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THE ROLE OF DIGITAL LITERACY PROGRAMS IN BRIDGING DIGITAL DIVIDE GAP AMONG MIDDLE-AGED ADULTS IN NIGERIA

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Abstract:

As the world increasingly relies on digital technologies and industrial revolution, middle-aged adults face a growing risk of exclusion due to a lack of digital literacy. Digital divide disproportionately affects middle-aged adults, limiting their access to essential information, services, and social connections. This paper examines the concept of digital literacy, digital divide, middle-Age adults, forms of aging among middle-aged adults, digital divide among middle-aged adults, digital literacy programs for middle-aged adults, constraints of digital literacy programs for middle-aged adults, conclusion and recommendation.

Keywords: Digital literacy, Digital divide gaps, Middle-aged adults, Nigeria

Introduction

The digital revolution, marked by the proliferation of interconnected devices and readily available information, has fundamentally reshaped nearly every facet of contemporary existence. From instantaneous global communication and streamlined e-commerce to groundbreaking advancements in healthcare and personalized educational opportunities, technology's influence is undeniable. While younger generations have seamlessly integrated these innovations into their daily routines, middle- aged adults often find themselves struggling to keep pace, resulting in a significant and widening digital divide. This divide is more than just a matter of physical access to computers, Smartphone's, and the internet. It encompasses a more complex set of challenges, including the acquisition of essential digital skills, the development of confidence in using new technologies, and the ability to critically evaluate and navigate the online world safely and effectively. Without these skills, Middle- Aged adults are increasingly vulnerable to being excluded from access to essential government services, online banking, and convenient shopping options. Furthermore, they risk missing out on valuable social connections with family and friends, limiting their opportunities for engagement, and ultimately experiencing a diminished sense of autonomy, independence, and overall quality of life Recognizing the adverse effect of digital disparity targeted digital literacy programs emerge as a crucial intervention to cushion the effect of digital divide among middle aged adult. These programs often tailored to the specific needs and learning styles of Middle-Aged adults, provide a supportive and encouraging environment for acquiring fundamental digital skills. By empowering Middle- Aged adults to participate fully in the digital age, these programs not only help them access vital services and information but also foster a sense of connection, promote lifelong learning, and unlock the vast array of benefits that the digital world has to offer. Ultimately, bridging the digital divide ensures that Middle-Aged

adults are not left behind in an increasingly interconnected society and can continue to thrive in the 21st century.

Concept of digital literacy

Digital literacy includes a range of skills and competencies necessary to effectively utilize and create information using digital technologies. It is not limited to knowledge on how to use a computer, it involves a holistic understanding of the digital environment and its impact on individuals and society. This notion includes not only technical proficiency but also critical thinking, ethical awareness, and an understanding of the social and cultural implications of digital tools (UNESCO, 2018). Hence digital literacy equips individuals to be informed, engaged, and responsible citizens in an increasingly digital world.

Peng & Yu, (2022) defined digital literacy as the ability to locate, organize, understand, evaluate, and analyze information using digital technology. He states that it is not just being computer literate but using digital technologies to communicate information using digital platforms. Walton (2016) cited in Peng & Yu (2022) in his article titled "Digital Literacy: Establishing the Boundaries and Identifying the Partners" has coined the definition of digital literacy as: the ability to find, evaluate, utilize, share, and create content using information technologies and the Internet. It is the confident and critical use of information and digital technologies to enhance academic, personal, and professional development. It is the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information, understand it and use information in multiple formats from a wide range of sources via computers and perform tasks effectively in a digital environment.

Digital Literacy involves the ability to assess, understand and share information via digital platforms such Telephone, Computer, social media platforms among others. Individual ability to navigate through the internet efficiently is also an integral part of digital literacy.

Digital literacy programs are a tool that empowers individuals to participate fully in the digital age, unlocking opportunities for economic growth, promoting social inclusion, and strengthening democratic participation. Digital literacy is vital tool for securing employment and advancing careers, as most jobs now require some level of interaction with digital tools and platforms. Socially, it enables individuals to connect with others, access essential services, and participate in online communities. From a civic perspective, digital literacy allows citizens to engage in informed debates, access government information, and participate in online activism, strengthening democratic processes.

Digital literacy includes the ability to locate, organize, understand, evaluate, and analyze information using digital tools. This involves mastering search strategies, discerning credible sources from misinformation, and critically assessing the biases and perspectives presented online. Furthermore, digital literacy extends to the ability to synthesize, create, and communicate new knowledge effectively through digital mediums Ariawan, & Pratiwi (2020) This includes producing multimedia content, collaborating online, and adapting communication styles to different digital platforms and audiences.

Digital literacy is not just about technical proficiency or mastering specific software programs. It is about developing a mindset of critical engagement with the digital world. It is about understanding the complex information landscape, recognizing the potential biases and manipulations embedded in digital content, and engaging with information responsibly and

critically. A digitally literate individual understands the importance of online safety, privacy, and ethical conduct. They are equipped to navigate the digital world with confidence, discernment, and a commitment to responsible participation (Bamgbose, Ibrahim & Musa, 2024).

The importance and need for digital literacy lead to a lingering problem of digital divide due to factors such as difference in location, age, gender and socio economic status among the general population.

Digital Divide

Digital divide refers to the gap between individuals, households, businesses, and geographic areas at different socio-economic levels with regard to both their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities. This divide isn't simply about access to technology; it includes the skills, knowledge, and resources necessary to effectively utilize digital tools and participate fully in the digital society. Factors such as income, education, geographic location, and age all contribute to the persistence of the digital divide, preventing equitable access to opportunities in education, employment, healthcare, and civic engagement. Bridging this divide is crucial for ensuring social inclusion and fostering economic growth in an increasingly digital world. (Okocha, & Edafewotu 2022)

Digital divide revolves around issues related to access and utilization of information and communication technologies (ICTs) in our environment. As defined by the (Adam, & Dzang 2021). it highlights the gap separating individuals, households, businesses, and even entire geographic regions based on their varying socio-economic standings. This gap isn't simply about owning a computer or having internet access; it includes a range of opportunities related to ICTs.

It includes the ability to connect to the internet, the affordability of that connection, the quality and speed of the connection, and the availability of relevant content and services. Furthermore, the digital divide extends to the skills and knowledge required to effectively use the internet for a diverse range of activities, such as education, employment, healthcare, civic engagement, and commerce. Understanding and addressing the digital divide is crucial for ensuring equitable access to information, opportunities, and resources in an increasingly digital world.

The concept of Middle-Age Adults

This demographic group is generally characterized by a natural decline in both physical and mental capacities. This decline can manifest in various ways, impacting their mobility, strength, cognitive function, and senses. Furthermore, middle-aged adults experience an increased vulnerability to chronic diseases such as heart disease, arthritis, diabetes, and Alzheimer's disease. This heightened susceptibility, coupled with age-related physiological changes, often leads to a higher risk of disability and ultimately, mortality (Lev, Wurm, Ayalon, 2018)

It is important to note that aging is a unique and individualized process, and middle-aged adults cannot be viewed as a homogeneous group. There is considerable variability in the aging experience, with some individuals experiencing significant declines in health and functioning, while others remain healthy and active well into old age (Lev, Wurm, Ayalon, 2018). Understanding the concept of middle-aged adults requires a holistic and person-centered approach that takes into account the various dimensions of aging and the individual experiences and needs of middle-aged adults.

Forms of Aging among Middle- Aged Adults

1. Biological aging refers to the physical changes that occur as individuals grow middle- aged, such as the decline in organ function, decreased muscle mass, and increased vulnerability to diseases (Mari, Alves, Aerts, & Camara, 2016)
2. Psychological aging involves the changes in cognitive and emotional functioning that occur with age, such as declines in memory, attention, and executive function Social aging refers to the changes in social roles and relationships that occur as individuals grow middle-aged, such as retirement, widowhood, and grandparenthood (Villar, Mair, & Whitfield, 2016).
3. Cultural aging encompasses the values, beliefs, and attitudes towards aging that vary across different societies and cultures.

Digital divide among Middle- Aged Adults

According to Jour, Łukasz, Maria, Dorota, & Christopher (2023) The digital divide among Middle-Aged adults represents a significant and increasingly pressing societal challenge. A substantial portion of the senior population encounters considerable hurdles in accessing and effectively utilizing essential digital technologies, encompassing computers, smartphones, and the internet. This disparity is not a monolithic issue but rather a complex interplay of contributing factors. These factors include:

1. Limited Digital Literacy Skills: A significant number of middle-aged adults face a deficit in the basic digital literacy skills essential to navigate the online world competently. These skills include, but are not limited to, operating digital devices, understanding and interacting with various online interfaces, discerning credible information from unreliable

sources, and ensuring online security and privacy. The absence of these skills can lead to exclusion from the digital realm, hindering their ability to access valuable resources, services, and opportunities.

2. Lack of Affordable Access: The financial burden associated with acquiring and maintaining internet services, digital devices, and necessary software can be a substantial barrier for many seniors, particularly those living on fixed incomes. This economic hurdle often results in limited or no access to the internet, exacerbating the digital divide and perpetuating disparities in access to essential resources and services.
3. Physical and Cognitive Impairments: Age-related physical limitations, such as impaired vision, hearing loss, or reduced dexterity, can significantly impact middle-aged adults' ability to effectively use digital devices and interact with online platforms. Similarly, cognitive impairments, including memory loss, diminished processing speed, or difficulty in learning new skills, can pose substantial challenges in adopting and utilizing digital technologies. These barriers may discourage seniors from engaging with the digital world, further widening the generational divide.
4. Reluctance to Adopt New Technologies: A segment of the middle- aged adult population exhibits a reluctance to embrace new technologies, often driven by apprehension, a perceived lack of relevance, or a strong preference for traditional methods of communication and accessing information. This resistance can be attributed to a fear of the unknown, skepticism regarding the benefits of digital tools, or a strong emotional connection to conventional practices. Overcoming this reluctance requires tailored approaches that address the unique needs, concerns, and preferences of this demographic.

Digital literacy programs for Middle- Aged adult

According to Jung, You, & Kim, (2025), the following digital literacy programs are designed to meet the needs of middle-aged adults.

1. Basic Computer Skills: Proficiency in using a mouse, keyboard, and navigating operating systems, as well as creating documents, forms the foundation for Middle- Aged adults to engage with digital technology. These skills enable them to perform basic tasks, access information, and communicate with others online.
2. Internet Navigation: The ability to search for information online, use email, and understand website layouts empowers Middle- Aged adults to explore the digital world confidently. This knowledge can help them access various resources, stay informed about current events, and maintain connections with family and friends.
3. Online Communication: Utilizing social media platforms to connect with loved ones, participating in online forums to share interests and experiences, and engaging in video conferencing can foster a sense of community and combat social isolation among Middle-Aged adults.
4. Online Safety: Recognizing scams, protecting personal information, and creating strong passwords are crucial skills for Middle- Aged adults to navigate the online world safely. These skills can help prevent identity theft, financial loss, and other potential risks associated with internet usage.
5. Accessing Online Services: Managing finances through online banking, accessing telehealth services, and handling government benefits online can provide middle-aged

adults with increased convenience, efficiency, and independence in managing their daily lives.

Constraints of Digital Literacy Programs for Middle- Aged Adult

Despite the significance importance of digital divide its faced with challenges that are hindering its promotion particularly among middle-age Adult. According to Quialheiro, *et al.* (2023). some of the constraints of digital literacy programs for middle-age adult include:

a. **Lack of Access to Technology:** Many Middle- Aged adults, particularly those with lower incomes or those living in rural areas, may lack access to essential technology like computers, Smartphone's, and reliable internet connections. This digital divide creates a significant barrier to participation in modern society. For example, without internet access, seniors may struggle to manage their finances online, access telehealth services, or stay connected with family and friends who live far away. The cost of devices and monthly internet service can be prohibitive for those on fixed incomes, further exacerbating the problem. Furthermore, even when technology is available in public spaces like libraries, accessibility may be limited by hours of operation, transportation challenges, or a lack of personalized assistance.

b. **Fear of Technology:** Some middle-aged adults may feel intimidated by technology, believing it is too complex, confusing, or difficult to learn. This "technophobia" can stem from a lack of familiarity with digital interfaces, concerns about making mistakes that could compromise their data or finances, or negative experiences with technology in the past. They might worry about accidentally

deleting important files, falling victim to online scams, or simply feeling inadequate compared to younger generations who seem to navigate technology effortlessly. This fear can lead to avoidance, preventing them from exploring the potential benefits and opportunities that technology offers.

c. **Physical Limitations:** Age-related physical limitations, such as declining vision, hearing impairments, decreased dexterity, or arthritis, can make it challenging to use digital devices. Small screens and tiny buttons on smartphones can be difficult to see and manipulate. Auditory instructions or video tutorials may be inaccessible to those with hearing loss. Holding a tablet or using a mouse for extended periods can be painful for those with arthritis. These physical barriers require adaptive technologies like screen magnifiers, voice-to-text software, adjustable font sizes, and ergonomic keyboards to make technology more accessible. Without these accommodations, technology can become frustrating and unusable.

d. **Learning Style Differences:** Middle- Aged adults often learn best through hands-on, personalized instruction and patient repetition, which may differ significantly from traditional classroom settings or online tutorials geared towards younger learners. They may benefit from slower-paced learning environments, opportunities to ask questions without feeling rushed, and real-world examples that are relevant to their daily lives. Abstract concepts can be difficult to grasp without concrete applications. The pressure of a fast-paced class or the impersonal nature of online learning can be overwhelming and discouraging, leading to frustration and abandonment of the learning process. One-on-one tutoring or small group sessions

with experienced instructors who understand the unique learning needs of middle-aged adults are often more effective.

e. **Limited Motivation:** Some middle-aged adults may not see the relevance of digital skills to their lives or may lack the motivation to invest the time and effort required to learn them. They might believe that technology is only for younger generations or that they can manage perfectly well without it. Perhaps they don't understand how technology could improve their quality of life, help them manage their health, or connect with loved ones. Demonstrating the practical benefits of technology – such as online grocery shopping for those with mobility issues, video calls with grandchildren, or access to online support groups – can help increase motivation. Highlighting success stories of other middle-aged adults who have embraced technology can also be inspiring.

Conclusion

Digital literacy is an essential life skill, particularly for Middle-aged adults particularly in the era of digital world. It cut across allspheres of life ranging from accessing healthcare information and managing finances to staying connected with loved ones and participating in civic life, digital competence empowers middle-aged adults to maintain their independence. Adult education provides a crucial and effective avenue for developing these skills, offering targeted programs that are accessible, culturally sensitive, and respectful of the learners prior experiences. These programs can bridge the digital divide by addressing the specific needs and learning styles of middle-aged adults, building their confidence and competence in using digital technologies.

Recommendation

To fully realize the potential of adult education in promoting digital literacy among Middle-Aged adults, the paper recommends that;

I. Policymakers must prioritize and support such digital literacy initiatives through dedicated funding, resource allocation, and strategic planning.

II. Communities should proactively foster collaborative partnerships between educational institutions, technology providers, senior organizations, and local libraries.

Reference

Adam, I. O., & Dzang Alhassan, M. (2021). Bridging the global digital divide through digital inclusion: The role of ICT access and ICT use. *Transforming Government: People, Process and Policy*, *15*(4), 580-596.

Ariawan, V. A. N., & Pratiwi, I. M. (2020). Digital literacy abilities of students in distance learning. In *4th International Conference on Language, Literature, Culture, and Education (ICOLLITE 2020)* (pp. 592-598). Atlantis Press.

Bamgbose, A. A., Ibrahim, H. M., & Musa, S. (2024). Information literacy and learning in the emerging digital landscape: a theoretical review. *Library Philosophy & Practice*.

Jour T, Łukasz M, Maria Gi, Dorota W, Christopher, T (2023). Barriers to digital inclusion among older people: An intergenerational reflection on the need to develop digital competences for the group with the highest level of digital exclusion. *International Journal of Technology and Educational Innovation*, *9*(1).16-43

Jung, J., You, J., & Kim, D. (2025). Effective but sustainable? A case of a digital literacy program for older adults. *Education and Information Technologies*, 1-22

Lev, S., Wurm, S., Ayalon, L. (2018). Origins of Ageism at the Individual level. In: Ayalon, L., Tesch-Römer, C. (eds). Contemporary Perspectives on Ageism. *International Perspectives on Aging,* (345-389). Springer, Cham. https://doi.org/10.1007/978-3-319-73820-8_4

Mari, F. R., Alves, G. G., Aerts, D. R. G. D. C., & Camara, S. (2016). The aging process and health: what middle-aged people think of the issue. *Revista Brasileira de Geriatria e Gerontologia*, *19*(1), 35-44.

Okocha, D. O., & Edafewotu, E. (2022). Bridging the digital divide in Nigeria. *The Journal of development communication*, *33*(1), 45-54.

Peng, D., & Yu, Z. (2022). A literature review of digital literacy over two decades. *Education Research International*, *(1),* 253-341.

Quialheiro, A., Miranda, A., Garcia Jr, M., Carvalho, A. C. D., Costa, P., Correia-Neves, M., & Santos, N. C. (2023). Promoting digital proficiency and health literacy in middle-aged and older adults through mobile devices with the workshops for online technological inclusion (OITO) project: experimental study. *JMIR formative research*, *7*, e41873.

Villar, L., Mair, C., & Whitfield, M. (2016). Social relations and health in later life. In M. L. Lawlor & C. M. Power (Eds.), Handbook of research methods in health and social sciences (pp. 227-242). Sage Publications.