



# ENHANCING FEMALE PARTICIPATION IN TVET PROGRAMS FOR LIBRARY AND INFORMATION SCIENCE: STRATEGIES FOR PROMOTING GENDER EQUALITY IN SELECTED UNIVERSITIES IN ANAMBRA STATE

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## Abstract

**Purpose:** The study is on enhancing female participation in TVET programs for library and information science: strategies for promoting gender equality in selected universities in Anambra State.

**Design/Methodology/Approach:** A descriptive survey research design was used for the study. The sample population comprised of 200 female students (100 each) in 2 selected universities in Anambra State namely: Chukwuemeka Odumegwu Ojukwu University, Igbariam, and Nnamdi Azikiwe University, Awka. A structured questionnaire on a four (4) – point Likert scale was used for collection of data. The instrument was a questionnaire which was subjected to face validation as well as pilot test using Cronbach Alpha which gave a reliability coefficient value of 0.92. Data collected from the study were analyzed using mean scores.

**Findings:** The study found that the various TVET programmes available for Library and Information Science students were digital literacy, data management, cataloging and classification practicums, archival techniques, user service skills, digital curation workshops, use of library management systems, records management, user-centered service design, and information retrieval practicums. Majority of the LIS female students were included in the various TVET programmes in the universities in Anambra State to a high extent. Factors of societal norms, cultural beliefs, gender-based discrimination, and traditional gender roles affect LIS female students' participation in TVET trainings. Provision of career counseling, gender-based policies, mentorship, and networking opportunities tailored to female LIS students on TVET were the strategies for enhancing female LIS students' participation and gender equality in TVET. Conclusions of the study were that the high level of inclusion of female students in these programs demonstrates a positive trend towards gender equality in educational opportunities.

**Implications:** The research provides an in-depth analysis of female participation in TVET programs for library and information science. The study provides important insights into ways of enhancing strategies for promoting gender equality in selected universities in Anambra State and offers recommendations for how female participation in TVET programs for library and information science can be sustained

**Originality:** Based on the findings of the study, several suggestions were given in light of the results, such that Universities should develop and enforce policies that promote gender equality in TVET programs. These policies should include provisions for equal access to resources, scholarships, and other support systems for female students.

**Key Words:** Library and Information Science, Gender equality, TVET, Female participation, Universities

## Introduction

Library and Information Science (LIS) is an interdisciplinary field that focuses on the management, preservation, and dissemination of information resources.

According to Agim (2018), LIS professionals are responsible for organizing, managing, and providing access to information in various formats, ensuring that it is accessible and useful to those who need it. The field integrates principles from information

technology, archival science, and management to support information systems and services in libraries, archives, and other information centers. As technology advances, LIS has evolved to encompass digital libraries, information retrieval systems, and data curation, highlighting its dynamic nature and importance in the information age (Rubin, 2010).

The library profession encompasses a wide range of roles and responsibilities aimed at facilitating access to information and supporting learning and research. Librarians, archivists, and information specialists work in various settings, including public libraries, academic libraries, special libraries, and corporate information centers. Their duties include cataloging and classifying materials, managing digital resources, providing reference services, and teaching information literacy skills. The profession requires a strong foundation in both traditional library skills and modern information technology, emphasizing the need for continuous professional development to keep pace with technological advancements (ALA, 2011). Therefore, technical and vocational education is necessary for Library and Information Science students

Technical and Vocational Education and Training (TVET) for LIS students focuses on imparting practical skills essential for effective information management and service delivery. Agim (2018) stated that the key TVET skills include digital literacy, data management, cataloging and classification, archival techniques, and user service skills. Additionally, competencies in information technology, such as database management, digital curation, and the use of library management systems, are crucial. According to IFLA (2012), these skills prepare LIS students to handle the diverse and evolving challenges in the library profession, ensuring

they can meet the needs of modern information users and contribute to the development of efficient information services.

TVET programs tailored for LIS students aim to provide hands-on training and practical experience in library and information management. These programs often include internships, practicums, and workshops that allow students to apply theoretical knowledge in real-world settings. Courses may cover topics such as digital libraries, information retrieval, records management, and user-centered service design. By participating in TVET programs, LIS students gain valuable skills and experience, enhancing their employability and readiness to enter the workforce. Additionally, these programs play a crucial role in promoting gender equality by encouraging female participation and providing equal opportunities for all students to succeed in the library profession (FAO, 2015).

Technical and Vocational Education and Training (TVET) programs are essential for Library and Information Science (LIS) students as they provide practical skills and hands-on experience required for the profession. These programs cover critical areas such as digital literacy, information management, cataloging, and user service skills, which are necessary for the efficient operation of modern libraries. By engaging in TVET programs, LIS students can bridge the gap between theoretical knowledge and practical application, enhancing their employability and ensuring they are well-prepared to meet the demands of the evolving information landscape (IFLA, 2012). Furthermore, TVET programs support lifelong learning and professional development, which are crucial for adapting to new technologies and practices in the field (Rubin, 2010). Therefore, there is the need

for equitable participation of Library and Information Science students which should be all-encompassing irrespective of gender

Despite the recognized importance of TVET programs, the level of female participation in these programs within universities often lags behind that of their male counterparts. In many regions, including Nigeria, cultural, social, and economic barriers contribute to the lower enrollment of women in TVET courses. Additionally, financial constraints can disproportionately affect female students, limiting their ability to enroll in and complete TVET courses. Lack of female role models and mentors in the field also contributes to the low participation rates, as young women may not see themselves represented in the profession. This disparity is particularly evident in technical fields, where traditional gender roles and expectations discourage women from pursuing such education. The underrepresentation of women in TVET programs not only limits their career opportunities but also contributes to the gender imbalance in the workforce (UNESCO, 2015).

Addressing these factors requires a multifaceted approach, including policy interventions, financial support, and awareness campaigns to challenge stereotypes and promote the benefits of TVET for all students (UNESCO, 2015; Rubin, 2010). Achieving gender equality in accessing TVET programs is critical for ensuring that female LIS students have the same opportunities as their male peers to develop the necessary skills and knowledge for their careers. Therefore, this study will examine the ways of enhancing female participation and gender equality in TVET programs for library and information science in selected universities in Anambra State

### **Statement of the Problem**

In an ideal scenario, Technical and Vocational Education and Training (TVET) programs for Library and Information Science (LIS) students in universities should offer equal opportunities for both male and female students. Gender equality in these programs would ensure that all students, regardless of gender, have access to the same resources, training, and career development opportunities. This would promote a diverse and inclusive environment where female LIS students can thrive, contribute significantly to the field, and advance their professional careers. Ideally, the participation rates of female students in TVET programs would be on par with those of their male counterparts, reflecting a balanced representation and fostering a more equitable workforce (UNESCO, 2015).

However, the current situation in many universities, including those in Anambra State, reveals a significant gender disparity in TVET program participation among LIS students. Cultural norms, societal expectations, and economic barriers contribute to the underrepresentation of women in these programs. Female students often face challenges such as limited access to financial resources, lack of mentorship, and gender biases that discourage them from pursuing technical and vocational education. This disparity not only restricts their career opportunities but also perpetuates gender inequality within the information science profession (FAO, 2015; IFLA, 2012).

Previous studies have highlighted the importance of TVET programs in enhancing the skills and employability of LIS students, yet there is a paucity of research specifically addressing the gender disparities within these programs. Many studies focus broadly on gender inequality in education or the barriers to female participation in STEM fields, but few have concentrated on the unique challenges faced by female LIS students in

TVET programs. This gap in the literature underscores the need for targeted research to understand the specific factors that hinder female participation and to develop effective strategies for promoting gender equality in TVET programs within the LIS discipline

### Research Questions:

1. What are the various TVET programmes available for Library and Information Science students in selected universities in Anambra State?
2. To what extent are female LIS students included in TVET programmes in selected universities in Anambra State?
3. What are the factors that affect female LIS students' participation and gender equality in TVET in selected universities in Anambra State?
4. What are the strategies for enhancing female LIS students' participation and gender equality in TVET in selected universities in Anambra State?

### Literature Review

#### The Library and Information Science Profession

The Library and Information Science (LIS) profession encompasses a broad spectrum of activities related to the organization, management, and dissemination of information. The field has evolved significantly, especially with the advent of digital technology, which has transformed traditional library services into more dynamic and multifaceted information management roles. LIS professionals are tasked with not only curating and maintaining collections but also with leveraging technology to enhance access to information (Rubin, 2010).

LIS professionals perform a variety of roles that include, but are not limited to, cataloging, reference services, digital archiving, and information literacy instruction. They are often involved in the development and management of electronic resources and digital libraries, ensuring that users can access information efficiently and effectively (IFLA, 2012). The modern LIS professional must be adept at using information technology tools and staying current with the latest trends in digital information management (Baro & Ebhomeya, 2013).

In the information age, the role of LIS professionals has become increasingly critical. They serve as gatekeepers of knowledge, aiding users in navigating the vast amounts of information available and ensuring the accuracy and reliability of data accessed (Agim & Oraekwe, 2019). The profession supports various sectors, including education, healthcare, business, and government, by providing essential information services that drive decision-making and innovation (Muhammed & Iyoro, 2013).

Educational programs in LIS are designed to equip aspiring professionals with the necessary skills and knowledge. These programs typically cover topics such as information organization, information retrieval, digital libraries, and user services. Continuous professional development is also emphasized, with many LIS professionals participating in workshops, conferences, and other training programs to stay abreast of new developments in the field (Rubin, 2010). The American Library Association (ALA) and other professional bodies provide certification and accreditation for LIS programs, ensuring high standards of education and practice (ALA, 2019).

In conclusion, the LIS profession is integral to the effective management and

dissemination of information in today's digital age. LIS professionals play a vital role in supporting various sectors by providing access to reliable information and fostering information literacy.

### **Gender Equality**

Gender equality refers to the principle of equal rights, opportunities, and treatment regardless of gender, ensuring that individuals of all genders have the same access to resources, opportunities, and decision-making processes in society (United Nations Entity for Gender Equality and the Empowerment of Women [UN Women], 2020). It encompasses the idea that all genders should be treated fairly and have equal opportunities for personal, social, and economic development, without discrimination based on gender identity or expression (European Institute for Gender Equality, 2020).

In the context of education, gender equality aims to eliminate gender-based disparities in access to education, retention rates, academic achievement, and participation in educational and vocational programs (UNESCO, 2019). It entails ensuring that both females and males have equal opportunities to pursue education and training in all fields, including traditionally male-dominated areas such as science, technology, engineering, and mathematics (STEM), as well as technical and vocational education and training (TVET) programs (European Commission, 2018).

Gender equality is not only about addressing existing disparities but also challenging gender stereotypes, norms, and biases that perpetuate inequality and restrict opportunities for individuals based on their gender (World Economic Forum, 2021). It requires transforming societal attitudes, beliefs, and structures to promote gender equity and create environments where all

individuals, regardless of gender, can thrive and fulfill their potential (International Labour Organization, 2019).

### **TVET programmes for Library and Information Science students in Nigerian universities.**

Technical and Vocational Education and Training (TVET) programs in Library and Information Science (LIS) in Nigerian universities are designed to equip students with practical skills and technical knowledge necessary for efficient library management and information service delivery. TVET in LIS focuses on blending theoretical understanding with hands-on experience, ensuring that graduates are well-prepared for the demands of the job market (UNESCO, 2013). This approach is crucial in a rapidly evolving information environment where digital skills and technical competencies are highly valued.

The curriculum of TVET programs in LIS typically includes courses on cataloging, classification, information retrieval, digital libraries, and information technology applications in libraries. These courses are structured to provide students with a comprehensive understanding of both traditional library practices and modern technological advancements (Rubin, 2010). For instance, students learn about metadata standards, database management, and the use of integrated library systems, which are essential skills in today's digital age (IFLA, 2012).

A significant component of TVET in LIS is the emphasis on practical training and internships. Nigerian universities offering LIS programs often collaborate with libraries, archives, and information centers to provide students with real-world experience. These internships allow students to apply their classroom knowledge in professional settings, develop problem-solving skills, and

gain insights into the operational aspects of library management (Nkamnebe, Egwuatu, & Nkamnebe, 2016). This hands-on experience is invaluable in preparing students for the workforce and enhancing their employability.

The integration of information technology in TVET programs for LIS students is crucial given the digital transformation of libraries. Courses on digital literacy, electronic resource management, and web-based information services are integral parts of the curriculum. Students are trained in the use of digital tools and platforms, including library management software, digital repositories, and online databases (Ternenge, 2019). This training ensures that LIS graduates are proficient in managing digital information resources and providing electronic information services, which are increasingly in demand in contemporary library environments (Baro & Ebhomeya, 2013).

In conclusion, TVET programs for LIS students in Nigerian universities are essential for developing skilled information professionals who can meet the challenges of the modern information society. These programs emphasize practical training, technological proficiency, and real-world experience, preparing students for successful careers in library and information services.

### **Gender disparities in TVET programmes in Library and Information Science.**

Gender disparities in Technical and Vocational Education and Training (TVET) programmes, particularly within Library and Information Science (LIS), have been a significant issue in many educational institutions. Despite efforts to promote gender equality, female students continue to face numerous challenges that limit their participation and success in these programs. These disparities are rooted in socio-cultural

norms, economic barriers, and institutional biases that collectively hinder the full inclusion of women in LIS TVET programs (UNESCO, 2015; IFLA, 2012).

Socio-cultural barriers play a pivotal role in the gender disparities observed in LIS TVET programs. In many societies, traditional gender roles and stereotypes discourage women from pursuing careers in technical and vocational fields. These cultural norms often depict technical skills and professions as predominantly male domains, which can lead to a lack of encouragement and support for women to enter these fields (FAO, 2015). For instance, female LIS students may face family pressure to choose more 'feminine' career paths, thereby reducing their participation in TVET programs designed to enhance technical competencies (Rubin, 2010).

Economic constraints also significantly impact the participation of female students in TVET programs. Many women face financial barriers that limit their ability to access education and training opportunities. These constraints can be more pronounced for female students, who may have fewer financial resources due to systemic inequalities in income and employment opportunities (UNESCO, 2015). Additionally, women often bear a disproportionate burden of household responsibilities, which can limit their time and resources available for education and training (FAO, 2015).

Institutional biases and barriers further exacerbate gender disparities in LIS TVET programs. Educational institutions may lack gender-sensitive policies and practices that support female students. For example, the absence of female role models and mentors in LIS TVET programs can discourage female students from pursuing these paths. Moreover, curricula and training materials may not adequately address the

specific needs and perspectives of female students, leading to a less inclusive learning environment (IFLA, 2012).

The gender disparities in TVET programs have long-term implications for career opportunities and professional growth for female LIS students. Limited access to technical and vocational training restricts their ability to acquire essential skills and competencies, which are critical for career advancement in the information science field. This disparity not only affects individual career trajectories but also contributes to broader gender imbalances in the LIS profession, limiting the diversity and innovation within the field (Rubin, 2010; UNESCO, 2015).

In conclusion, gender disparities in TVET programs for LIS students are a multifaceted issue that requires concerted efforts to address. By understanding the socio-cultural, economic, and institutional barriers that contribute to these disparities, stakeholders can develop targeted strategies to promote gender equality. Enhancing female participation in LIS TVET programs not only benefits individual students but also strengthens the information science profession by fostering a more diverse and inclusive workforce.

#### Factors Influencing Female Participation and Gender Equality in TVET in Library and Information Science

Socio-cultural norms and stereotypes significantly influence female participation and gender equality in Technical and Vocational Education and Training (TVET) in Library and Information Science (LIS). In many societies, traditional gender roles dictate that women should pursue careers considered more 'feminine', which often excludes technical and vocational fields (UNESCO, 2015). These societal expectations can discourage women from

enrolling in TVET programs, perpetuating gender disparities in fields like LIS (IFLA, 2012).

Economic barriers are another critical factor affecting female participation in TVET programs. Many women face financial constraints that limit their ability to access education and training opportunities. This situation is often exacerbated by systemic inequalities in income and employment, which disproportionately affect women (FAO, 2015). For example, female students in LIS may struggle to afford tuition fees, textbooks, and other educational resources, thereby hindering their participation in TVET programs (UNESCO, 2015).

Institutional barriers also play a significant role in limiting female participation in TVET programs. Educational institutions may lack gender-sensitive policies and practices that support female students. For instance, the absence of female role models and mentors in LIS TVET programs can deter women from pursuing these paths. Furthermore, curricula and training materials may not adequately address the specific needs and perspectives of female students, leading to a less inclusive learning environment (IFLA, 2012).

A lack of awareness and information about TVET opportunities and their benefits can also influence female participation. Many women may not be aware of the available TVET programs in LIS or the potential career advancements they offer. Additionally, there may be a lack of information about financial aid and support services, which can further discourage women from enrolling in these programs (Rubin, 2010).

Policy and legislative gaps contribute to gender disparities in TVET participation. Inadequate policies that fail to address the specific needs and challenges faced by

women in TVET programs can perpetuate gender inequalities. Effective policy measures are required to ensure that TVET programs are accessible and equitable for all students, regardless of gender (UNESCO, 2015).

Family responsibilities often disproportionately affect women, limiting their ability to participate fully in TVET programs. Many women balance education with caregiving responsibilities, which can restrict their time and resources for pursuing TVET opportunities (FAO, 2015). This dual burden can lead to higher dropout rates among female students and lower overall participation in TVET programs.

Gender bias in employment opportunities can also impact female participation in TVET programs. If women perceive limited job prospects after completing TVET education in LIS, they may be less motivated to enroll in such programs. Employers' preferences for hiring men in technical roles further discourage women from pursuing TVET education in these fields (IFLA, 2012). Addressing these factors requires comprehensive strategies that encompass policy changes, institutional reforms, and socio-cultural shifts. By understanding and mitigating these barriers,

stakeholders can promote gender equality and enhance female participation in LIS TVET programs, ultimately leading to a more diverse and inclusive workforce.

### Methodology

A descriptive survey research design was used for the study. A descriptive survey design is a study that aims at collecting data on something and describing it in a systematic manner. This involves collection of data on a representative population of the target audience, on which generalization is made (Nworgu, 2015). The area of the study is Anambra State. The sample population comprised of 100 female LIS students (100 each) in 2 selected universities in Anambra State namely: Chukwuemeka Odumegwu Ojukwu University, Igbariam, and Nnamdi Azikiwe University, Awka. A structured questionnaire on a four (4) – point Likert scale was used for collection of data for this study. The instrument was a questionnaire which was subjected to face validation as well as pilot test using Cronbach Alpha which gave a reliability coefficient value of 0.92. The study used on the spot method of distribution and data collection. Data collected from the study were analyzed using mean scores

### Analysis and Discussion of Findings

#### Research Question 1: What are the various TVET programmes available for Library and Information Science students in selected universities in Anambra State?

**Table 1:** Responses on the various TVET programmes available for Library and Information Science students

S/NO	Items	Status	Decision
1	Digital literacy	√	Available
2	Data management	√	Available
3	Cataloging and classification practicums	√	Available
4	Archival techniques	√	Available
5	User service skills	√	Available
6	Digital curation workshops	√	Available
7	Use of library management systems	√	Available

8	Records management	√	Available
9	User-centered service design	√	Available
10	Information retrieval practicums	√	Available

In Table 1, the various TVET programmes available for Library and Information Science students were digital literacy, data management, cataloging and classification practicums, archival techniques, user service skills, digital

curation workshops, use of library management systems, records management, user-centered service design, and information retrieval practicums. This implies that TVET programmes for Library and Information Science students were available in Anambra state.

**Research Question 2: To what extent are female LIS students included in TVET programmes in selected universities in Anambra State?**

**Table 2:** Responses on extent are female LIS students included in the various TVET programmes

S/NO	Items	Mean	Decision
1	Female students are included in all ICT practical training in the institution	3.16	High extent
2	Internships schemes on LIS have female students as her participants	2.79	High extent
3	Female students are given higher slots in all TVET programmes in the school	2.06	Low extent
4	Female students are given equal chance to partake in the TVET hands on programmes in the school	2.95	High extent
5	Female students are involved in all library and information practicums in the school	3.12	High extent

In Table 2, the extent are female LIS students included in the various TVET programmes in selected universities in Anambra State were to a high extent as attested by the respondents. The table shows that female students are included in all ICT practical training in the institution, internships schemes on LIS have female students as her participants, female students are given equal chance to partake in the TVET hands on programmes in the school, and that female students are involved in all

library and information practicums in the school. However, few of the respondents attested to a low extent that female students are given higher slots in all TVET programmes in the school. This implies that majority of the LIS female students were included in the various TVET programmes in the universities in Anambra State to a high extent.

**Research Question 3: What are the factors that affect female LIS students’ participation and gender equality in TVET in selected universities in Anambra State?**

**Table 3:** Responses on the factors that affect female LIS students’ participation and gender equality in TVET

S/N	Items	Mean	Decision
1	Deep-rooted gender stereotypes often discourage females from pursuing technical and vocational fields perceived as traditionally male-dominated	3.13	Agree
2	Female students in many religious inclination may face barriers to accessing supportive education that prioritize male education	3.02	Agree
3	Traditional gender roles often discourage female students from participating in educational settings, including workshops	3.15	Agree
4	Female students may face barriers such as sexual harassment to accessing quality support and facilities to learn	3.22	Agree
5	Female students may lack access to career guidance and support services that encourage them to explore non-traditional career pathways in technical and vocational fields	3.10	Agree
6	Female students may experience gender-based discrimination in TVET educational settings, including internships	3.05	Agree
7	Female students often face institutional barriers with unequal access to resources in a male-dominated institution	3.32	Agree
8	Societal norms and cultural beliefs often discourage females from pursuing technical and vocational fields	3.41	Agree

In Table 3, the factors that affect female LIS students' participation and gender equality in TVET are deep-rooted gender stereotypes, religious inclination, traditional gender roles, sexual harassment, lack access to career guidance and support services, gender-based discrimination, institutional

barriers, and societal norms and cultural beliefs. This implies that factors of societal norms, cultural beliefs, gender-based discrimination, and traditional gender roles affects LIS female students' participation in TVET trainings

**Research Question 4: What are the strategies for enhancing female LIS students' participation and gender equality in TVET in selected universities in Anambra State?**

**Table 4:** Responses on strategies for enhancing female LIS students' participation and gender equality in TVET

S/N	Items	Mean	Decision
1	Implement gender-sensitive policies that actively promote the inclusion of female LIS students in TVET programs	3.03	Agree
2	Provide career counselling for female LIS students on skills development	3.22	Agree
3	Provision of networking opportunities tailored to female LIS students on TVET	3.45	Agree
4	Collaborating with industry partners to create internship and apprenticeship opportunities to expose female LIS students to career pathways in male-dominated industries	3.12	Agree
5	Provide mentorship programs that highlights the achievements of female LIS alumni leaders on TVET	3.10	Agree
6	Providing LIS female students with equal slots on all TVET interventions	3.25	Agree

7	Creating an inclusive curriculum that reflects the experiences and needs of women	3.33	Agree
8	Establishing zero-tolerance for gender-based discrimination and harassment within the LIS profession in schools	3.19	Agree

In Table 4, the strategies for enhancing female LIS students’ participation and gender equality in TVET as agreed by the respondents are for the university to implement gender-sensitive policies, provide career counseling for female LIS students on skills development, provision of networking opportunities tailored to female LIS students on TVET, collaborating with industry partners to create internship opportunities to expose female LIS students, provide mentorship programs, providing LIS female students with equal slots on all TVET interventions, creating an inclusive curriculum, and establishing zero-tolerance for gender-based discrimination and harassment within the LIS profession in schools. This implies that provide career counseling, gender-based policies, mentorship, and networking opportunities tailored to female LIS students on TVET can serve as strategies for enhancing female LIS students’ participation and gender equality in TVET

**Discussion of results**

Table 1 shows that the various TVET programmes available for Library and Information Science students were digital literacy, data management, cataloging and classification practicums, archival techniques, user service skills, digital curation workshops, use of library management systems, records management, user-centered service design, and information retrieval practicums. This result is in line with the findings of Agim (2018) who stated that technical and vocational programmes

available for students in universities were IT infrastructure management, network administration, database management, library management systems, and records management. In support of this results, Rubin (2010) also found that the curriculum of TVET programs in LIS typically includes courses on cataloging, classification, information retrieval, digital libraries, and information technology applications in libraries. These courses are structured to provide students with a comprehensive understanding of both traditional library practices and modern technological advancements.

Results from table 2 shows that majority of the LIS female students were included in the various TVET programmes in the universities in Anambra State to a high extent. This result is in line with the findings of Nkamnebe, Egwuatu and Nkamnebe (2016) who revealed that a significant component of TVET in LIS is the emphasis on practical training and internships which also includes women. These internships allow students to apply their classroom knowledge in professional settings, develop problem-solving skills, and gain insights into the operational aspects of library management. However, the study of Ezeani (2015) disagrees with these results as he asserted that women are not fully involved in TVET programmes in universities which may be due to the bias nature of the social and academic environment they find themselves. In most universities, female participation in TVET in universities was low due to cultural and religious inclination. In support of Ezeani

(2015) study, Olatokun and Afuwape (2017) asserted that women are not considered in most of the TVET practicals and trainings in the institution, and that they are poorly placed in terms of precedence and choice to attend these TVET programmes in their institutions. Most slots and allocations to these TVET programmes have men as the majority beneficiaries and participants

Data from table 3 revealed that factors of societal norms, cultural beliefs, gender-based discrimination, and traditional gender roles affects LIS female students' participation in TVET trainings. This result is in line with the findings of Aduloju and Aina (2019) who found that the female participation and gender equality in TVET has been affected by religious beliefs and certain forms of culture that are tied to the beliefs of most female respondents who are interested and would have participated in TVET in Nigerian universities. Deep-rooted stereotypes perpetuate the belief that certain careers are more suitable for men, while others are more suitable for women, limiting opportunities for female participation in TVET. Agim (2018) in support of this results attested that in some universities, there are cases of gender stereotypes and institutional barriers which have impede female participation and gender equality in TVET in universities. Hostile learning environments can undermine female students' confidence and motivation, leading to decreased retention rates and higher dropout rates

Analysis from table 4 shows that provide career counselling, gender-based policies, mentorship, and networking opportunities tailored to female LIS students on TVET were the strategies for enhancing female LIS students' participation and gender equality in TVET. This result is in line with the findings of Dandison and Asiedu-Addo (2014) whose study revealed that universities can enhance support services and mentorship

programs specifically tailored to female TVET students to address their unique needs and challenges. By integrating diverse perspectives and experiences, universities can promote critical thinking and empower female students to pursue non-traditional fields. Additionally, Elueze and Anyadiegwu (2017) asserted that universities can collaborate with industry partners to create internship and apprenticeship opportunities that promote gender diversity in TVET fields. Takala-Greenish (2015) stated that a good strategy is to implement gender-sensitive curriculum development, which incorporates diverse perspectives and experiences to challenge gender stereotypes and biases.

## Conclusion

The study has shed light on the significant strides made towards inclusive education and the persistent challenges that need to be addressed. The research highlights the diverse array of TVET programs available for LIS students, including digital literacy, data management, and information retrieval practicums. The high level of inclusion of female students in these programs demonstrates a positive trend towards gender equality in educational opportunities. However, the study also identifies critical barriers to full participation of female students in TVET programs. Societal norms, cultural beliefs, gender-based discrimination, and traditional gender roles significantly impact the engagement and success of female LIS students in these vocational and technical trainings. The strategies identified in the study—career counseling, gender-based policies, mentorship, and networking opportunities—are crucial in enhancing female participation and achieving gender equality in TVET programs. By adopting and rigorously implementing the recommended strategies, universities in Anambra State can foster a more equitable educational environment,

promoting gender equality and empowering female students to thrive in the field of Library and Information Science.

## Recommendations

Based on the findings of the study, the following recommendations can be made to address the identified problems and improve female participation and gender equality in TVET programs:

1. Universities should enhance career counseling services specifically targeted at female students in Library and Information Science (LIS). These services should provide comprehensive information about the benefits and opportunities available through TVET programs.
2. Universities should develop and enforce policies that promote gender equality in TVET programs. These policies should include provisions for equal access to resources, scholarships, and other support systems for female students.
3. Establish mentorship programs that pair female LIS students with successful female professionals in the field.
4. Universities should organize awareness campaigns and workshops aimed at challenging societal norms and cultural beliefs that limit female participation in TVET programs.
5. Universities and government agencies should increase the availability of scholarships and financial aid specifically for female students pursuing TVET programs in LIS.
6. Incorporate gender sensitivity training into the TVET curriculum to

educate all students about gender equality and the importance of diverse perspectives in the field of Library and Information Science.

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