JOURNAL OF GUIDANCE AND COUNSELLING STUDIES

USE OF NON-COGNITIVE TECHNIQUES FOR IDENTIFICATION AND ASSESSMENT OF PERSONS WITH SPECIAL NEEDS FOR TEST FAIRNESS AND NATIONAL INTEGRATION

AMINU GARBA
Department of Educational Foundation, Faculty of Education,
Nassarawa State University, Keffi
kwalakota@gmail.com
08161166641

Abstract

This paper discussed the use of non-cognitive techniques for identification and assessment of persons with special needs for test fairness and national integration in Nigeria. Non-cognitive techniques are socio-emotional skills that are used to identify, classify, ad place individuals with special needsin schools to facilitate the realization of educational goals as stated in the National Policy on Education. On the other hand, persons with special needs refer to any individual with difficulties such as a physical, emotional, behavioural, or learning disability or impairment which causes such individual to require additional or specialized services to function effectively in the school system.The paper has explained the scope of non-cognitive technique which include emotional maturity, empathy, interpersonal skills and verbal and non-verbal communication, conscientiousness, perseverance, and teamwork.The dimensions of persons with special needs have been analyzed. These are mobility and physical impairment, spinal cord disability, head injuries-brain disability, vision disability, hearing disability, learning disability, and psychological disorder. Causes of disability among persons with special needs such as communicable diseases and non-communicable diseases, injuries and mental health problems have been discussed. Non-cognitive kills foe identification of persons with special needs have also been analyzed. These include academic perseverance, learning strategies, social skills, and academic mindset. Non-cognitive ways for assessing persons with special needs such as data collection, analysis, evaluation, determination, and recommendation have been explained. The paper has provided non-cognitive interventions for persons with special needs. These are assistive technologies and devices, rehabilitation, and community-based rehabilitation. The paper has suggested workshops and seminars for teachers, parents, and school managers on methods and materials to be used while teaching persons with special needs for fairness and national integration.

Key Words: Non-Cognitive Techniques, Persons with Special Needs, Test Fairness, and National Integration

Introduction

Non-cognitive skills also known as **"**socio-emotional skills", plays pivotal roles through identifying, classifying, and placement of individual learner(s) at the appropriate class, subject area, and formation of group for tutorship and mentorship in the course ofteaching and learning. According to Emma (2014), analysis ofprogrammes and policies in education tend to overlook the importance of non-cognitive skills which plays central roles in the educational system and generally in teaching and learning process as we strive to achieve test fairness. Non-cognitive technique is a term that refers to behavioral skills, soft skills, personality traits, non-cognitive abilities, character and socio-emotional skills.Myint and Shaljan (2016) stated that there are many other specific factors identified as non-cognitive skills which include grit, tenacity, curiosity, attitudes, self-concept, self-efficacy, anxiety, coping strategies, motivation, perseverance, and confidence.

There is an increase in the number of researchers attempting to investigate the value of non-cognitive factors and how they influence academic and life success of individuals, especially persons with special needs. Emma (2014) asserted that non-cognitive skills are acknowledged in discussions about education; leading to the need for thoughtful and concerted attention from researchers, policymakers and practitioners with a viewto addressing the educational challenges as faced by persons with special needs. Harerimana(2019) have posited the significant role of non-cognitive skills such as attitudes, motivation and personal characteristics over cognitive skills in shaping learning outcomes, social beahviours and mental health. According to Stankov and Lee (2014),researchers in education and social sciences have recognized that non-cognitive factors and skills play a critical role in educational success and achievement. Myint and Shaljan (2016) affirmed that non-cognitive factors and skills are more important than cognitive aspects in educative process and employment potential. The notion of 'non-cognitive' has many phraseological collocationsamong which are constructs, traits, skills, factors, abilities, variables, outcomes, attributes, and predictors. Therefore, this paper discussed the use of cognitive techniques for identification and assessment of persons with special needs for test fairness in the school system for achieving national integration.

Scope of Non-Cognitive Techniques

The term "Non-Cognitive Techniques" was introduced by sociologists Bowles and Gintis (1976) which focus on factors other than those measured by cognitive test scores. Bowles and Gintis (1976) highlighted the role of attitudes, motivation and personality traits, rather than academic skills, as determinants of success in life and the educative process.

Gutman and Schoon (2013) viewed non-cognitive skills as broad range of characteristics or skills that include motivation, confidence, tenacity, trustworthiness, perseverance, social and communication skills. APL Nexted Marketing Team (2020) refer to non-cognitive skills asa set of skills that fall outside of traditional definitions of intelligence but still allow individuals to contribute meaningfully to society and to achieve success (e.g. critical thinking skills, social skills, persistence, creativity). According to Emma (2014), the concept of non-cognitive techniques especially in education suggests a more far-reaching concept associated with full development of the individual.This implies that through non-cognitive skills individuals are equipped with traits and skills such as critical thinking skills, problem solving skills, social skills, persistence, creativity, and self-control which allow them to contribute meaningfully to society and to succeed in their public lives, workplaces, homes and other societal and educational contexts. Non-cognitive skills have been broadly defined as representing the "patterns of thought, feelings and behavior" (Emma, 2014). Marc (2020) viewed non-cognitive techniques as affective and behavioural aspects of learning such as the physical act of actually attending school, and adhering to the rules, self-discipline, sense of belonging, metacognitive strategies, goal setting and interpersonal skills. Chuck (2021) sees non-cognitive skills as skills that are not cognitive (e.g., memory, attention, planning, language and thinking skills) but skills that include emotional maturity, empathy, interpersonal skills and verbal and non-verbal communication.

Non-cognitive skills cover a range of abilities such as conscientiousness, perseverance and teamworkwhich are critically important to student achievement in and beyond the classroom situations (Raja (2017). In the view of Denise (2018), non-cognitive factors affect learning in its infancy but preliminary findings pointed toward promising returns. Therefore, non-cognitive techniques refer to a set of skills, means, styles or methods that fall outside of traditional definitions of intelligence which allow individuals to contribute meaningfully to society and to achieve success in teaching and learning. It is the ability to identify and resolve one's challenges socially, academically, economically, politically, culturally, and geographically; with the view to enhancing living and academic performance in school.

Dimensions of Persons with Special Needs

Persons with special needs refer to any individual with difficulties such as a physical, emotional, behavioural, or learning disability or impairment which causes such individual to require additional or specialized services or accommodations in education or recreational activities. According to Disabled World (2021), persons with special needsare synonymous with disability which includes disabilities which can affect people in different ways.Disabled

World (2021) categorized types of disability to include various physical and mental impairments that can hamper or reduce a person's ability to carry out day to day activities.It is a condition or function judged to be significantly impaired relative to the usual standard of an individual or group. Persons with special needs according to Disabled World (2021) can be classified into a number of broad sub-categories which include the following:

1. Mobility and Physical Impairments: This category of disability includes people with varying types of physical disabilities;ranging from upper limb(s) disability, lower limb(s) disability, manual dexterity and disability in co-ordination with different organs of the body. Disability in mobility can be in-born or acquired. It could also be the effect of a disease, old age, or accident. People who have a broken bone also fall into this category of disability.

2. Spinal Cord Disability (SCI): Spinal cord injury (SCI) can sometimes lead to lifelong disabilities. This kind of injury mostly occurs due to severe accidents. The injury can be either complete or incomplete. In an incomplete injury, the messages conveyed by the spinal cord are not completely lost while a complete injury results in a total dis-functioning of the sensory organs. In some cases spinal cord disability can be a birth defect.

3. Head Injuries-Brain Disability: A disability in the brain occurs due to a brain injury. The magnitude of the brain injury can range from mild, moderate and severe. There are two types of brain injuries Acquired Brain Injury (ABI), Traumatic Brain Injury (TBI). The ABI is not a hereditary type of defect but is the degeneration that occurs after birth. The causes of such cases of injury are mainly as a result of external forces applied to the body parts. The TBI results in emotional dysfunctioning and behavioral disturbance.

4. Vision Disability: This is a disability that occurs with the sight and vision of the individual. The vision disability can occur due to injuries, or problems and diseases like blindness and ocular trauma. Some of the common vision impairment includes scratched cornea, scratches on the sclera, diabetes related eye conditions, dry eyes and corneal graft.

5. Hearing Disability: Hearing disability includes people that are completely or partially deaf. People who are partially deaf can often use hearing aids to assist their hearing. Deafness can be evident at birth or occur later in life from several biological causes such as meningitis which damages the auditory nerve or the cochlea. Deaf people use sign language as a means of communication.

6. Cognitive or Learning Disabilities: Cognitive disabilities are kind of impairment present in people who are suffering from dyslexia and other learning difficulties which mayinclude speech disorders.

7. Psychological Disorders: Disorders of mood or feeling states either in a short or long term affect the normal functioning of the individual. Mental Health Impairment is the term used to describe people who have experienced psychiatric problems or illness such as:

i. **Personality Disorders**: Defined as deeply inadequate patterns of behavior and thought of sufficient severity to cause significant impairment to day-to-day activities.
ii. **Schizophrenia:** A mental disorder characterized by disturbances of thinking, mood, and behavior.

8. Invisible Disabilities: Invisible disabilities are disabilities that are not immediately apparent to others. Example of such include depressive disorders, multiple personality disorder, and conversion disorder.

Signs and Symptomsof Persons with Special Needs

Indicators or symptoms of persons with special needs according to Piya (2021) are as follows:

1. Failing to give attention to tasks or notice details, sustain attention over activities; even play, not seeming to listen when spoken to directly.
2. One may even observe that the child is not following through an instruction, and failing to finish academic work, basic chores, or duties. He may struggle with organisational skills.
3. Reluctance or avoidance of tasks that require sustained attention or concentration. He/she can easily be distracted, forgetful and careless.
4. Excessive talking, fidgetiness, out of seat behaviour and difficulty with quiet play. Constantly interrupting conversations, inability to wait turn, blurting out answers out of turn. This child may seem to be constantly "on the go"
5. Language-based learning disabilities may be identified by the child's inability to read age appropriate material, oral language or spelling skills that are not matched to an expected age or grade level.
6. Children who have family members that have struggled with reading, writing and spelling need to be monitored more closely. Problems with written expression, letter formations, discrepancy between the child's oral expression and written expression are also an indicator of possible dysgraphia.
7. Dyscalculia or math-based difficulties may be identified by difficulties in recognising numbers or learning to count, struggling with connecting the value with the word or numerical symbols. Recognising patterns is difficult, loses track when counting, needs physical cues to compute, estimation of time is also a challenge sometimes.

8. Struggles to process visual-spatial concepts like graphs and charts and other pictorial representations of Math.

Furthermore, Melissa (2019) identified symptoms and signs of persons with special needs to include:

i. problems reading or writing,
ii. clumsiness,
iii. difficulty paying attention,
iv. difficulty with math,
v. poor memory,
vi. difficulty telling time,
vii. organization difficulties,
viii. difficulty following directions, and
ix. other learning-related struggles.

Causes of Disability among Persons with Special Needs

Melissa (2019) asserted that the cause of learning disabilities is likely to be a combination of genetic and environmental influences that cause some people to process information differently. The American International Medical University (2021) identified the following causes:

1. Communicable Diseases: Infectious diseases such as lymphatic filariasis, tuberculosis, HIV/AIDS, and other sexually transmitted diseases; neurological consequences of some diseases such as encephalitis, meningitis, and childhood cluster diseases (such as measles, mumps, and poliomyelitis) contribute to disability.

2.Non-Communicable Diseases (NCDs): Chronic diseases such as diabetes, cardiovascular disease, arthritis and cancer cause the majority of long-term disabilities. The increase in NCDs observed in all parts of the world, will have a profound effect on disability. Lifestyle choices and personal behavior such as obesity, physical inactivity, tobacco use, alcohol consumption, illicit drugs that lead to non-communicable diseases are also becoming major contributing factors. Also, air pollution, occupational disease, poor water supply, sanitation, and personal and domestic hygiene, malnutrition also contribute for disability.

3. Injuries: This is caused or due to road traffic accidents, occupational injury, violence, conflicts, falls and landmines have long been recognized as contributors to disability.

4. Mental Health Problems: Mental health retardation and mental illness are the causes of mental disability. In more than 50% cases mental retardation has been reported to be caused

by serious illness or head injury in the childhood and birth defects. Mental retardation was observed mostly at birth or at very early ages of life while the problem of mental illness is more of an old age problem.

Use of Non-Cognitive Skills for Identification of Persons with Special Needs for Test Fairness

Denise (2018) examines the following non-cognitive factors commonly lacking in today's students and address how to develop these skills through specific (and easy to implement) instruction:

1. Academic Perseverance: This skill is best explained as the ability a student has to stick with a task, even when it is not a quick or easy one. Learning scales can be created by setting the standard you're teaching at the proficiency mark (typically called level 3), then writing more simplified versions of the standard for levels 1 and 2, and a more intense version of the standard for level 4 (mastery). More so, allow students to read through their reflections at least once a week to see the progress they made simply by continuing to do their best.

2. Learning Strategies: These skills are just what the term says: strategies we use in order to learn. While your students are familiar with how to engage in all of the high-impact strategies you regularly use in your classroom, they are likely not aware of why you're using those strategies. Older students can collect their data and begin to look for patterns. Challenge them to use data to identify points when they have difficulty engaging in work, and help them plan for how to make adjustments.

3. Social Skills: These foundational skills influence a student's ability to communicate and work effectively with others. While this seems like something all students have mastered, it is often a skill set they need direct instruction in order to develop. A good place to start is with setting norms for speaking and listening in your classroom. Often, students fall into the trap of halfheartedly listening to what others are saying because they're busy planning their own response.

4. Academic Mindset: Creating a classroom environment where students see the relevance of learning, and where they feel a sense of belonging, is an excellent way to foster an academic mindset in them. Specific, meaningful feedback that is related to each student's goals will help keep the focus on their progress. This provides students with a sense of ownership and the ability to identify their strengths and opportunities for growth.

Assessment of persons with special needs is the process used to determine a child's specific learning strengths and needs as well as to determine whether or not a child is eligible for special education services.

Non-Cognitive Skills for Assessment of Persons with Special Needs

According to National Association of Special Education Teachers (2021), the development of these skills should include a good working knowledge of the following components of the assessment process in order to determine the presence of a suspected disability:

1.Collection: The process of tracing and gathering information from the many sources of background information on a child such as school records, observation, parent intakes, and teacher reports

2.Analysis: The processing and understanding of patterns in a child's educational, social, developmental, environmental, medical, and emotional history

3.Evaluation: The evaluation of a child's academic, intellectual, psychological, emotional, perceptual, language, cognitive, and medical development in order to determine areas of strength and weakness

4.Determination: The determination of the presence of a suspected disability and the knowledge of the criteria that constitute each category

5.Recommendation: The recommendations concerning educational placement and programme that needs to be made to the school, teachers and parents.

Furthermore, the American Psychological Association (2021)hasoutlined the following skills to be used in assessing persons with special needs:

1. In assessing persons with disabilities, psychologists strive to consider disability as a dimension of diversity together with other individual and contextual dimensions.
2. Depending on the context and goals of assessment and testing, psychologists strive to apply the assessment approach that is most psychometrically sound, fair, comprehensive, and appropriate for clients with disabilities.
3. Psychologists strive to determine whether accommodations are appropriate for clients to yield a valid test score.
4. Consistent with the goals of the assessment and disability-related barriers to assessment, psychologists in clinical settings strive to appropriately balance quantitative, qualitative, and ecological perspectives, and articulate both the strengths and limitations of assessment.

5. Psychologists in clinical settings strive to maximize fairness and relevance in interpreting assessment of data of clients who have disabilities by applying approaches which reduce potential bias and balance and integrate data from multiple sources

Non-Cognitive Interventions forPersons with Special Needs

American Internal Medical University (2017) pointed out the following interventions for persons with special needs:

1. Assistive Technologies and Assistive Devices: such as crutches, prostheses, wheelchairs, and tricycles in mobility impairments; hearing aids and cochlear implants for hearing impairments; ocular devices, talking books and software for screen magnification and reading for people with visual impairments may be advised according to the user and the user's environment.

2. Rehabilitation: It is an important aspect of management for people with disability. It involves combined and coordinated use of medical, social, educational, and vocational measures for training or retraining the individual to the highest possible level of functional ability.

3. Community-Based Rehabilitation (CBR): CBR was initiated by WHO to enhance the quality of life for people with disabilities and their families; meet their basic needs; and ensure their inclusion and participation. CBR is implemented through the combined efforts of people with disabilities, their families and communities, and relevant government and non-government health, education, vocational, social and other services.

The following are interventions for persons with special needs (American Psychological Association, 2021):

1. Psychologists strive to recognize that there is a wide range of individual response to disability, and collaborate with their clients who have disabilities, and when appropriate, with their clients' families to plan, develop, and implement psychological interventions.
2. Psychologists strive to be aware of the therapeutic structure and environment's impact on their work with clients with disabilities.
3. Psychologists strive to recognize that interventions with persons with disabilities may focus on enhancing strengths well-being as well as reducing stress and ameliorating skill deficits.

4. When working with systems that support, treat, or educate people with disabilities, psychologists strive to keep clients' perspectives paramount and advocate for client self-determination, integration, choice, and least restrictive alternatives.
5. Psychologists strive to recognize and address health promotion issues for individuals with disabilities

Conclusion

Based on the literature reviewed, it could be concluded that persons with special needs are individuals with one or more challenges that hinder their academic performance if compared with their counterparts. Their situations could be determined and managed through the application of non-cognitive techniques. With effective application of this technique, causes, effects and how to assess these individuals can be facilitated.

Suggestions

It is therefore suggested that:

1. School managers should through workshops and seminars train teachers on methods and materials to be used while teaching persons with special needs.
2. A law should be enacted to make education free for persons with special needs at all levels.
3. Planners in education in collaboration with curriculum developers should include special education in the school curriculum at all levels of education.
4. Government should through mediasensitise the masses on the need to ask persons with special needs before rendering any assistance to them.

References

Barrett, L. (2014). What counts as (non) cognitive? A comment on rowe and healy. *Behavioral Ecology*, *25*(6), 1293–1294.

American International Medical Univeristy (2017).*Disabilities : Causes , diagnosis and management.*https://www.aimu.us/2017/02/25/disabilities-causes-diagnosis-and-management/

American Psychological Association (2021).*Guidelines for assessment of and intervention with persons with disabilities.*https://www.apa.org/pi/disability/resources/assessment-disabilities

APL Nexted Marketing Team (2020).*Non-cognitive skills: What they are & how to teach them*. https://aplnexted.com/non-cognitive-skills/

Barrett, L. (2014). What counts as non-cognitive? A comment on rowe and healy. *Behavioral Ecology*, *25*(6), 1293–1294.

Brunello, G. &Schlotter, M. (2011).Non cognitive skills and personality traits: Labour market relevance and their development in education & training systems, IZA Discussion Papers, No. 5743, Institute for the Study of Labor (IZA), Bonn, http://nbn-resolving.de/urn:nbn:de:101:1-20110601393

Chuck, R. (2021). The definition of non-cognitive skills.https://oureverydaylife.com/definition-noncognitive-skills-8410447.html

Denise, H. (2018). *Building students' non-cognitive skills.*https://www.edutopia.org/article/building-students-noncognitive-skills

Disabled World (2021).*Disabilities: Definition, types and models of disability.*https://www.disabled-world.com/disability/types/

Emma, G. (2014). *The need to address non-cognitive skills in the education policy agenda.*https://www.epi.org/publication/the-need-to-address-noncognitive-skills-in-the-education-policy-agenda/

Harerimana, J. P. (2019). Promoting Non-Cognitive Skills: A Classroom Practice.*International Journal of Research and Scientific Innovation,*VI(XI), 209-210.

Marc, S. (2020). *What are non-cognitive skills?*https://theemotionallearner.com/2020/05/28/what-are-non-cognitive-skills/

Melisa, C. S. (2019). Learning disability: Symptoms & signs. https://www.medicinenet.com/learning_disability_symptoms_and_signs/symptoms.htm

Myint, S. K. &Shaljan, A. (2016).*Non-cognitive skills and factors in educational success and academic achievement.*Sense Publisher.https://www.researchgate.net/publication/304580002

Piya, M. (2021).How to know if your child has special needs.The Indian Express.https://indianexpress.com/article/parenting/family/how-to-know-if-your-child-has-special-needs-7053510/

Raja, B. K. (2017).*Non-cognitive skills: What are they and why should we care?*Educational Global Development.*https://blogs.worldbank.org/education/non-cognitive-skills-what-are-they-and-why-should-we-care*

*Shriver, K. E. (2018). What are some signs of learning disabilities? National Institute of Child Health and Human Development.*https://www.nichd.nih.gov/health/topics/learning/conditioninfo/signs

Stankov, L., & Lee, J. (2014).Quest for the best non-cognitive predictor of academic achievement.*Educational Psychology,34*(1), 1–8.