist can help students who have difficulty organizing their work. Checklists break down projects into small component parts to make it easy for students to see the steps toward completion and the order in which those steps should occur. Consistent use of these checklists can scaffold students toward their own understanding of how to organize tasks. Teachers can use the online PBL Checklist tool from **4teachers.org** or create their own using a word processor.

Blogs and Wikis: For students who do well with written products, online text platforms like blogs and wikis can increase motivation by offering the promise of an attractive product with a "real" audience. Some blogging sites offer teachers the ability to create a classroom blog linked to individual student blogs. For example, the Landmark Project's Class Blogmeister is free to teachers and provides a secure environment where students can safely share and comment on the work of their peers. Students with special needs as well students with learning disabilities can develop their critical thinking and writing proficiency.

Mathematics Add-in: It can be used to create graphs and solve equations within the word processor. The add-in lets students choose mathematical symbols from a specialized menu and insert them onto the page. This level of scaffolding ensures a difference when students are faced with a blank page and are not sure where to begin. The availability of mathematical symbols as choices from a menu creates a more equitable situation for these students as well the normal students to develop their graphical representation strong enough. Students with dyscalculia get more benefits from it.

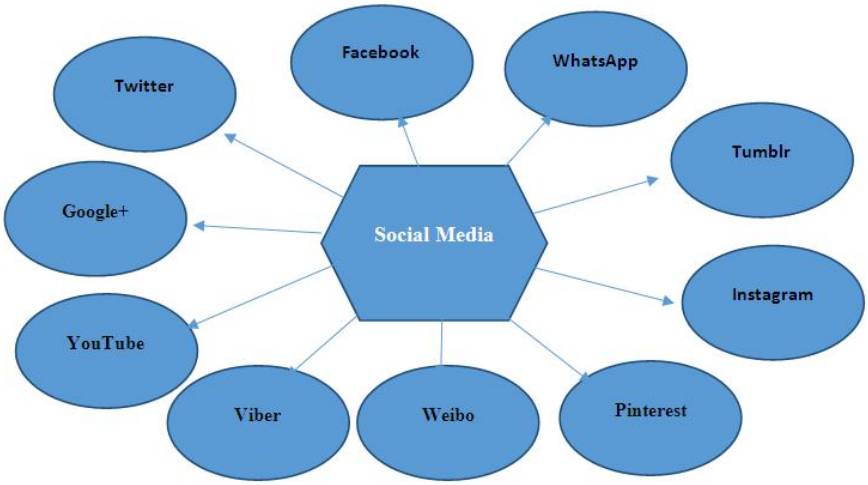
Memory Booster is an innovative and exciting approach to helping children improve their memory skills, requiring very little teacher or professional guidance. Memory Booster is presented as an adventure game set in Pooter's castle. Pooter the Master Computer has lost his memory and needs help from the child to recover it. By playing memory games children not only help Pooter to get back to his old self again but score points and earn golden coins that can be spent on watching Pooter's favourite cartoons! During the 'mission' the player is guided on the use of different memory strategies by Pooter's friendly helper, Fiona. The program presents children with enjoyable tasks, which require them to use their memory to the full.

Comprehension Booster is an educational program designed to improve reading comprehension and listening comprehension for children aged 7-14. It provides students with a personalised learning environment in which they can obtain interactive practice in reading (or listening to) and understanding texts of different genres and varying difficulty. The emphasis in the program is on building the advanced comprehension skills that are required for extracting key information from texts, extending vocabulary, applying inferential thinking and assimilating complex ideas.

Here are some suggestions for incorporating technological tools into an inclusive classroom.

- Use Twitter to have students tells a collaborative story. Each student writes one line of the story until complete. See ManyVoices for inspiration.
- Ask students to write stories and create animated movies using Kerpoof**.** Pre-designed sets and strips can be used as story-starters, or students can design their own stories. Studies have shown that storytelling is an essential element of building language skills and can help students improve their writing.

- **Flickr.**
- **Social media:** there are many applications through which students could enhance their writing as well as critical thinking. It helps the students to connect not only the classroom but also with the outer world.



CONCLUSION

The body of international policy and legislation on the rights of persons with disabilities is strongly in support of children with disabilities receiving their education in an inclusive, rather than segregated, school setting. National governments, therefore, have significant human rights and educational work to do in relation to the provision of education for children with disabilities and an inclusive setup. The major tendency in new policy approaches is towards inclusive education. Whatever the policy environment, accessible ICTs can significantly enhance children with disabilities to participate in lessons, to communicate, and to learn more effectively. If the school teachers get motivated by the higher authorities to know about the available technological tools to help the children with learning disabilities then the appropriate outcome will come out. Teachers should be motivated through varies workshops and National seminars to know what is learning disability and how to identify students with learning problems with the help of technological tools. School administration can provide guidance to the parents that what are the technological tools and how to use these tools at home itself to check whether their children having learning disabilities or not. There are enormous programed games and applications available in online which could increase the learning potentialities of the students.

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