

TRANSFORMING LITERACY LEARNING SPACES: EXPLORING OPPORTUNITIES, POSSIBILITIES AND CREATIVITY

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Forward

I consider it a rare privilege to be invited to write the foreword for this book, titled, *Transforming Literacy Learning Spaces: Exploring Opportunities, Possibilities and Creativity*. I understand that the idea of this book was conceived at a time UNESCO was calling the attention of the world to the need to enrich and transform the existing learning spaces through an integrated approach, and enable literacy education in the context of lifelong learning. Indeed, global literacy efforts have started taking a new trend over the past few years as a result of our rapidly changing world.

Therefore, it became really necessary to call on scholars, experts and practitioners in the field of literacy education and related fields to share ideas towards rethinking the current use of learning spaces across the world, in order to build resilience and make sure everyone has access to quality, equitable and inclusive education. This book, published jointly by the National Commission for Mass Literacy, Adult and Non-Formal Education, Abuja and the Department of Adult Education, University of Ibadan, is a timely response to the rapid scientific and technological advancements, which has altered a lot, including what it means to be literate. This has also paved the way for the exploration of new opportunities and possibilities that apply creativity and innovation in the manner in which literacy programmes are organised and delivered.

It is really exciting to note that this book showcases the original ideas of scholars and practitioners in Literacy Education and related fields. They discussed extensively the various opportunities, possibilities, creativity and innovations as far as enriching and transforming the existing learning spaces are concerned. This book is a must read for all.

Emeritus Professor Michael Abiola Omolewa (OON)

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President of the 33rd Session of the General Conference of UNESCO
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Preface

Global literacy efforts have started taking a new trend over the past years as a result of a rapidly changing global society. Due to the recent global pandemic, close to 24 million learners across the world were envisaged to be likely never to be able to return to formal education. Expectedly, 11 million of this number are projected to be girls and women. In her effort towards ensuring that no one is left behind, UNESCO is calling the attention of the world to the need to “*enrich* and *transform* the existing learning spaces through an integrated approach, and enable literacy learning in the perspective of lifelong learning” (UNESCO, 2022).

Therefore, the International Literacy Day (ILD) for the year 2022 was celebrated across the world under the theme, **Transforming Literacy Learning Spaces**, with the hope that this would create an opportunity to rethink the current use of learning spaces across the world, in order to build resilience and make sure everyone has access to quality, equitable and inclusive education. In the light of this, the Department of Adult Education, University of Ibadan, and the National Commission for Mass Literacy, Adult and Non-Formal Education, Abuja decided to publish this book titled “**Transforming Literacy Learning Spaces: Exploring Opportunities, Possibilities and Creativity**”. A book intended to serve as a platform to showcase the various opportunities, possibilities, creativity and innovations as far as *enriching* and *transforming* the existing learning spaces are concerned. Thus, scholars, researchers, practitioners, educators and policy makers in the area of adult literacy and related fields have contributed chapters in this book showcasing their experiences and ideas toward creating an opportunity to rethink the use of current literacy learning spaces in Nigeria.

The book contains fifteen well-written chapters. Chapter one discusses ways of enhancing waste recycling and waste-to-wealth in Nigeria, and how this crucial for transformation of environmental literacy learning spaces. The author argues that waste is everyone’s business, and that billions of tons of waste are producing every year, which are generated from different sources such as agriculture, industrial and municipal locations. The author, therefore, discussed different measures and strategies that have been adopted to discard waste in our houses and streets by the government and individuals. Strategies such as incineration, recycling, ocean dumping, landfills, open dumps and waste exporting; and how these measures adopted seem not to have yielded the expected outcome due to lack of awareness, high rate of illiteracy, quest for increase economic growth, industrialization, urbanization and increase in population growth.

Chapter two is on reading habits for total child development. The author conceived reading as one of the receptive skills needed for information retrieval and transfer in any human; and as the ability to induce meaning from written or printed words. He also argues that reading shapes the mind, gives broader and enriched vocabulary, helps in character creation, widens the mental horizons and provides other benefits. The author, on the other hand, defined habit as an acquired mode of behaviour that is done regularly without much awareness. Thus, explaining that the need for information and knowledge motivates people toward reading; and that reading habits will enable

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students to have effective study skills, knowledge of different information resources, and effective retention capacity.

Chapter three focuses on ergonomics of library buildings and optimum performance of personnel in Nigerian libraries. The author argues that personnel job performance is important to an organisation and the personnel as individuals in an organisation, because it has a direct bearing on the achievements of the vision and goals of the organisation. She also maintains that the job performance of library personnel is key to the overall performance of the library in terms of service delivery which goes a long way to determine the quality of teaching and learning in schools. The author in this chapter revealed how libraries in Nigeria unlike its counterpart in many parts of the world are underdeveloped, thus, pointing out the urgent need to research on how the standard could be improved.

Chapter four is on transforming political literacy, and how this can bring about a paradigm shift for citizens' participation in democratic governance in Nigeria. The author highlighted the observed downward trend of citizens' participation in democratic elections in Nigeria, and how worrisome this is. Especially when viewed alongside the fact that the Nigerian political system lacks a virile democratic culture as characterised by general political apathy and voter apathy among the non-literate adult population in particular. Thus, as the need for active political participation among the adult citizens becomes more pertinent and necessary in today's democracy in Nigeria, finding effective ways to transmit political education has become highly imperative. It is, therefore, the stand of the author in this chapter that the necessity to incorporate political education into the curriculum of adult and non-formal education is informed by the need to institutionalize and entrench the right type of values and attitudes which would serve as democratic culture in the country.

Chapter five discusses community involvement in the transformation of rural literacy learning spaces. The authors maintaining that the word 'rural' is hard to define, stated that one can only picture a cartographic milieu ascribed as 'rural'; and also envisioned some characteristics of an environment of a small community with low population density, a small number of people living together with an intimate face-to-face relationship. These characteristics, they argued, address the multifaceted signification of the rural communities with a series of images which sometimes are positive, negative or historical. Also, the authors linked the term with such concepts as justice and truth, which is relative, adding that many people have definitions of the term rural, which is not often at par. They explained further that as a quantitative measure, rural space includes the entire territory, population groups and housing units located outside of urban areas or urban agglomerations. The major discussion in this chapter focuses on how involvement of these rural communities in the transformation of rural literacy learning spaces.

Chapter six is on the role of local communities in the transformation of rural literacy learning spaces. The authors argue that Nigeria still faces a number of urgent issues, such as a dearth of efficient rural literacy learning spaces, despite overtaking South Africa as the continent's largest economy in 2014. Explaining that Nigeria is not an exception when it comes to the global concern

of providing the rural people with affordable, top-quality education, the authors stated that the majority of rural transformation initiatives are geared toward improving living conditions of people who reside in rural and sparsely populated areas. Thus, in fostering inclusive engagement in rural community schools and the desire for all-encompassing community development, improving rural literacy rates is one of the key pillars.

Chapter seven focusses on adopting digital technologies for sustainable continuing education programmes in Nigeria. The authors argue that by exploring new ways, educators come up with a better and advanced form of teaching, which helps in creating engagement and makes learning a fun activity. According to them, this has made learning flexible. Thus, learners can attend classes from anywhere and can study anytime, which helps in increasing productivity. The authors also explain that digital education encourages an in-depth discussion by combining face-to-face interaction with digital or online learning. This is a perfect blend of digital tools, content, and instructions from the educator, and offers various advantages to learners like exposure to new opportunities, personalised learning, high engagement, overall development, and better results. This, in the authors' views has wholly transformed the traditional chalk and blackboard (chalkboard) culture.

Chapter eight discusses the place of innovative tech-driven facilitator training in the move towards transforming literacy learning spaces. The authors began from the standpoint that global literacy efforts have started taking a new trend over the past years as a result of a rapidly changing global society. And the fact that due to the recent global pandemic close to 24 million learners across the world were envisaged to be likely never to be able to return to formal education. Hence, the need to create an opportunity to rethink the current use of learning spaces across the world, in order to build resilience and make sure everyone has access to quality, equitable and inclusive education. The authors also argue that the world has become complex with rapid scientific and technological advancements, which has brought about a lot of changes, including what it means to be literate. This calls for a truly integrated approach to literacy learning, built on the principles of lifelong learning. The chapter argues that to achieve this, efforts must be made towards building the capacity of literacy facilitators through innovative tech-driven facilitator training towards facilitation skills enhancement.

Chapter nine is on virtual transformation of literacy learning spaces through exchanging knowledge across borders by the means of Open Education and Open Educational Resources. Here the authors explained how open education can be a means to opening up the education landscape to give access opportunities to all. They described open education as a way of carrying out education, often using digital technologies, with the aim of widening access and participation to everyone by removing barriers and making learning accessible, abundant, and customisable for all. This offers multiple ways of teaching and learning, as well as, building and sharing knowledge. They argued that this provides a variety of access routes to formal and non-formal education. Thus, individuals and organisations can create OERs which can include materials like presentation slides, podcasts, syllabi, images, lesson plans, lecture videos, maps, worksheets, and even entire textbooks, among others.

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Chapter ten examines the potentials of blended learning in transforming literacy learning spaces and skills acquisition in a new normal world. The author presents how the COVID-19 pandemic has opened several doors into how we now go about organizing, planning, and delivering educational contents. The COVID-19 epidemic gave modern educational practices a new dimension and created several chances for learners and facilitators to interact. The author defined blended learning as the combination of traditional classroom teaching techniques alongside online learning for the same set of learners, studying the same material in the same course. This combines in-person and online learning in a meaningful way. The chapter also discusses the fact that there are also blended programs, where learners take some classes in traditional classroom settings and others entirely online. Thus, other than over adopting a single learning delivery method, blending offers a number of advantages. This and how it could help transform literacy learning spaces is the focus of this chapter.

Chapter eleven focuses on transforming literacy learning spaces in the context of workplace literacy. Following an examination of the changes occurring in literacy learning contexts, the author in this chapter proposes a transformation in workplace literacy practice. Thus, the chapter advocates leveraging workplace literacy for organisational progress and development. Particularly in accordance with the demands and benefits of the digital age. The author argues that foundational for workplace literacy, traditional school settings must be expanded and literacy education integrated into the context the workplace. Thus, people can be helped to learn to read and write not just via formal schooling but also through hands-on experience, thereby acquiring certain workplace literacies.

Chapter twelve, titled transforming literacy learning spaces in Nigeria: towards a roadmap of implementation, was written to suggest the roadmap for transforming literacy learning spaces in Nigeria in line with the resolution of the ILD's theme for the year 2022. It began with a clarification of the concept of literacy learning spaces with the argument that the foundation of transforming literacy learning spaces arose from UNESCO's Strategy for Youth and Adult Literacy (2020-2025) approved by the UNESCO's General Conference at its 40th session in November 2019. The chapter further discussed the reasons justifying the need to transform literacy learning spaces globally and in Nigeria. The chapter recommends the roadmap of implementation for transforming literacy learning spaces in Nigeria which included, among others, the re-conceptualization of literacy learning within the framework of lifelong learning, development of multi-sectoral literacy policy and governance structure creation of diverse or multiple literacy learning spaces, provision of alternative literacy learning modes, development of inclusive and gender responsive digital learning space for all, and leveraging digital technologies to expand access and literacy learning outcome.

Chapter thirteen focuses on facilitators' training and literacy learning spaces transformation in the 21st century. It argues that this is imperative to realise and identify with the significant role of training in any organisation that has the intention of staying in the business. In this chapter, the author maintains that it is obvious that literacy centres are also business organisations and therefore the facilitators or resource persons anchoring literacy programmes should endeavour to

key vehemently into training and retraining programmes in order to improve and transform the means or channels available for learning new knowledge, skills, ideas and innovations that can aid progress and development of the citizens. The author noted specifically that it is only when the facilitators are adequately and appropriately trained, that the learning spaces will be transformed to accommodate 21st century adaptation and compliance.

Chapter fourteen is on food and nutrition literacy: a panacea for improving children and adolescents' health status in Nigeria. In this chapter, the authors maintain that childhood is a key stage exhibiting rapid changes in physical growth, psychosocial development and behavioural modifications. Thus, unhealthy eating habits can predispose children to chronic disease and weaken their learning capacity. The authors also argue that the growth of children is seriously threatened by malnutrition caused by poor dietary quality. In addition, unhealthy eating behaviour can result in exceeded diet, and one per five deaths worldwide occurs due to unhealthy nutrition.

Chapter fifteen discusses developing a framework for adult facilitators in Nigeria: lessons from other countries. In this chapter, the authors argue that Nigeria as a nation has put in place a number of mechanisms to improve the non-formal education sector, in order to equip adult literacy facilitators towards effective literacy delivery. However, there are some shortcomings in the sector that need urgent attention, including the absence of standardised training programme for the facilitators, insufficient duration of time for trainings, inadequate attention to contextual challenges militating against the facilitators' welfare, lack of proper evaluation and monitoring of the sector, and a lack of appropriate training and teaching-learning materials/tools/aids. Thus, a dire need to develop a framework for the sector, especially in the area of capacity building for the adult literacy facilitators who are directly in-charge of literacy delivery in Nigeria based on experiences from around the world.

Chapter sixteen is on digital technology as a tool for transforming learning spaces for workers' training in Nigeria. The author argues that workers are an essential part of the organisational system because they represent the human capital resources that drive all other factors or parts of the system in a bid to achieve the organizational goal. Thus, in order to keep the workers abreast of changes and to ensure acquisition of requisite skills needed for optimal performance, there is always the need to engage the workers in training and retraining from time to time. Meanwhile, organising trainings for workers come in different forms, which could be on-the-job where workers are exposed to learning components while on duty at work, or off-the-job, where training takes place outside the workplace so workers can acquire additional skills. This chapter discusses the various ways the digital technology could, be maximised for such training programmes.

Chapter seventeen examined transforming the social sector learning space: andragogical training for second-career occupations in Nigeria. In this chapter, the authors argue that recently, there is a sustained interest among university administrators and scholars about the relevance and future of Adult Education in Nigeria. They explained that Adult Education has undoubtedly evolved over the years as an interdisciplinary field of study and contributed immensely to adult literacy and continuing education in the country. The concern, however, is not about the survival but viability

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of the field of study as a discipline and professional practice in the face of global technological revolution. This chapter, therefore, showcases the intrinsic value of adult education as a discipline, for self-sustenance, as it has deployed different platforms to address gaps in adult learning through technology-mediated learning capabilities in the recent past with correspondence education, open distance education, and virtual education.

With the forgoing, here is a fact that cannot be overemphasised: this book is very loaded. So, I present to you a very rich book with contemporary titles centred around innovating and transforming literacy and other learning spaces in Nigeria. I am sure each time you pick up the book to read, you will always have that conflict of which chapter to read first, as each chapter is well-loaded and well-written for all to understand. Therefore, I recommend this book for all.

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Executive Secretary,

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Abuja, Nigeria

Acknowledgments

UNESCO Institute for Lifelong Learning in the year 2015 called for an exploration of new opportunities and possibilities that make way for creativity and innovation in the manner in which literacy programmes are organised and delivered. An effort which is expected to lead to an integrated approach to literacy learning built on the principles of lifelong learning, where basic literacy is peered with income generating activities. It is believed that literacy programmes organised from this perspective are truly problem solving in nature. For this reason, and in line with the theme for the 2022 International Literacy Day, the Department of Adult Education, University of Ibadan launched an Integrated Rural Literacy Project for Women and Girls at Apatere Village, Oyo State. A project conceived with the hope of bringing about financial freedom and improved livelihoods, particularly for rural women and girls. This Rural Literacy Project, as well as the ILD Book Project, were in commemoration of the 2022 International Literacy Day (ILD) Celebration held on September 8, 2022.

Therefore, I will not fail to acknowledge organisations and individuals who contributed immensely towards the actualisation of these two huge projects. As we tried to do our own bit as a foremost Department of Adult Education in Africa, we were highly privileged to have partners who picked interest in what we were doing. I will like to sincerely appreciate the UNESCO Multisectoral Regional Office, Abuja, the National Mass Education Commission (NMEC) and the Universal Basic Education (UBEC) for their timely support towards making these projects a reality. There could not have been a better way to celebrate the 2022 International Literacy Day.

Similarly, I will like to sincerely appreciate the Baale of Apatere (Chief Sunday Alamu), the Baale-in-council, and the entire people of Apatere for their hospitality and cooperation. The Rural Literacy Project would not have been possible without the acceptance and cooperation of our hosts. My sincere appreciation also goes to my constituency, the entire staff and students of my department, the Department of Adult Education, University of Ibadan for their continued support towards upholding the vision of the forefathers of our department, and towards pioneering laudable projects such as these. I appreciate your support always. I have to appreciate very specially my own Dean, Professor Olufemi Fakolade, Dean of the Faculty of Education, who gave us his unflinching support throughout the commissioning of the Rural Literacy Project. He created time to grace the occasion of the commissioning far away at Apatere Village in spite of his very busy schedule and the short notice.

Finally, I will like to thank the Vice Chancellor of the University – Prof K.O. Adebowale, and the university management for their support to our department, and for always providing an enabling environment for us to operate. We are indeed grateful.

Kehinde O. Kester, PhD

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University of Ibadan*

Chapter 14

Food and Nutrition Literacy: A Panacea for Improving Children and Adolescents' Health Status in Nigeria

Abiola A. OMOKHABI, Udukhomose S. OMOKHABI & Olumide E. OLAJIDE

Introduction

Childhood is a key stage exhibiting rapid changes in physical growth, psychosocial development and behavioral modifications (Kalkan, 2019). Unhealthy eating habits can predispose children to chronic disease (Kazemi, Zahraei & Nazarian, 2016) and weaken their learning capacity (Shi, Tubb, Fingers, Chen & Caffrey, 2013). The growth of children is seriously threatened by malnutrition caused by poor dietary quality (United Nations International Children's Emergency Fund, 2019). In addition, unhealthy eating behaviour can result in exceeded diet (Borges, Marchioni, Levy &, Slater, 2018). One per five deaths worldwide occurs due to unhealthy nutrition (Global Burden of Disease Study, 2017).

Adolescence, a period of life ranging from 10-to 19 years old (World Health Organisation (WHO), 2007), is an ideal time to plan, apply, and monitor nutrition interventions. Adolescents aged 10 to 19 years' account for about 16% of the global population, and about 90% of the adolescents live in low- middle- income countries (LMICs) (WHO, 2014). Adolescence is considered a vital period to lay the foundation for health, investment in adolescent health can promote adult health and the life quality of the next generation (WHO, 2017). Inadequate nutrition in adolescence can potentially retard growth and sexual maturation and displaces adolescents at high risk of developing chronic diseases (WHO, 2005).

Adolescents, however, generally have limited food literacy skills, lacking the ability to use food knowledge and skills to plan, manage, select, prepare and eat healthy foods (Wickham & Carbone, 2018). Instead, adolescents increasingly consume fast food meals and processed snacks away from home, contributing to the rising rates of obesity in adolescents (Larson, Miller, Watts, Story, & Neumark-Sztainer, 2016). While the majority of adolescents were not familiar with the term, food literacy, stating it was information about food or a specialized language of food, they reported an interest in gaining competence in food literacy (Ronto, Ball, Pendergast, & Harris, 2016). It is a critical age group since many of the risk factors for adult non-communicable diseases develop during adolescence, and targeting adolescents with health interventions can have a positive ripple effect. Despite the decreasing trend in communicable, maternal, neonatal, and nutritional diseases, malnutrition (including undernutrition, micronutrient deficiencies, and overweight/obesity) still remains a major public health concern (Reiner *et al.*, 2019).

Moreover, the scholars submitted that the progress is inequitable since countries with a low and low-middle social development index (SDI) bear a higher burden of morbid children and

adolescents compared to middle-, high–middle-, and high-SDI countries Iron deficiency anemia associated with other micronutrient deficiencies still accounts for over 2500 disability-adjusted life-years (DALYs) per 100,000 adolescents (WHO, 2014) Iodine and vitamin A deficiencies are also reported to be prevalent among adolescents, especially in countries with low SDI (Christian, & Smith, 2018).

Based on Nutbeam (2008) hierarchical model of health literacy, food literacy and nutrition literacy have been divided into three levels: functional food/nutrition literacy is the knowledge and ability to obtain information from various sources and understand and comprehend it as well as practical skills and strategies to promote health; interactive food/nutrition literacy includes interpersonal skills with experts, peers, and other people to share and discuss necessary information; and critical food/nutrition literacy is the knowledge and ability to understand and comprehend information from various sources and apply it to one's. Two developing concepts, food literacy and nutrition literacy, have caught academics' attention since 1990 and have been defined in great detail, according to Nutbeams (2008)'s model of health literacy. Beyond nutrition knowledge, food literacy includes behaviours and abilities that range from understanding the source of food to being able to choose and prepare it properly (Vaitkeviciute, Ball & Harris, 2014).

Nutrition literacy refers to food-related knowledge and skills applied to select healthy diets including meal volume, knowledge on food labels, reliability of nutrition information, and rudiments of nutrition information (Gibbs & Chapman-Novakofski, 2012). Nutrition literacy assists in maintaining and improving health through selection of the right foods (Truman, Raine, Mrklas, Prowse, Hoed, Watson-Jarvis, Loewen, Gorham, Ricciardi, Tyminski & Elliott, 2017). In general, educational interventions contribute positively to increasing nutrition knowledge but do not necessarily result in enhanced dietary intake because of failure to link nutrition-related knowledge, skills and making critical decisions regarding dietary intake (Lichtenstein, Ludwig & 2010). Nutrition education works best in unique intervention points in the life cycle, particularly throughout adolescence (Raikar, Thakur, Mangal, Vaghela, Banerjee & Gupta, 2020).

Nutrition literacy refers to food-related knowledge and skills applied to select healthy diets including meal volume, knowledge on food labels, reliability of nutrition information, and rudiments of nutrition information (Gibbs & Chapman-Novakofski, 2012). Nutrition literacy assists in maintaining and improving health through selection of the right foods (Truman, Raine, Mrklas, Prowse, Hoed, Watson-Jarvis, Loewen, Gorham, Ricciardi, Tyminski & Elliott, 2017). In general, educational interventions contribute positively to increasing nutrition knowledge but do not necessarily result in enhanced dietary intake because of failure to link nutrition-related knowledge, skills and making critical decisions regarding dietary intake (Lichtenstein, Ludwig & 2010). Nutrition education works best in unique intervention points in the life cycle, particularly throughout adolescence (Raikar et al., 2020).

Adolescent nutritional care remains a neglected topic worldwide, whereas this is a crucial period of development, with high energetic energy and nutrient requirements. Poor nutrition and multiple micronutrient deficiencies can hinder their physical, cognitive and psychosocial development

(Save the Children, 2015). Worldwide, between 10 and 14 years of age, Fe deficiency anaemia is responsible for 1161 and 1365 disability-adjusted life years lost per 100 000 female and male adolescents, respectively (WHO, 2017). Other key micronutrients such as Zn, Ca and vitamin D play a role in the adolescent development, promoting adequate growth, ensuring lifelong bone health while also enhancing immunity and sexual maturation (Akseer, Al-Gashm, Mehta, Mokdad & Bhutta 2017). While transitioning to adulthood, adolescents may experience lifestyle and eating behaviour change that may increase the risk of food disorders and overweight and obesity (Das, Salam, Thornburg, Prentice, Campisi, Lassi, Koletzko & Bhutta, 2017), but important research gaps persist and factors influencing this nutrition transition in adolescents are insufficiently addressed (Stok, Renner, Clarys, Lien, Lakerveld & Deliens, 2018)

Some of the most important public health issues currently facing teenagers transitioning into adulthood are overweight and obesity. In 2016, the World Health Organization estimated that over 340 million kids and teenagers globally were overweight or obese. Over the last 40 years, the number of obese children and adolescents (aged 5–19) had multiplied (WHO, 2021). Being overweight or obese during childhood and adolescence is associated with adverse health consequences, such as being more likely to be obese in adulthood (Simmonds, Llewellyn, Owen & Woolacott, 2016), and is a major risk factor for chronic diseases (Lobstein, Baur & Uauy 2004), including diabetes, cardiovascular disease, and some cancers (Lee, Keum, Hu, Orav, Rimm, Willett & Giovannucci, 2018; Lee, Keum, Hu, Orav, Rimm, Willett & Giovannucci, 2018).

Obesity in adolescents is likely to persist into adulthood frequently. The low success rate of treating adult obesity highlights the critical need for developing child prevention strategies. According to estimates, there are 600 million obese persons in the globe, 43 million of them are children (de Onis, Blossner & Borghi, 2010). According to Nwaiwu and Ibe (2014), the prevalence of obesity in Nigeria ranges from 0.2% to 18%. If nothing is done, these numbers could quadruple by 2025 based on the increased prevalence of obesity (de Onis, Blossner & Borghi, 2010).

Literature Review: Conceptualization Food and Nutrition Literacy

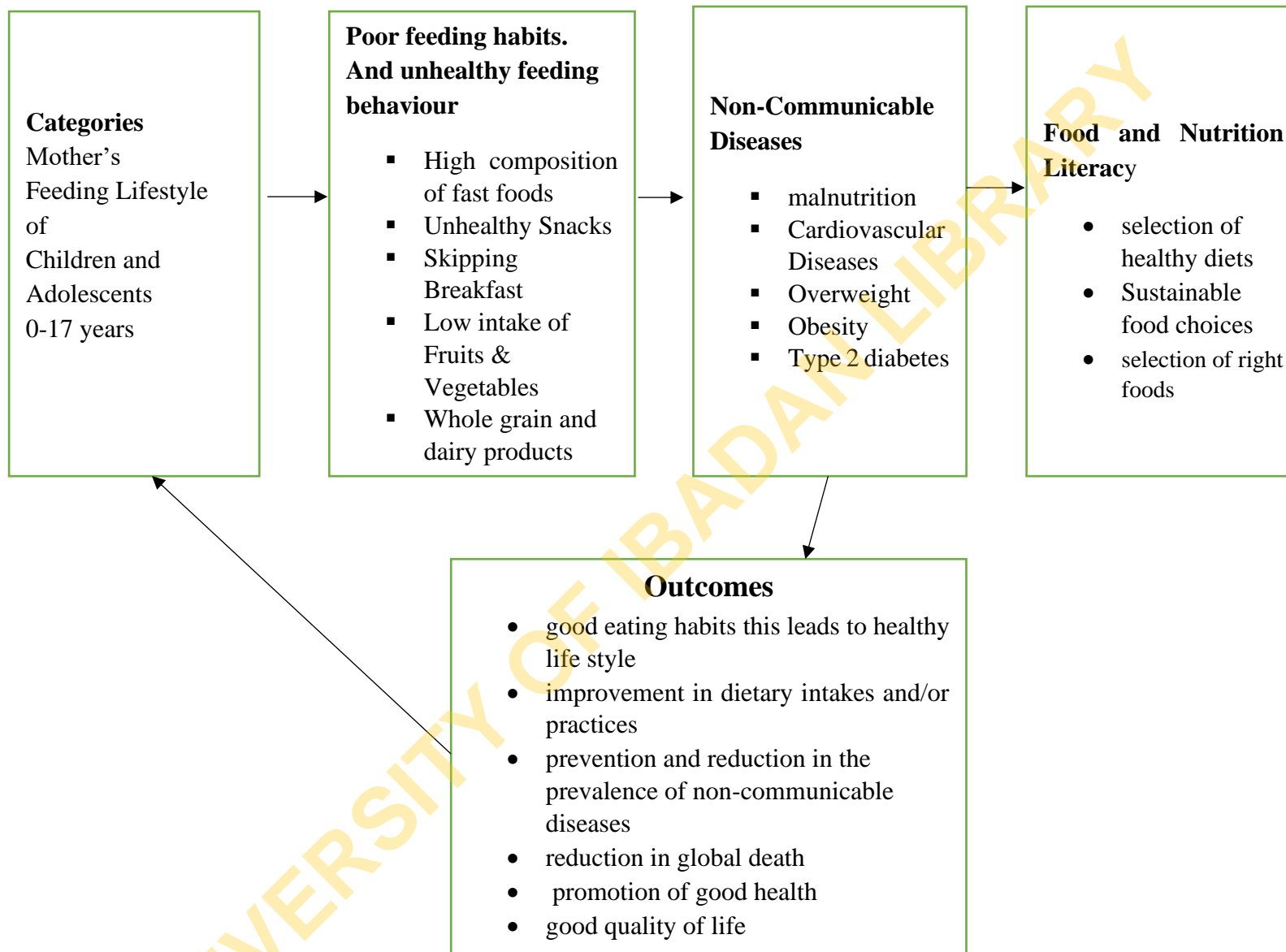
Concepts known as Food Literacy (FL) and Nutrition Literacy (NL) may play a significant role in promoting healthy eating practices. Although there are many definitions for FL and NL and their corresponding constructs in the literature (Truman, Lane & Elliott, 2017), NL has been defined as the extent to which individuals have the capacity to obtain, process, and understand nutrition information and skills needed to make appropriate nutrition decisions," while FL has been defined as the scaffolding that empowers individuals, households, communities, or nations to protect diet quality through c It is made up of a group of interconnected information, abilities, and behaviors needed to organize, manage, choose, prepare, and consume food in order to meet needs and choose intake (Vidgen & Gallegos, 2014).

In this way, having a better understanding of food and nutrition gives one the aptitude and skills needed to successfully navigate the food ecosystem we currently live in. According to Krause,

Sommerhalder, Beer-Borst and Abel (2018), food and nutrition literacy has been highlighted as one of the most important factors in the promotion and upkeep of healthy eating behaviours. The ability to access, absorb, and comprehend nutrition information as well as possess the requisite skills is known as nutrition literacy. He or she would be able to make healthy food choices as a result (Hati, Akbar Tabari, Shams, Behrouz Pour & Rezaei, 2018). The goal of nutritional literacy is to improve a person's capacity to make wise dietary decisions and to know which foods are best and how much of them are required for good health (Doustmohammadian, Omidvar, Keshavarz-Mohammadi, Abdollahi, Amini &, Eini-Zinab, 2017). It should be crucial to carry out more dietary interventions on the populations, especially young age groups, in order to prevent a rising rate of chronic diseases (Barati, Yar Mohammadi, Mostafaei, Gholiz, Razani & Mir Hazawa, 2014).

According to Thomas, Azevedo Perry, Slack, Samra, Manowiec, Petermann, Manafò & Kirkpatrick (2019), food literacy is a vast and multifaceted concept. It has been identified as a key component of the food-wellbeing (Block, Grier, Childers, Davis, Ebert, Kumanyika, Laczniak, Machin, Motley, Peracchio, Pettigrew, Scott, & Van Ginkel Bieshaar, 2011) referring also to the positive relationship built through social, cultural, and environmental experiences with food, which enable individuals to take decisions supporting their health (Truman, Lane & Elliott, 2017). In this regard, the authors argued that food literacy is much more than just having a basic understanding of food; it is intended as the possession of information related to food because it implies both understanding and acting on knowledge for making decisions about food. Additionally, they believed that reading and learning about food, food sources, and other food and nutrition knowledge convey a conceptual or declarative component associated to food literacy. The procedural knowledge, also known as functional literacy, is a second element. It pertains to comprehending and using such knowledge when making decisions about food, such as when purchasing food goods.

According to Azevedo Perry, Thomas, Samra, Edmonstone, Davidson, Faulkner, Petermann, Manafò and Kirkpatrick (2017), nutrition literacy refers to the capacity to recognize knowledge and information that is factual or based on evidence (such as the capacity to read labels or seek out trustworthy information). The fundamental components of functional literacy, according to Krause, Sommerhalder, Beer-Borst and Abel (2018), also include the capacity to obtain and interpret front label packaging and the capacity to obtain and process nutrition information. Accordingly, reading and comprehending food labels is a crucial component of making healthy food decisions, as stated by Poelman, Dijkstra, Sponselee, Kamphuis, Battjes-Fries, Gillebaart, and Seidell (2018). Food literacy includes five main interconnected components: food and nutrition knowledge; food skills; self-efficacy and confidence; food decisions; and external factors such as the food system, social determinants of health, and socio-cultural influences and eating practices. Improving food literacy during childhood is particularly important, as children are developing the eating patterns and skills that they will carry into adulthood and pass on to future generations (De Cosmi, Scaglioni & Agostoni 2017).



Source: Researchers' Construct (2023)

Fig 1: A Model Developed for Improving Children and Adolescents' Health Status in Nigeria via Food and Nutrition Literacy

For a better understanding of how food and nutrition literacy might improve children's, and adolescent's health status, the researchers created a conceptual model. This model emphasises the potential comprehension of food and nutrition literacy components that may aid in encouraging healthy eating habits and behaviour among children and adolescents. If a woman feeds her child well, the child will enjoy good growth as he or she progresses through the stages of adolescence and beyond. A child's nutritious feeding begins from conception to birth through the mother's feeding lifestyle. Poor maternal feeding practices increase the likelihood that children and adolescents will have inadequate nutrition and growth that lasts into adulthood and may result in a variety of health issues.

Therefore, their high intake of fast foods, unhealthy snacks, skipping breakfast, low consumption of fruits, vegetables, whole grains, and dairy products, as well as the type of dietary fat, make children and adolescents more susceptible to various nutritional issues, which are linked to several unfavourable health outcomes such as malnutrition, Non-Communicable Diseases like cardiovascular diseases, overweight, obesity and type 2 diabetes. One of the most important nutritional interventions for improving the health of children and adolescents is to modify their eating habits. The results of the intervention could contribute to the promotion of healthy eating practices, the prevention and reduction of non-communicable diseases, and a decrease in global mortality, all of which would result in better health.

Using Food and Nutrition Literacy Interventions in Children and Adolescence

Numerous issues with diet, eating habits, and food access affect children and adolescents. The children and adolescents are proficient in these two literacies, the better equipped they will be to resist the temptation of empty calorie foods, adhere to healthy diets, and lead balanced lives (Lee, Kim, & Jung, 2022). Therefore, it is crucial to put a focus on drawing their interest in improving both their food literacy and their health promotion literacy. Building these aptitudes and capabilities at a young age may be important for skill retention (Lavelle, Spence, Hollywood, McGowan, Surgenor, McCloat, Mooney, Caraher, Raats & Dean, 2016), confidence in food practices (Hersch, Perdue, Ambroz & Boucher, 2014), and supporting healthy eating habits later in life (Utter, Larson, Laska, Winkler & Neumark-Sztainer 2018). Supporting children in developing food and nutrition literacy starting as early as in preschool years

For a number of reasons, promoting food and nutrition literacy in children and adolescents appears to be among the most crucial factors in enhancing a healthy dietary pattern and preventing non-communicable diseases linked to diet. First, eating is a part of daily life, along with other food-related behaviours, according to Howard and Brichta (2013). Second, it gives people the power to safeguard their diet quality through change and to build dietary resilience over time (Vidgen, 2014). Children who acquire interactive and critical food and nutrition literacy abilities find it simpler to manage their food choices, settle conflicts arising from their disparate interests, connect with others about nutrition, and take part in activities to remove obstacles. Third, based on the data, early interventions are advised to capitalize on a child's capacity for learning and increase the likelihood of a successful stabilization of healthy behavior throughout adulthood (Laska, Larson, & Neumark-Sztainer, 2012)

To support the growth of healthy food preferences and dietary behaviours in children and adolescents, promoting food literacy is a crucial technique (Slater, 2017; De Cosmi, Scaglioni & Agostoni 2017). According to Fleary, Heffer, McKyer, and Taylor (2013) and Cruwys, Bevelander, and Hermans (2015), some of the interventions related to the promotion of food literacy/nutrition literacy mentioned in some studies are as follows: teaching people about portion sizes and daily food groups; describing and learning how to read nutritional labels and apply them to one's dietary change through training and video programmes; training in gardening and planting; cookbooks that feature healthy recipes.

Other interventions could include the following:

- Food literacy refers to a broad range of skills and knowledge that consumers require in order to properly negotiate an increasingly complicated food landscape and uphold good eating practices. Since the family is frequently in charge of grocery shopping and meal preparation at home, it is essential to educate young children the skills and knowledge required to be food literate. The development of these skills must start at an early age. They should therefore teach young children about food literacy in the following four ways as dietary gatekeepers: by outlining the relationship between food and health, involving kids in food selection, involving kids in simple food preparation tasks, and by setting an example of healthy behaviour. Starting with early years/early childhood experiences, every family should have access to education about how to feed their infant and growing child starting from starting solids to the early years and school age. The influencers such as healthcare workers, parents, early childcare educators should all have this consistent knowledge and provide the age-appropriate advice.
- Policymakers can develop and implement high-intensity school-based interventions that focus on diets and include supportive school environments and policies, support weight management interventions for obese youths or those at risk of Non-Communicable Diseases, and make healthy food options available through school food services, including the sale of competitive products. The two goals of nutrition literacy are to either reinforce current nutritional practices and habits or to encourage changes in behaviours and habits that have a detrimental impact on health. The most important thing is to make food literacy instruction in schools a mandate. Included in this should be revised food and nutrition policies, money and resources for programmes that promote food and nutrition literacy as well as equitable programming. To raise awareness of food and nutrition literacy as a priority in the health programme in Nigeria, the government should give top priority to making food and nutrition literacy in schools/curricula/mandatory as well as actively disseminating information about how food is produced, processed, handled, sold, prepared, shared, and eaten as well as what happens to it in the body, including how it is digested, absorbed, and used.
- The government should launch school health and nutrition programmes that will include a comprehensive array of health and nutrition interventions, including school feeding, micronutrient supplementation, deworming, health screening, immunization, and water and sanitation interventions for all children of all ages. Interventions like encouraging reduced sugar intake, providing nutrition education, screening for nutrition

issues, and providing referral and support for anemia and overweight as well as screening for diabetes, micronutrient supplementation, and deworming at all levels of education are necessary to improve the nutrition of children and adolescents.

- Every school or school board should have a nutrition committee, which will increase children's consumption of nutrient-rich foods through targeted on-site programmes. Access to sugar-sweetened beverages and nutrient-poor, calorie-dense foods and beverages should be restricted on-site. and encourage making healthy dietary choices as a regular component of the curriculum. Apply sound nutritional principles to all on-site breakfast and lunch programmes, vending machines, cafeteria food, tuck shops, and special events, such as fundraisers, festivals, concerts, and sport or game days, by increasing nutrient-rich consumption and reducing sodium, fat, and sweetened beverage intake levels.
- While being mindful of local socio-economic demands and conditions of the population, the government can work with the Ministry of Health to teach and encourage healthy eating behaviours and choices in accordance with Nigeria's Food Guide in all schools and postsecondary institutions.
- Health professionals should be promoted through all health care service delivery, including within schools and tertiary institutions health care centres, as a trusted source of nutrition advice for mothers of children and adolescents by providing information and implementing screening and treatment programmes that can be tailored both to the individual's needs and to the local setting. Therefore, a key element of adolescent nutrition strategies is the delivery of interventions in health-care settings or by health professionals in community or educational settings. To reduce overweight and obesity in adolescents, health care professionals should advocate for programmes that combine nutritional, physical activity, and behavioural techniques with family and maybe digital components.
- Pediatricians may partner with community leaders and members to create programmes for adolescents to promote food and nutrition literacy, empowering them to make healthier food choices and to improve lifelong health patterns. Parents of children and adolescents can learn how to identify foods high in fat, sugar, and salt to avoid and foods high in fibre to eat more by attending education sessions led by health professionals who work with children and adolescents.
- In order to slow the rise in obesity rates as well as teach children and adolescents healthy habits, pediatricians and other medical professionals can collaborate with dietitians, dental professionals, local health care providers, parents, school nutrition committees, community groups in schools, tertiary institutions, churches, Boys and Girls clubs, and Scouts troops

Conclusion

The ability to manage dietary information with the goal of enhancing health is referred to as food literacy. The better the knowledge of calorie consumption if they obtained food and nutrition information, and consequently the more advantageous the consequences of following a healthy diet, the greater the level of food literacy among children and adolescents' families.

An integrative strategy and the creation of precise assessment tools for food literacy will lay a strong foundation for the creation of programmes that effectively use food and nutrition literacy to encourage healthy eating. By raising awareness of the benefits of eating a healthy diet, including portion control, food literacy may help shape the eating habits of children and adolescents. This will in turn encourage healthy lifestyle behaviours and alter patterns of obesity, health, and quality of life. On the basis of the aforementioned, it is suggested that food and nutrition literacy is likely to promote healthy eating habits and is thought to reduce the prevalence of malnutrition, overweight, obesity, and chronic disease in children and adolescents.

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