

## CHAPTER 3

### BENEFITS OF INTER-DISCIPLINARY STUDIES IN SPECIAL NEEDS EDUCATION IN INCLUSIVE SCHOOLS IN NIGERIA

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#### **Introduction**

Interdisciplinary Studies, according to Jose (2015), allow students to learn through connections of ideas and concepts covering different disciplines. It gives students the power to apply the knowledge acquired from one discipline to another different discipline as a way of making students educationally vast. It was further stated that Interdisciplinary Studies grant students the ability to build solid pathways by picking areas of interest that make sense to the learner. Related subjects like History, Governments and Civic or Art can form the core for the learner and bring ideas together resulting in meaningful learning. This is made possible when students are allowed to combine their subjects themselves; the similarity of concepts makes learning concrete and meaningful. Interdisciplinary Studies have been in existence since the 1930s and since its existence, it has not been completely embraced. The widely acceptable definition of Interdisciplinary Studies by Klein and Newell in 1998 still stands out in explaining the concept and it has given more attention and reasons to adopt the concept in teaching and learning; it was defined as a “process of answering question, solving a problem or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession. It draws on disciplinary perspective and integrates their insights through the construction of a more comprehensive perspective”. This simply implies that Interdisciplinary Studies are beneficial for both the general and individual classrooms as it proffers solution to complex situations in education.

Special education according to Michael, Obadiya & Emea (2012), is the practice of educating students in such a way that learning and teaching meets students’ individual differences, disabilities and other special needs. It also concerns itself with educating students who differ from the normal components of health (socially, mentally and physically). The 2017 National policy on inclusive education emphasized that teaching and learning should be modified to accommodate differences among students. The practice of special education is one which is individually planned and gradually injected into students who are committed to it. It therefore involves the individual’s educational plan in which all teaching procedures - adapted equipment and materials, environment and timing - are thoroughly monitored by a teacher and a parent.

The term “special education needs” is used to portray learning difficulties, disabilities or problems students encounter during learning. Students who require special education needs usually differ from the components of health and most times need more attention, assistance and aid to be successful in school. A disability must be conspicuous, in attitude and response to school work for assistance to be rendered. The conspicuous disability may include speech, language and communication, physical and sensory difficulties, understanding and learning and emotional and behavioural difficulties (Kamenopoulou, 2018). UNESCO (2017) reported that assistance may also be rendered in the nature of curriculum designed to meet individual needs which must also put some modalities into consideration like trained special education teacher, equipment, educational content or learning objectives.

While a special school according to (HarperCollins, 2019) refers to a school for children who are unable to benefit from ordinary schooling because of disability, it is a school designed to cater specifically for children whose needs may not be met with the provision and support provided by a regular school. The services provided by this type of school covers different types of educational needs. Special schools are essentially planned to meet educational needs like communication and interaction, cognition and learning, sensory and physical needs and social, emotional and mental health. Special schools are generally tailored to meet the needs of some special students. Such students can only learn in an environment that caters for their demands and condition of learning (Snell & Brown).

It is important to note here that, special students are the reasons special schools are set up and they are the major focus in such schools. Special students therefore are students with physical, mental or emotional disabilities, depriving them of learning in the regular classroom setting. Special students are children who deviate from the normal components of health, and thus academically require personal contact with teachers, small-size classrooms, professionally trained teachers and individualized learning.

The thesis statement of this chapter is pinned on the fact that Interdisciplinary Studies can help in improving the teaching and learning of children with learning disabilities like dyslexia, dysgraphia and dyscalculia and that, apart from individualized educational plan, Interdisciplinary Studies allow students with disabilities to combine subjects of interest and the ones that are easy going and thereby resulting to self-fulfillment. To realize this objective, the discussion in this chapter will start by stating what makes special education special, and then identify the various learning disabilities of interest such as dyslexia, dysgraphia and dyscalculia, address the challenges faced while using Interdisciplinary Studies as a means of disseminating information, and finally stating the place of Interdisciplinary Studies in special education. Conclusion and suggestions will end the discussion.

## **What Makes Special Education Special?**

Firstly, the uniqueness of special education is derived from the individualistic purposes it serves, and its role transcends beyond the normal kind of teaching as it has extra and different styles to offer. Teaching methods, grading system, and materials needed in special education are different from that of their fellow students. The education is not generalized as it is aimed at an individual with disability at a particular time (Bryan & Barbara, 2013).

Secondly, its uniqueness is revealed in the work of Jean Marc Gaspard Itard, "The Wild Boy of Aveyron", in 1807 where it was clarified that for special education to meet the needs of learners with disabilities, it should be based on individualized instructions, systematic introduction of tasks, emphasis should be based on awakening of child senses, careful arrangement of classroom, students should be rewarded for correct information, focus should be on practical skills, grading should not be emphasized but repetition of task until mastery is achieved. Ardelean (2017) stated that its uniqueness also advocates for periodic integration or mainstreaming of both special education classroom and regular education classroom; this is to allow for inclusion and for acceptability between the two types of learners. It was further reiterated that mainstreaming and integration is beneficial as it improves self-esteem, social skills and higher academic achievement.

Lastly, the exceptional nature of this type of education is the fact that it proves that all learners are educable and trainable if the right approach, materials and resources are made available. This is an aspect of education that is solely concerned with educating students that differ from the normal components of health. It has over the years proven that with proper individual plan, learning can take place in the lives of students that are different socially, mentally and physically (Kamenopoulou, 2018). The uniqueness of special education is strengthened in the study of Hayes, Dombrowski, Alison & Bulet of 2018 where it was reported that special education can create endless opportunities if instructions are specially designed and supported with adaptive tools, supplementary aids and services, programme modifications and evaluations, children with disabilities especially learning disabilities like dyslexia, dyscalculia and dysgraphia can become adults who pursue degrees, attain careers and achieve life-long goals.

## **Dyslexia**

Dyslexia is a learning disability that involves students finding it difficult to spell, pronounce words and finding it difficult to read fluently. Dyslexia is linked to high rates of attention deficit hyperactivity disorder and it has also been linked to interaction of genetic and environmental factor. Students with this type of challenge find it difficult to write or copy notes as fast as other classmates do, and somehow shift students' focus to other areas of education. Scientific research on dyslexia has exploded during the past years and has given educators an idea on

how to go about the disability in which Interdisciplinary Study is one way to solve the challenge of decoding words, spelling words and writing (Snowling, 2013).

### **Dyscalculia**

Dyscalculia is a disability that has to do with students finding it difficult in learning and understanding arithmetic. Students find it difficult to add numbers together or manipulating numbers to this class of students is confusing and poses a big challenge in learning math concepts. The disability is sometimes called “math dyslexia” and is also linked to Attention Deficit Hyperactivity Disorder (ADHD). Studies have revealed problem associated with this learning disability which includes finding it difficult to differentiate sizes of numbers, lacking effective counting strategies, problem identifying numbers and inability to add numbers (Kucian& Aster, 2015).

### **Dysgraphia**

This is a disability that has to do with difficulty in writing one's thought clearly on paper. It is a learning disability that affects children of all ages and adults, and it interferes with all aspects of writing, including spelling, legibility, word spacing, sizing and expression (Berminger & May, 2011). According to National Centre for Learning Disabilities (NCLD), the symptoms of dysgraphia include: trouble forming letters shapes, tight and awkward grip on a pencil, difficulty following a line or staying within margins and difficulty organizing or articulating thoughts on paper.

### **Challenges of the Interdisciplinary Studies**

As instrumental as Interdisciplinary Studies is to special education, it is bedeviled with problems making it difficult for it to thrive in schools where special needs are provided. The study pulls different areas of interest together for connection of ideas but the flow of study is mostly restrained and making it impossible for some learners to cope. The challenges according to (Steven, Yolanda & Timothy, 2018) include:

1. **The nature of curriculum:** The type of curriculum practiced in our schools is usually traditional in nature and is not learner-centered, and thus the combinations of various disciplines becomes difficult as the number of subjects to be taken are fixed and are made compulsory. Therefore, it transcends to the type of standardized examination conducted, which limits students' ability to combine subjects as a requisite for further studies. Miller (2016) stated that it is important to plan ahead so as to avoid a break in the outcome of a project; this is one reason curriculum needs to be restructured to align with students' level of knowledge, and that curriculum and standardized examination should be flexible enough to allow for freedom to combine subjects of interest and those that make sense to the learner.

2. **The issue of Teamwork:** Facilitators of this type of study find it difficult to organize meetings and develop a common language. Some facilitators instill discipline and methods with pride while others do not, and as such discipline can be perceived as less rigorous. Superiority of various disciplines is usually in play. The relationship among team members has to be cordial. In building a strong interdisciplinary team, there is a need to clearly state the roles of each member, expectations and authority with regards to teaching method. To work as a team, facilitators must learn to accept and appreciate each other's methods.
3. **Communication barrier:** The usage of different terminologies in related disciplines is a challenge. Students tend to learn the same concept in different ways. This makes it difficult for slow learners to cope and thereby making learners turn off in some of the disciplines combined. Learners may experience disconnect from the norm when a teacher introduces a new approach in the classroom.

### **The Place of Interdisciplinary Studies in Special Education (Benefit)**

Weller & Appleby (2021) describes their findings about benefits of Interdisciplinary Studies as immense, as it serves as a pathway for progress to students with disabilities like dyslexia, dyscalculia and dysgraphia. It enhances the connections between different concepts and make students who differ choose subjects that are interesting and easygoing to them. Their study, therefore, revealed the following benefits:

1. **Boosting mental abilities:** The combination of topics or subjects of interest improves critical thinking and stimulates students' interest. Students with learning disabilities such as dyslexia are given the leeway to choose their topics or subjects that may improve their spelling and reading abilities to subjects that will challenge the existing notions by exposing such students to constant literature text, English studies, phonics and essay writing which may eventually improve students with dyslexia. According to Woodhead & Roger (2014), the exposure to such related disciplines makes learning meaningful, purposeful and deeper, resulting in learning experiences that stay with the student for a long time. It was further reported that Interdisciplinary Studies greatly contributes to the overall academic success of students with learning disabilities as learning is based on repetition of combined concepts, topics or subjects as time spent on each concept brings mastery and fulfillment. Interdisciplinary Studies engages students with disability in such a way that students begin to think critically, tolerate ambiguity and appreciate ethical concerns. This implies that through Interdisciplinary Studies, students of all kinds develop an appreciation between disciplines, topics, subjects and concepts which creates an understanding of how to approach a problem in line with the rules of

such discipline. This leads to a broader understanding of what students are exposed to.

2. **Increasing tolerance for ambiguity:** Saarikoski & Rybushkina (2020) in one of their studies found that Interdisciplinary Studies opens students up to accepting ambiguous or conflicting ideas. Students with dyscalculia are exposed to more than one way to go about solving a mathematical problem and give learners the power to choose which method is best for educational advancement. Students are given the platform to actively manipulate concepts like mathematical topics or areas of their choice and thereby providing solutions to problems. This also consolidates learning by synthesizing ideas from many perspectives and students consider the best way to acquire knowledge. The method may only be effective when the curriculum is changed from traditional to progressive to accommodate students' oriented practices.
3. **Improving communication skills:** Song, Riddell & Ryan (2021) explained that Interdisciplinary Studies is a platform for learners' autonomy and it promotes communication among learners. It gives students the opportunity to prepare report, present topics and participate in group discussions. These experiences help to develop the communication of students with dyslexia and dysgraphia. It was reiterated that Interdisciplinary Studies can improve skills like integration of multiple perspectives, provide solution to complex problems which helps improve a learner with dyscalculia.

## **Conclusion**

The desire to provide meaningful education to students who deviate from components of health is of a great importance here. This constant search for solution on how to educate all is an effort to meet up with global goals on the aspect of inclusive and quality education for all. This goal therefore ensures that all girls and boys complete free primary and secondary schooling by 2030. It also aims at providing equal access to all levels of education and vocational education for the vulnerable, including persons with disabilities, indigenous people and children in vulnerable situations. One way to respond to this call for total inclusion is to expose students with disabilities to Interdisciplinary Studies. Apart from individualized educational plan (IEP), the Interdisciplinary Studies has proven to be more dynamic as it gives students the freedom to choose their topics, subjects and areas of interest. This allows for students to learn on their own with teachers serving as facilitators. This area of teaching and learning has also proven to be students-centered. When students learn at their pace, learning becomes deeper and more meaningful to them, especially to those who are committed to it. It is important to adopt this method of teaching for better and faster results in students with disabilities.

## Suggestions

- Curriculum must change from traditional to progressive with the view to accommodating flexible and meaningful approaches to education, which will eventually solve a lot of educational problems. The nature of examination should also be changed so that students with diverse challenges can participate, and they can also become successful.
- The providers of Interdisciplinary Studies should always work as a team for the benefit of their students. Teachers should meet regularly to plan and design programmes that will suit the students' different needs.
- Terminologies from different related disciplines should be harmonized for easy comprehension. Teachers should therefore design similar approaches in conveying concepts, topics or areas of study to avoid students disconnecting from the process.

## References

- Ardelean, M. & Ardelean, L. (2017). Education for children with special needs. In International Rights Congress: Ankara – Turkey.
- Berminger, W. & May, O. (2012). Evidence – based diagnosis and treatment for specific Learning Disabilities involving impairments in written or oral language. *Journal Of learning disabilities*. 44 (2) 167- 183.
- Cook, B. & Schirmer, B. (2013). What is Special about Special Education? Overview and Analysis. *The Journal of Special Education*. 37(3) 200 –205.
- Hayes, A. Dombrowski, E., Alison, S., Bulat, A.,(2018). Learning Disabilities Screening and Evaluation Guide for Low – and middle income countries. RTI Press Occasional Papers. Research Triangle Park: RTI press.
- HarperCollins, (2019). Special school. In Collins English Dictionary (8th edition).
- Jean- Mar, G.I. (1962). The Savage of Aveyron: An unsolved Diagnostic Problem in Child Psychiatry. *Journal of the American Academy of child psychiatry*. 1 (2) 314-322
- Jones, A. (2015). Is Humanism and Mixed Methods Related? Leibniz's Universal Dream. *Journal of Mixed Methods Research*. 29 (2) 118-132.
- Kamenopoulo, L. (2018). Inclusive Education in the Global South? A Colombian Perspective: When you look towards the past, see children with disabilities And if you look towards the future, what you see is diverse learners. *DGS Journal* 1 (25) 15- 18.
- Kucian, K. Aster, M. (2015). "Developmental Dyscalculia". *European Journal of Pediatrics*. 174 (1) 1-13.
- Martin, W. & Appleby, M. (2021). What are the Benefits of Interdisciplinary Studies? The Open University. [https:// www.open.edu/openlearn](https://www.open.edu/openlearn) (October 14th, 2021).

- Michael, E., Obidiya, E., Emea, U. (2012). Educating People with Special Needs in Nigeria: Present and Future Perspectives. *US – China Education Review* 3 (10) 898-906
- Miller, V. (2016). Interdisciplinary curriculum reforms in the changing University. *Teaching In higher education*. 21 (4) 1-13.
- Saarikosi, L. & Rybushkina, S. ( 2020, January ). Developing Tolerance for ambiguity and Uncertainty by interdisciplinary intensive courses. (Conference presentation) SEFI Annual conference. Budapest.
- Snell, M. & Brown, F. (2011). *Instruction of Students with disabilities* (7th edition). Madrid: Pearson.
- Snowling, M. (2013). Early Identification and Intervention for Dyslexia: A contemporary View. *Journal of Research in Special Educational Needs*. 13 (1) 7-14
- Song, C., Riddell, H. & Ryan, S. (2021). Improving Students' Oral Communication Skills Through an Interdisciplinary Problem-Based Learning Opportunity in a Sport Management Course. *International Journal of Physical Education*. 10 (3) 17 - 28.
- Steven, E., Yolande, S., Timothy, R., (2018). Opportunities and Challenges of Interdisciplinary Research Career Development: Implementation of a women's Health Research Training programme. *Journal of Women's Health*. 2 (202)11-14.
- The United Nations Educational, Scientific and Cultural Organization. (2017). *A Guide for ensuring inclusion and equity in education*. Paris: UNESCO.
- Woodhead, A. & Packham, R. (2014). *Interdisciplinary Dialogue for Sustainable System. Food System: food quality and safety for sustainable Rural Development*.