Innovation and Creativity among Library and Information Science Undergraduates: The Industrial Trainees' Experience

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Abstract

The study focused on innovation and creativity among Library and Information Science (LIS) industrial trainees. Descriptive survey design was employed for the study. A population of 79 industrial trainees at the Danbaba Danfulani Suntai Library (DDSL), Jalingo were the subjects of the research. The entire population was studied using the census sampling technique. A researcher-structured questionnaire was instrument for data collection. 79 copies of the questionnaire were administered on-the-spot to the industrial trainees but 73 copies were retrieved and found suitable for data analysis. Data analysis was done using descriptive statistics of mean scores and standard deviation presented in tables and suitable graphic illustrations. Subjecting the trainees to hands-on participation and organization of lectures on innovations and creativity were among the methods adopted by the Library for encouraging the students to develop innovative and creative ideas. The findings further revealed that spending many hours reading about new ideas and often visiting the internet for modern developments, are part of the activities done by the students towards improved innovation and creativity. Factors such as the absence of makerspace for innovation and creativity in the Library and the absence of a guide on how to develop innovative and creative ideas were among the factors limiting the students' involvement in innovation and creativity. The study concluded that engaging in innovation and creative ideas remains critical in the present dispensation. Therefore the study recommends the need for libraries and other places of industrial attachment to create a healthy and provocative atmosphere for innovation and creativity to thrive as well as ensure the provision of adequate mentoring for innovations and creative ideas, among other things.

Keywords: Industrial Training, LIS Students, Innovation, Creativity, Danbaba Danfulani Suntai Library, Jalingo

Introduction

Library and Information Science (LIS) students often embark on industrial training (IT) popularly referred to as Student Industrial Work Experience Scheme (SIWES) before graduation. While such a scheme is taken by the undergraduates as SIWES, the postgraduates, in most library schools undertake a one (1) month internship before proceeding for their research work. The essence of this training is to enable the student to get practical knowledge of the discipline. The primary objective of industrial training is to enhance and fortify the students by equipping them with the requisite skills and on the job experience in their chosen profession. In Taraba State University (TSU), Jalingo, IT is done by students in the second semester of year 3 of study

and is carried out for six (6) months. Some students may decide to undertake the IT at the University Library, Danbaba Danfulani Suntai Library, Jalingo or may decide to go to other libraries. However, the institution and the curriculum developers during the establishment of this programme had the intention of providing opportunities that will lead to the establishment of alliances with companies in order to enhance organizational competence and make the students ready for careers in these companies upon graduation. This is the major impact of IT on the student (Dissanayaka et al , 2023).

According to Shadiev, Dang and Sintawati (2022), innovation and creativity among IT students are very necessary in promoting the social and economic development of any society. Adoption of innovation and creativity during the IT period makes society produce talented people with a variety of skills as the industrial training provides an opportunity for these students to build professional networks, establish relationships with potential employers, and engage in ideas which are beneficial to them upon graduation (Patki & Patki, 2015). Furthermore, the IT program seeks to offer the students, the chance to participate in real-world work settings beyond the confines of the classroom and lecture halls. By so doing, the issue of employment prospects for graduates is handled coupled with economic and national growth and development of the nation.

To this end, Yılmaz-Öztürk (2015) submits that as the world's resources decrease, countries' ability to innovate in order to gain advantage in a competitive environment and their labour force increases, making the adoption of innovation and creativity very important in any society. There is therefore, the need to develop the ability to take risks, renew oneself, use new technologies, produce new ideas, cooperate, think creatively, and contribute to the change or development of existing workplace situations, especially, among the LIS students who are expectedly future professionals. In view of this, the study focused on investigating innovation and creativity among library and information science undergraduates on industrial training at the Danbaba Danfulani Suntai Library, Taraba State University, Jalingo, Nigeria.

Research Objective

This study focused mainly, on investigating innovation and creativity among library and information science undergraduates using the industrial trainees' experience. Specifically, it

1. Identify the avenues for encouraging LIS IT students to develop innovative and creativity ideas in TSU, Jalingo.
2. Ascertain the students' attitude towards innovation and creativity among LIS IT students at TSU, Jalingo.
3. Determine factors limiting the LIS IT students' involvement in innovation and creativity in TSU, Jalingo.
4. Suggest strategies to promote the LIS IT students' involvement in innovation and creativity in TSU, Jalingo.

Research Questions

The following questions were answered

1. What are the avenues for encouraging LIS IT students to develop innovative and creativity ideas in TSU, Jalingo
2. What attitude(s) do LIS IT students in exhibit towards innovation and creativity in TSU ,Jalingo?

3. What are the factors limiting LIS IT students' involvement in innovation and creativity in TSU, Jalingo?
4. What are the strategies for promoting LIS IT students' involvement in innovation and creativity in TSU, Jalingo?

Literature Review

Describing innovation has constituted a series of debates. One such debate is the opinion of Kahn (2018) which associates innovation to any hypothetical, technological, cultural, commercial, or social relationship that has not existed before under the subjective drive of the individual. It is the process of coming up with, implementing, and using new ideas. Summarily, Shadiev et al. (2022), hold that innovation emphasizes new things and is guided by the existing thinking mode of putting forward opinions that are different from conventional ideas. Additionally, innovations have facilitated the introduction of change into our lives as well as participating in the society that is entitled to expectations from us. In fact, the answer to questions, such as how to protect oneself from ignorance, from knowledge obsolescence, from harmful activities of the ignorant, lies somewhere between innovation and creativity

Oftentimes, students shy away from putting forward innovative and creative activities due to obvious reasons and circumstances. In understanding such circumstances, Keinänen, Ursin and Nissinen (2018) measured students' innovation competencies in authentic learning environments through various assessment tools and found several competencies such as creative problem-solving, systems thinking, goal orientation, teamwork, and networking competencies. However, if these competencies are put in use by these students, the issue of innovation and creativity would have been handled, except in the case of the existence of other driving forces. Going further, Erdogan, Corlu, and Capraro (2013) investigated whether the robotics project can help improve students' innovation literacy. The result showed that researchers and scholars cultivated and developed students' innovation in different situations with various approaches cultivating innovation abilities, and students' innovation was positively influenced and improved by these several approaches. Hence, one need not rely on a single approach or method. The European Commission (2020) on innovation defines innovation as the successful production, assimilation and exploitation of novelty in the economic and social spheres. Rodrigues and Lieber (2020) in their research on relationship between entrepreneurship education, entrepreneurial mind-set, and career readiness in secondary students showed an overall statistically significant increase in entrepreneurial mind-set by the students. Closely linked to innovation, is creativity.

Creativity is associated with divergent thinking (Shadiev et al., 2022). Sternberg, Sternberg, and Mio (2012) suggested that creativity means producing original, valuable, novel, and useful products and things. In the submission of Zhang and Zhang (2018), creativity refers to using individual information and knowledge to generate new and valuable ideas. Lin, Shadiev, Hwang and Shen (2020) see it as an essential component of individual cognitive processing and the psychological quality necessary for completing creative activities. Creativity is the comprehensive optimization of complex and multi-factors such as knowledge, intelligence, ability, and excellent personality qualities. The following contents, such as creating new concepts, new theories, updating technology, inventing new equipment, new methods, and creating new works, are the manifestations of creativity.

Oseni (2017) on the relevance of entrepreneurship education to the development of micro, small and medium enterprises in Nigeria revealed positive and significant correlation

between the existing Nigerian educational system where entrepreneurship education is optional and restricted only to tertiary institutions and entrepreneurship development, and the withdrawal of entrepreneurship from nation's tertiary educational curriculum would be of little or no effect on the effort of developing entrepreneurial and innovative spirit in Nigeria. The study suggested entrepreneurship education to be incorporated into the country's educational system right from secondary school. Consequently, entrepreneurial education and training provide individuals with the ability to recognize commercial opportunities, self-esteem, knowledge and skills to act on them. Entrepreneurship is directly linked to innovation and creativity.

It is very clear that unemployment has remained an issue of concern in Nigeria and parts of African continent. Ibrahim, Chidiebere, Alabi, Okoliko, and Ayetigbo (2023) note that unemployment in Nigeria can be attributed to the inability of the graduates to acquire the needed skills and competence that could make them creative and self-employed. For instance, in 2021, the youth unemployment rate in Nigeria rose to 5.94% (Ibrahim et al., 2023), while countries like Japan, China, India, and Korea have moved ahead to join community of industrialized nations through strengthening their small-scale industries and engaging in more innovative and creative ventures. However, presently majority of graduates still roam the streets in search of white-collar jobs, irrespective of their exposure to entrepreneurship education and other creative practical based experiences. To this end, Ibrahim et al. (2023) reiterated the need to provide appropriate economic, social conditions and counselling to facilitate the emergence of individuals with required creativity skills. According to Abule and Ordua (2022), the 21stcentury is the age of knowledge and information, characterized by the capacity to regenerate, develop, employ and protect new and innovative ideas, which translates to establishment of those industries that leverage their competitive advantages on advanced technologies. The authors believe that innovation, creativity and time have become the new factors of development.

Göksoy and Yılmaz (2018), Keinänen et al. (2018), Deveci and Kavak (2020), Lin et al. (2020) and Ibrahim et al. (2023) among others, have reported about promoting creativity among students in high schools. Rahimi and Shute (2021) looked at the effectiveness of an educational game to improve college students' creativity. The four attributes of the game associated with its effectiveness are: (1) Inspirational - with supports that provided access to a website with example levels, a brainstorming tool, and a remote association activity(2) Instructional - with supports that provided specific instructions to first design as many levels as possible, then pick four of the levels, and enhance them using a tool called SCAMPER (3) Both - with both inspirational and instructional supports; and (4) No Support, which did not include any creativity supports. The major finding from the research was that both conditions were significantly more effective than the other conditions in improving students' creativity. The study further revealed the importance of technology in cultivating creative abilities in students. Furthermore, Mikhailova (2018) investigated the features of creativity and innovation development in students in secondary and high schools and found the place of psycho-pedagogical technologies in supporting the formation of innovative potentials of personality in high school.

The traditional view of libraries as an industrial attachment environment, as mere physical information repositories that provide ordinary bibliographic services, updating through indexing, cataloguing, extracting, and borrowing, to a broader, more inspiring, and more brilliant image (Freeburg, 2020).However, there may be need for it to be further reconsidered as an enterprising environment with several innovation and creative opportunities. Consequently, it is imperative that libraries, in light of the evolving digital environment, develop services

characterized by innovation and creativity. This will lay the groundwork for an inspiring, creative and innovative environment for the students, especially, students on industrial training in libraries.

Nonetheless, LIS is among the earliest disciplines in the country that encountered and embraced innovation in several aspects. The earliest experience among these innovations was freedom from its financial overdependence on the Carnegie Corporation of New York (Nwokocha, 2017). The second that is noteworthy was the teaching of LIS at the undergraduate level which started in 1968 at the Ahmadu Bello University, Zaria before spreading to other parts of the country which was extended by the introduction of ICT in all facets of library and information science activities, among other areas of notable innovation and creative ideas. Notwithstanding these, some LIS students are yet to fully embrace innovation and creativity as could be seen in their over-dependence on white-collar jobs thereby, leaving many, jobless and irrelevant to national growth and development. For some of them that have embraced innovation, there seems to be little or no attention given to them to ensure their continuous sustenance in such ventures**.** Based on this ugly scenario that has lasted for so long, infusing innovation and creativity into the industrial training period of the students has become indispensable, without which, the survival of these students after graduation is at stake. This provoked the need for this study.

Methodology

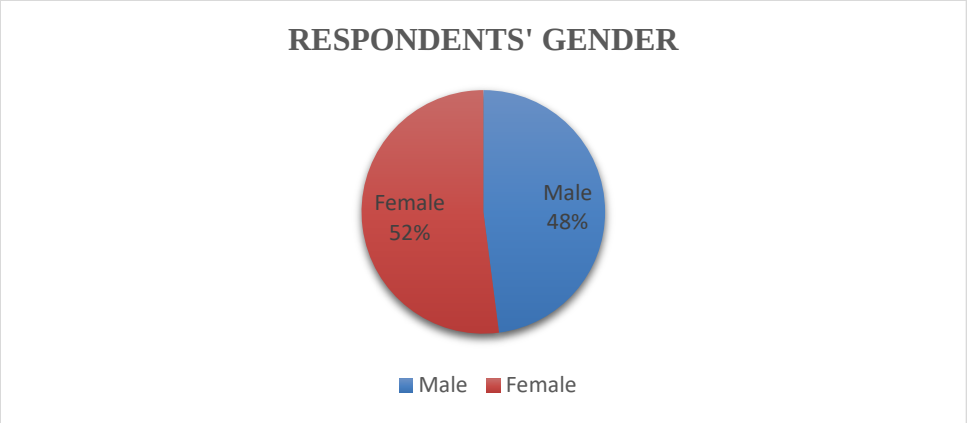
The study adopted descriptive survey research design. A total population of 79 LIS students on Industrial Training(IT) at the Danbaba Danfulani Suntai Library, Taraba State University, Jalingo. Moreover, the census sampling technique was used as the entire population was used in the study. Data was collected using close-ended researcher-made questionnaire titled 'Innovation and Creativity Questionnaire (ICQ). The questionnaire was made up of two (2) sections and four (4) clusters and adopted the 4-point rating scale of Strongly Agreed (SA), Agreed (A), Disagreed (D), and Strongly Disagreed (SD). 79 copies of the questionnaire were distributed but only 73 copies were recovered, duly filled and considered suitable for data analysis. This gave a response rate of 92.4%. Consequently, data collected were analysed using descriptive statistics of mean scores and standard deviation and results were presented in tables and suitable graphic illustrations. A criterion mean of 2.50 was adopted in determining the respondents' degree of agreement or disagreement with item statements. The decision was that any item statement with a mean score below 2.50 (that is $X < 2.50$) was considered as 'disagreed' while item statements with mean scores 2.50 and above (that is $X \geq 2.50$) were considered as 'agreed'.

Results

The presentation of results aligned with the contents of the questionnaire clusters derived from the purpose of study.

Figure 1 presents the gender distribution of the respondents. The results show that, out of the 73 respondents, 35(47.9%) are males while 38(52.1%) are females.

Figure 1: Gender Distribution of the Respondents



Research Question 1: What are the avenues for encouraging LIS IT students to develop innovative and creativity ideas in TSU, Jalingo?

Table 1: Avenues for encouraging the development of innovative and creativity ideas

S/N	Item Statement	SA	A	D	SD	Mean	St. Dev.	Remark
1	We are often subjected to hands-on-participation	28	15	22	8	2.86	1.06	Agreed
2	The library often organises in-house training	7	17	40	9	2.30	.81	Disagreed
3	The library often admits us to its Makerspace	4	19	33	17	2.14	.84	Disagreed
4	Sometimes, the library sponsors seminars and workshop for us	22	3	35	13	2.47	1.11	Disagreed
5	The library often organizes lectures on innovations and creativity	20	22	31	-	2.85	.83	Agreed
6	We are given enough time to develop new ideas	25	32	16	-	3.12	.74	Agreed
7	The library provides the required technological facilities for practical	29	31	13	-	3.22	.73	Agreed
8	The library often organizes talent shows and exhibitions	7	4	44	18	2.00	.83	Disagreed
9	The library always rewards innovations by IT students	7	20	34	12	2.30	.86	Disagreed
10	The library provides an avenue to interact with other inventors	6	34	27	6	2.55	.77	Agreed
	Cluster Average					**2.58**	**0.59**	**Agreed**

Table 1 presents the responses on the avenues explored for encouraging LIS IT students to develop innovative and creativity ideas at TSU, Jalingo . The result with a criterion mean of 2.58 and standard deviation of 0.59 shows that majority of the respondents agreed that there are different avenues that encourage the development of innovative and creativity ideas in their place

of industrial training. Specifically, the avenues, as agreed by the majority of the respondents include, subjection to hands-on participation 2.86(1.06), organization of lectures on innovations and creativity 2.85(.83), giving enough time to students to develop new ideas 3.12(.74), providing required technological facilities for practical 3.22 (.73), and providing an avenue to interact with other inventors 2.55(.77). These responses are as captured in item statements 1, 5, 6, 7, and 10, in Table 1. However, the majority of the respondents disagreed with item statements 2, 3, 4, 8, and 9, which include, the organization of in-house training 2.30(.81), the admittance of students to the library's makerspace 2.14(.84), sponsoring the students on seminars and workshops 2.47(1.11), organization of talent shows and exhibition 2.00(.83), and rewarding innovations of IT students 2.30(.86).

Research Question 2: What attitude(s) do LIS IT students exhibit towards innovation and creativity in TSU, Jalingo?

Table 2: Students' attitude towards innovation and creativity

S/N	Item Statement	SA	A	D	SD	Mean	St. Dev	Remarks
11	I am enthusiastic about innovation and creativity	12	14	24	23	2.21	1.07	Disagreed
12	I always liked attending workshops on innovation and creativity	-	15	48	10	2.07	.59	Disagreed
13	I appreciate networking with my supervisors to develop new ideas	12	6	30	25	2.07	1.05	Disagreed
14	I like attending IT instructions on innovation and creativity	7	3	29	34	1.77	.92	Disagreed
15	I enjoy visiting the library's makerspace	10	23	25	15	2.38	.97	Disagreed
16	I love attending training on innovation and creativity	4	15	40	14	2.12	.78	Disagreed
17	I spend many hours reading about new ideas	15	29	19	10	2.67	.96	Agreed
18	I often browse the internet for modern developments	30	37	3	3	3.29	.74	Agreed
19	I am currently working on an innovation	8	31	25	9	2.52	.85	Agreed
20	I am passionate about workshops on innovation and creativity	33	17	23	-	3.14	.87	Agreed
	Cluster Average					**2.42**	**0.88**	**Disagreed**

Table 2 presents the responses of the respondents on LIS IT students' attitudes towards innovation and creativity. The table contains 10 item statements bothering on the perceived attitudes of students towards innovation and creativity. With a cluster mean of 2.42 and a standard deviation of 0.88, the result display very few positive attitudes of the students towards innovation and creativity. Some of the attitudes agreed by the majority of the respondents, spending many hours reading about new ideas 2.67(.96), often browse the internet for modern

developments 3.29(.74), currently working on an innovation 2.52(.85), and passionate about workshops on innovation and creativity. These agreed responses are presented in item statements 17, 18, 19, and 20. However, majority of the respondents disagreed with item statements 11, 12, 13, 14, 15, and 16 which are: I am enthusiastic about innovation and creativity 2.21(1.07), I always liked attending workshops on innovation and creativity 2.07(.59), I network with my supervisors to develop new ideas 2.07(1.05), I like attending IT instructions on innovation and creativity 1.77(.92), I enjoy visiting the library's makerspace 2.38(.97), and I love attending training on innovation and creativity 2.12(.78).

Research Question 3: What are the factors limiting LIS IT students' involvement in innovation and creativity in TSU, Jalingo?

Table 3: Factors limiting students' involvement in innovation and creativity

S/N	Item Statement	SA	A	D	SD	Mean	St. Dev.	Remark
21	The makerspace in the library is not equipped for innovation and creativity	19	19	28	7	2.68	.97	Agreed
22	There is no policy on how to develop innovative and creative ideas	30	37	3	3	3.29	.74	Agreed
23	Management does not support my innovations and creative ideas	7	21	26	19	2.22	.95	Disagreed
24	The Library's makerspace is not functional	8	37	12	16	2.51	.96	Agreed
25	I am mostly concerned with passing my examinations	23	24	17	9	2.84	1.01	Agreed
26	I am just hearing about innovation and creativity for the first time	26	23	17	7	2.93	.99	Agreed
27	I don't have time for any innovative and creative idea	-	8	52	13	1.93	.54	Disagreed
28	I am still young to involve myself in innovation and creativity	9	7	44	13	2.16	.87	Disagreed
	Cluster Average					**2.57**	**0.88**	**Agreed**

Table 3 presents respondents' responses on the factors hindering LIS IT students' involvement in innovation and creativity. The result with a cluster average mean of 2.57 and standard deviation of 0.88 shows that the majority of the respondents agreed with the existence of numerous factors which limit LIS IT students' involvement in innovation and creativity. The factors as agreed by the majority of the respondents include: The makerspace in the library is not equipped for innovation and creativity 2.68(.97), there is no policy on how to develop innovative and creative ideas 3.29(.74), the Library's makerspace is not functional 2.51(.96), Management does not support my innovations and creative ideas 2.84(1.01) and I am just hearing about innovation and creativity for the first time 2.93(.99). However, majority of the respondents disagreed with the following factors, Management does not support my innovations and creative ideas no one supports my innovations and creative ideas 2.22(.95), I don't have time for any innovative and creative ideas 1.93(.54), and I am still young to involve myself in innovation and creativity 2.16(.87).

Research Question 4: What are the strategies for promoting LIS IT students' involvement in innovation and creativity in TSU, Jalingo?

Table 4: Strategies for promoting innovation and creativity

S/N	Item Statement	SA	A	D	SD	Mean	St. Dev.	Remarks
29	The Library should equip the makerspace for innovation and creativity	68	5	-	-	3.93	.25	Agreed
30	An adequate policy on innovation and creativity should be provided	56	12	-	5	3.63	.81	Agreed
31	Adequate support for innovations and creative ideas should be given	59	9	5	-	3.74	.58	Agreed
32	The Library's makerspace should be made functional	51	22	-	-	3.70	.46	Agreed
33	The Library should organize programmes and workshops on innovation and creativity	65	8	-	-	3.89	.32	Agreed
34	The Library should create more awareness for IT students' involvement in innovation and creativity	65	3	5	-	3.82	.54	Agreed
35	The Library should devise means of rewarding innovations and creative ideas by IT students	55	13	-	5	3.62	.81	Agreed
36	Competitive platforms should be created for IT students embarking on innovative and creative ideas	45	20	5	3	3.47	.80	Agreed
	Cluster Average					**3.73**	**0.57**	**Agreed**

Table 4 indicates the respondents' views on the strategies to be adopted in order to promote innovation and creativity among LIS IT students at TSU, Jalingo. The table contains 8 items bothering on perceived strategies towards promoting students' involvement in innovation and creativity. The result with a cluster mean of 3.73, a standard deviation of 0.57, and overall agreement with all the item statements by the majority of the respondents show that the majority of the respondents agreed with all the perceived strategies as panacea for promoting the students' involvement in innovation and creativity. The strategies with their mean scores and standard deviation include, The Library should equip the makerspace for innovation and creativity 3.93(.25), adequate policy on innovations and creative ideas should be provided 3.63(.81), adequate support for innovations and creative ideas should be given 3.74(.58), the Library's makerspace should be made functional 3.70(.46), the Library should organize programmes and workshops on innovation and creativity 3.89(.32), the Library should create more awareness on IT students' involvement in innovation and creativity 3.82(.54), the Library should devise means of rewarding innovations and creative ideas by IT students 3.62(.81), and competitive platforms should be created for IT students embarking on innovative and creative ideas 3.47(.80).

Discussion of Findings

Avenues for encouraging LIS IT students to develop innovative and creativity ideas

The study found there are different avenues available for encouraging the LIS IT students to develop innovative and creativity ideas in the Danbaba Danfulani Suntai(DDS) Library, Taraba State University, Jalingo, The availability of these avenues is a clear indication that DDS Library is involved in the business of innovation and creativity and this is in line with the finding of Rahimi and Shute (2021) which showed the adoption of different approaches towards ensuring creativity among high school students. However, the study revealed the absence of avenues such as:non organization of in-house training, non-admittance of students to the library's makerspace, non-sponsoring of students in seminars and workshops, non-organization of talent shows and exhibitions, and non-rewarding of innovations by IT students. With all these, one can easily deduce loopholes in the creation of opportunities for innovation and creativity in DDS Library, TSU, Jalingo. This is to say that the LIS IT students may not be getting all it takes to carryout innovation and creative practices. This finding on inadequacy of the avenues, corresponds with the findings of the study by Deveci and Kavak (2020), in which only 46% of students showed a high innovative thinking tendency. This may have been as a result of absence of adequate avenues that encourage innovations and creativity. It is hoped that because the LIS IT students are subjected to hands-on-participation, they are likely to develop more interest in innovation and creative opportunities.

LIS IT students' attitude towards innovation and creativity

Furthermore, the findings of the study showed the display of very few positive attitudes towards innovation and creativity by the students. These attitudes are in line with part of the findings of Shadiev et al. (2022).This study may be best considered as in partial alignment with the earlier finding of Muradoğlu et al. (2022) which reported that most of the students they studied were open to innovation and change; possessed innovative traits, saw the importance and social benefits of innovation and creativity resulting in their possessing the right attitude towards innovation and creativity.

Factors limiting the students' involvement in innovation and creativity

The study also found out several factors hindering IT students' involvement in innovation and creativity. The revelation of these factors corroborates with the previous findings of Weng et. al. (2022) which revealed factors such as the inadequate policy to innovative and creative ideas as part of the issues hindering students' venture into innovation and creativity. The finding of the study further validated the submission of Bozkurt and Çakır (2016) which revealed that the decline in students' involvement in innovation and creativity is as a result of the students focusing on solving tests and preparing for examination rather than engaging in practical activities and experiments.

Strategies to promote the students' involvement in innovation and creativity

The study found different strategies that could promote innovation and creativity among LIS IT students in TSU, Jalingo. These strategies as found out, aligned with that of Weng et al. (2022) which found that the students' creativity and entrepreneurship were scaffold in a variety of ways throughout the learning cycle while suggesting an instructional approach. Furthermore, this finding is similar with the findings of Başarmak and Hamutoğlu (2019) which states that for

IT students who are receiving training, their creative, and innovative thinking skills are likely to develop. In addition, Göksoy and Yılmaz (2018) found that such training together with the provision of adequate guidance enabled the students' creativity and critical thinking skills, ability to identify problems and solve the problems they identified, designing skills, and ability to think multilaterally, formed the bedrock of innovation and creativity. To this end, Mikhailova (2018) reported that there is need to consider the 2020 strategy offered by Russia's development, which obliged practioners in their educational system to develop the younger generation's ability for social activity, rapid adaptability to the changes and realities of their surroundings , willingness to generate new ideas, their adoption and implementation for the benefit of the society .

Conclusion

It is very clear from the literature and the findings of the present study that the ability to think creatively is increasingly seen as a critical characteristic in our globalized world, where innovation and discovery are essential for societal growth and development. This informs the need to promote innovation and creativity among the students. This is the thrust of the study. It was, however, revealed that numerous opportunities exist in DDS Library for the students on industrial training to develop this ability. The question is whether these avenues are properly utilized by the students. The study revealed several attitudes exhibited by these students towards innovation and creativity. It is expedient to note that the attitudes they have, may make or mar the students' involvement in innovative and creative activities. The study also revealed several constraining factors as well as strategies for ameliorating these factors. To this end, there is a high need for library professionals to intensify efforts to integrate and establish innovation and creativity among the LIS students. This is because innovation is considered fundamental in addressing social problems such as poverty and unemployment. Collaboratively, the Librarians' Registration Council of Nigeria (LRCN) must ensure that Nigerian library schools that are responsible for educating and training of LIS students and the IT industry based institutions where LIS students are placed adapt to societal needs and introduce requisite changes to teaching, learning, and organizational practices that foster "skills for innovation and creativity" among the students. This will reposition them for job creation and entrepreneurship rather than being unemployed.

Recommendations

The study recommends as follows:

1. The need for joint efforts in designing, enforcing and monitoring the activities of industry based institutions where the LIS students are engaged in the course of their industrial training to ensure a well-equipped environment and exposure to the requisite knowledge needed for creativity . This will further strengthen the students' involvement in innovation and creativity.
2. Libraries serving as places of industrial attachment should adopt more practical approaches and expose the students to various innovative and creative ideas. This can be achieved by ensuring the engagement of the students in entrepreneurial activities and real life work place experiences rather than allowing them to roam about the library during their industrial training.
3. Libraries and other places of industrial attachment should adequately provide the students with proper hands on activities in innovative and creative ideas while

ensuring the provision of a conducive environment for such practical offered by a well-equipped and functional library maker space.

4. The government of the day should intensify its effort in rewarding and promoting innovations and creativity among its citizens. When this is done, so many people will be spurred into innovation and creativity thereby leading to national growth and development.

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