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Computer self-efficacy and research productivity of academic staff in public polytechnics in South-West, Nigeria: A quantitative approach

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Abstract
Research productivity is the best indicator of academic accomplishment or scholarly achievement. Typically, the tenure, and relevance of academic staff are established by their research productivity (RP). Despite the significant benefits of research productivity, studies have shown that research productivity of academic staff in Polytechnics in Nigeria seemed to be low. Hence, this study investigated the relationship between computer self-efficacy (CSE) and research productivity (RP) of academic staff in public polytechnics in South-West, Nigeria. Survey research design of the correlational type was adopted. The population comprised 3,849 academic staff in eleven public polytechnics in South-West, Nigeria. A sample size of 600 academic staff were selected using Krejcie and Morgan table, purposive sampling technique was used to select 11 Polytechnics that were established more than ten years while proportional sampling, and simple random sampling techniques were used to select 600 respondents. Results showed that the: level of RP of academics is low (= 1.17), CSE of academics is high (= 3.72). The study found that there was significant relationship between computer self-efficacy (r = .174, p <.05), and research productivity. The study concluded that significant relationships between academic staff CSE, and RP does not guarantee high RP, there could be other factors that may mediate in the relationship between CSE and RP which will raise RP levels. It is recommended that Polytechnics should boost research productivity by emphasizing training and re-training of staff in computer applications, and put other factors such as socio-economic into considerations while formulating policies to enhance research productivity of academic staff.

Keywords: Computer self-efficacy, academic staff, research productivity, public polytechnics

Introduction

Research is an important aspect of the academic and is mostly regarded as the most valued part of the academic tasks after teaching. Lecturers in public polytechnics are required to conduct research and publish in referred journal articles and author or contribute to books publishing in order to remain relevant and enjoy continuous promotion and tenure within an academic system. Research publication is very significant to the success of academic staff; hence academics tenure in Nigerian polytechnics and other tertiary institutions across the globe is basically based on the number of research output, hence research productivity is an essential subject for academic staff. In the recent period of computer age, one need to be conversant and possess confidence in computer use before research can be conveniently carried out.

Computer self-efficacy refers to judgments in terms of individual's ability to carry out a specific task with computer successfully. Computer self-efficacy is the belief in individual academic capacity in using computer to organize and take necessary actions to execute research work. Academic staff with high computer self-efficacy would take advantage of using computer to seek enormous information resources that scatter in electronic resources across the globe to carry out scientific research conversely; academic staff with low computer self-efficacy may lack the required confidence in harnessing resources that are computer based.

Computer self-efficacy is an essential factor that determines adequate performance that works partially

irrespective of skills level possess by any academic staff in tertiary institutions. In achieving success in research, it is essential that academic staff with high computer self-efficacy would take advantage of using computer to explore numerous information resources that scatter in electronic resources worldwide. Computer self-efficacy reflects what academic staffs believe they can do with the skills they possess in computer related usage (Carlie, 2018). Computer self-efficacy of academic staff focuses on what they think they can do now or in the future using the computer related devices. Computer aids learning and it's also a common tool in the workforce that is the reason Arani (2016); Abdullah and Mustafa (2019) reported that it is necessary for all academic staff including lecturers in public polytechnic in Nigeria to become familiar and comfortable with its use. That is the reason computer related devices cannot be over emphasized in research works. The usefulness of computer system span from using it to explore information resources that are digital-based, using it to process, typing and documentations of information resources. Academic staff who can independently engage computer to carry out variety of academic related jobs may achieve high research success than their counterpart who lacks requisite knowledge of computer usage.

Some academic staff may encounter difficulties or confused when they intend to use computers as a result of negative perception of their own personal capabilities, while individual's academic according to Oghenekaro (2017) who have a high level of computer self-efficacy have more tendency in using computers and achieve higher expectations. Therefore, research productivity of academic staff in public polytechnic in Nigeria may largely depends on the perception of individual lecturers' capability to use computer to perform variety of academic tasks. This could impact on the research productivity of academic staff in Nigerian polytechnics.

Research ensures quality service delivery by academic staff of tertiary institutions, and promotes scientific and technological breakthrough as well as nation building. In spite of these invaluable benefits accruable from research productivity, there is public opinion from available indices that research productivity of academic staff in public polytechnics in Nigeria is low compare to their counterparts internationally. This was buttressed by Haruna, Momoh and Ismail (2023) whose findings revealed that research productivity of academic staff of Auchi Polytechnic, Edo State, Nigeria was low. This ugly trend is affecting their career progression and advancement, in most cases leads to status stagnation and frustration among them. This undesirable level of research productivity could be as a result of many things; perhaps one could attribute it to computer self-efficacy of academic staff in public polytechnics in South-West, Nigeria. This is the crux of the matter this study intent to unravel using empirical investigation and pragmatic approach with a view to making viable recommendations capable of improving research productivity of academic staff in Nigerian polytechnics.

Objectives of the study

The specific objectives of this study are to:

1. determine level of research productivity of academic staff in public polytechnics in South-West, Nigeria.
2. unravel the level of computer self-efficacy of academic staff of public polytechnics in South-West, Nigeria; and
3. identify the relationship between computer self-efficacy and research productivity of academic staff in public polytechnics in South-West, Nigeria.

Literature review

Research productivity a time referred to as research output or research publications. It is the total number of academic works

completed by academic staff in the polytechnic system and related content over a while. Simisaye and Popoola (2019) describe it as the interaction between the system input and output. The input refers to the various factors and resources that are involved in the research process, which include research activities, effort, methods, reference disciplines, data, information, and information sources. While outputs in research is viewed as the outcome of input in research process. Academic staff research productivity as reported by Okafor (2019) is often measured by the number of articles published, conference presentations made, grants obtained over a specific period of time and peer reviewed articles published. In achieving success in research, it is expected that academic staff with computer self-efficacy would take advantage of using computer to explore avalanche of information resources that are domiciled in electronic resources across the globe. It is on this premise Quadric (2013) found that there is a correlation between ICT skills, computer self-efficacy and research productivity. This suggests that computer self-efficacy and skills in ICT related devices could impact on research productivity of academic staff in public polytechnics.

Computer are common tools in the workforce. Abdulllah and Mustafa (2019) submitted that it is crucial for all academic staff including that of public polytechnics in Nigeria to become acquaintance with its use particularly for research work. It is important that in this digital era academic staff who intends to achieve greater height and excel in research according to Tella (2017) must pose necessary skills and confidence to explore digital environment.

Flowing from the foregoing, academic staff in Nigerian public polytechnics must equip themselves with modern methods of using all sorts of digital devices to harness electronic information resources. Garba, Musa, Kabara and Dahiru (2019) argued that the change in research productivity could be accounted for by the level of computer self-efficacy of academic staff. In a similar vein, Jose (2016) submitted that digital literacy skills and confidence in applying the skills had positive relationship with research productivity. The implication of this is that the level of computer self-efficacy of academic staff could determine their level of research productivity.

Confidence in using computer by academic staff in Nigerian polytechnics will assist them in accessing information resources through system/electronic information resources. This is so because; individual academic staff use of system/electronic resources depends to a large extent on their belief or confidence that they are able to accomplish the tasks using the computer. Academic staff may not be able to access enough or quality information resources which are electronic-based if they do not see themselves as being able or having the ability to use computer related devices, this could hinder their research productivity. On the other hand, academics that have confidence in their ability to use the computer-based resources will make maximum use of them to enhance their research works.

In recent times research majorly depend on computer-based information resources relevant to the subject of study; hence, ability to acquire these resources via electronic resources will depend on the levels of computer self-efficacy of academic staff in basic computer skills, intermediate or media related skills, and advanced or web-based computer skills.

Basic computer skills: This is a type of skill that is required to perform daily word processing tasks, such as producing routine letters and memoranda; creating new documents; entering text and saving it; opening and editing existing documents; navigating a document and performing a search; moving text; formatting characters and paragraphs; working with tabs, indents, margins, lists, and backspacing; using correct and help tools; creating and editing

tables; and printing documents, envelopes, and labels. (Chai et al., 2018).

The level of computer self-efficacy expressed by academic staff on these basic computer skills could impact their research productivity. Sadiku and Kpakiko (2017) reported that academic staff with high computer self-efficacy in the basic computer skills would have the ability to deploy technology to access information resources, thereby enhancing their skills to utilise information resources gathered to execute quality research. Conversely, academics without confidence in basic computer skills would face challenges in getting required information resources to perform well in research works. The basic computer skills are a significant predictor of using computer technology to achieve success in academic exploits (Chai et al. 2018).

Intermediate computer skills or media-related skills: This level of skills is required to use complex query techniques; the ability to use website editors (e.g., Microsoft FrontPage and Macromedia Dreamweaver) to create or modify web pages; the ability to use video editing software (e.g., Microsoft Movie Maker, Adobe Premiere, and Lead Video Studio); the ability to use graphic editor Lead Video Studio; and skills in graphic editors (e.g., Microsoft Paint and Adobe Photoshop) to create and/or modify resources for teaching and research. An intermediate computer skill is a significant predictor of usage and desire to use technology (Shao & Fency, 2015). According to Otte (2019), one of the most commonly reported skills necessary for higher education is proficiency in intermediate computer skills. Thus, to fully integrate computer skills in higher education, studies have suggested that positive attitudes towards high computer use and low computer anxiety levels could be important factors in helping academic staff learn computer skills and use them effectively (Akpojotor, 2024).

Advanced computer skills or web-based skills: This level of skills is required to develop an application and tie the objects together into a cohesive system by using macros and Visual Basic for Application code (Brancolini & Kennedy, 2019). The level of this skill enables academic staff to use conferencing software (e.g., Yahoo, IM, MSN Messenger, ICO, and Skype) for collaboration purposes; work with graphics, animation, and multimedia, inserting movies and sound; use auto-correct and the style checker; build interactive presentations using hyperlinks, and so on (Kukul & Karatas, 2019).

The belief or knowledge in using web-related resources by academic staff in polytechnics is a factor that could influence the computer self-efficacy of academic staff. Computer skills at this level would enable academic staff to use word processors, make use of software for research works and presentations during seminars and conferences, use spreadsheet software to prepare charts and graphs, navigate the internet for research, and have the ability to participate in online academic-related works using various types of software (Schlebusch, 2018).

These degrees of skills would guarantee academic staff confidence that they can perform a task with computer and other electronic devices. Tuncer (2015); Sadiku and Kpakiko (2017); Alkatag (2015) and some notable researchers in the various studies hold the view that computer self-efficacy has positive association with research productivity in academia. Regrettably, virtually all the studies were carried out to assess the relationship between computer self-efficacy and research productivity of academic staff in universities across the world to the neglect of polytechnics' academic staff. This is the gap this study intends to fill.

Methods

The study utilised survey research design of the correlational type. It sourced data from both primary and secondary data. Primary

data was sourced via structured questionnaire. The data were analysed using descriptive and inferential statistics such as percentage analysis, mean and standard deviation, multiple linear regression. The study was carried out in South-West, Nigeria. The participants/ sample frame for the study were academic staff: 600 copies of questionnaires were administered out of which 565 were correctly filled and returned. The multistage sampling technique was adopted for this study.

In the first stage researcher adopted a purposive sampling technique to select polytechnics that were established over a period of ten (10) years and above since the scope of the study covers ten years (2012-2021). At this stage eleven (11) polytechnics were selected, while institutions that are within the years under survey but do not have the spread of the departments selected for the sampling were dropped.

At the second stage, the researcher applied a purposive sampling technique to select three faculties that are technologically based and cut across all the polytechnics in the study area. The three (3) technology-related faculties selected in this regard are the faculty of engineering, the faculty of environmental science, and the faculty of applied science. Simple random sampling technique was applied to select three (3) departments from each of the selected faculties in each of the polytechnics.

At the third stage, the researcher applied Krejcie and Morgan's (1970) sampling technique to determine a sample of 1,177 academics from selected departments. A proportional sampling technique was deployed to select 25% of lecturers from the sample, while a simple random sampling technique was used to select academic staff from each of the selected departments, totaling 311. The researcher used the total enumeration technique to capture 216 technologists and 73 librarians in all the eleven polytechnics.

Result and discussion

The age distribution revealed that the majority of the staff are within the 31–40 years age range (30.3%), followed by those aged 41–50 years (29.4%), and 25.5% are 51 years and above. This indicated a relatively balanced workforce in terms of age diversity, with a strong presence of mid-career academics. Gender-wise, the table showed a considerable gender gap, as 66.5% of the respondents are male, while only 33.5% are female.

In terms of educational qualifications, most of the academic staff hold M.Sc. (37.3%), followed by B.Sc. (27.3%), while a smaller proportion have PhD (2.3%) and M.Phil. (4.2%). This distribution indicated that a significant portion of the workforce possesses postgraduate-level qualifications, indicating a fairly well-qualified staff base. The data also revealed that 70.8% of respondents are married, making it the dominant marital status, with only 26.4% being single and a minimal percentage being divorced (0.9%) or widowed (1.9%). In terms of work experience, 53.3% of the academic staff have been employed for 5–10 years, reflecting a workforce with moderate professional experience. The academic status of the respondents showed that most of them are at the lower levels of the academic hierarchy, with 21.8% working as technical instructors and 19.5% as assistant lecturers. Senior positions like chief lecturer accounted for only 2.7% of the staff.

Table 1 Demographic characteristics of respondents

S/N	Demographics	Frequency	Percentage (%)
1	**Age range**		
	20-30 years	84	14.9
	31-40 years	171	30.3
	41-50 years	166	29.4
	51 years and above	144	25.5
2	**Gender**		
	Male	376	66.5
	Female	189	33.5
3	**Educational qualification**		
	HND	82	14.5
	B.Sc.	154	27.3
	PGD	81	14.3
	M.Sc.	211	37.3
	M. Phil.	24	4.2
	PhD	13	2.3
4	**Marital status:**		
	Single	149	26.4
	Married	400	70.8
	Divorced	5	0.9
	Widow/widower	11	1.9
5	**Work experience**		
	5-10 years	301	53.3
	11-16 years	133	23.5
	17-22 years	86	15.2
	23 years and above	45	8.0
6	**Academic status**		
	Tech Instructor	123	21.8
	Assistant Lecturer	110	19.5
	Lecturer III	47	8.3
	Lecturer II	62	11.0
	Lecturer I	71	12.6
	Senior Lecturer	55	9.7
	Principal Lecturer	37	6.5
	Chief Lecturer	15	2.7
	Librarian	45	8.0

Source**:** Researcher's field survey, 2024

Table 2: Response rate

Questionnaire	Frequency	Percentage
Number distributed	600	100%
Total Number collected	565	94.17%

A total of 600 copies of questionnaire were distributed to academic staff across various public polytechnics in South-West, Nigeria. Out of these, 565 questionnaires were completed and returned, resulting in a high response rate of 94.17%. This is considered a high response rate that indicates a strong level of engagement and willingness among the respondents to participate in the study, enhancing the findings' reliability.

Table 3. **Distribution of the population and sample size based on Krejce Morgan Sampling Technique for the Study**

S/N	Name of polytechnic	No. of technologists	No. of librarian	No of lecturers	Total	Sample Size %
	Ekiti State					
1.	Federal Polytechnic, Ado-Ekiti	103	09	406	518	67(11.9)
	Osun State					
2.	Federal Polytechnic, Ede.	97	07	320	424	44(7.8)
3.	Osun State College of Technology, Esa-Oke	56	05	192	253	35(6.7)
4.	Osun State Polytechnic, Iree	44	05	132	181	36(6,4)
	Ogun State					
5.	Abraham Adesanya Polytechnic, Ijebu-Igbo	16	03	91	110	45(7.9)
6.	Gateway ICT Polytechnic, Saapade	32	03	192	227	34(6.0)
7.	Moshood Abiola Polytechnic, Abeokuta	26	04	92	122	36(6.4)
8.	Federal Polytechnic, Ilaro	143	08	462	613	556(9.1)
	Ondo state					
9.	Rufus Giwa Polytechnic, Owo	73	6	397	476	75(13.3)
	Oyo State					
10.	The Polytechnic, Ibadan	53	8	186	247	65(11.5)
	Lagos State					
11.	Yaba College of Technology, Yaba	124	15	539	678	69(12.2)
	TOTAL	**767**	**73**	**3,009**	**3,849**	**565/100**

Table 3 showed an overview of the socio-economic characteristics of academic staff in selected public polytechnics in South-West, Nigeria. Distribution based on institutions revealed that Rufus Giwa Polytechnic recorded the highest respondents (13.3%), followed by Yaba College Technology (12.2%), while Gateway ICT Polytechnic, Sapaade recorded the least (6.0%) respondents.

Objective one: To find out the level of research productivity of academic staff in public polytechnics in South-West, Nigeria

Table 4: Level of research productivity of academic staff in selected public polytechnics within the period of ten years (2012-2021)

S/N	Publication type	0-4	5-9	10-14	15-19	20 & above	$\bar{x}$	S.D.
1	Journal articles	217 38.4%	139 24.6%	129 22.8%	33 5.8%	47 8.3%	2.21	1.246
2	Conference proceedings	444 78.6%	72 12.7%	33 5.8%	9 1.6%	7 1.2%	1.34	0.766
3	Textbooks	560 99.1%	3 0.5%	2 0.4%	0	0	1.01	0.139
4	Monographs	564 99.8%	1 0.2%	0	0	0	1.00	0.042
5	Chapters in books	557 98.6%	8 1.4%	0	0	0	1.01	0.118
6	Co-author textbooks	555 98.2%	6 1.1%	0	4 0.7%	0	1.03	0.271
7	Technical reports	561 99.3%	4 0.7%	0	0	0	1.01	0.084
8	Occasional papers	555 98.2%	0	10 1.8%	0	0	1.04	0.264
9	Patents and certificated inventions	552 97.7%	0	13 2.3%	0	0	1.05	0.300
10	Scientific peer review bulletin	562 99.5%	3 0.5%	0	0	0	1.01	0.073
		Weighted Mean =1.17; S.D.=0.33						

Table 4 showed the research productivity of academic staff in selected public polytechnics, focusing on various types of publications. The data indicated that journal articles are the most common form of research output, with 38.4% of staff having published 0–4 journal articles, followed by a smaller proportion (24.6%) with 5–9 articles, and only 8.3% producing 20 or more. Conference proceedings also show notable output, with 78.6% of academic staff contributing to 0–4 publications and minimal output beyond 10 publications, as indicated by the low mean (1.34).

On the other hand, publications in categories such as textbooks, monographs, and chapters in books show extremely low productivity, with over 98% of staff producing none or very few works. 99.1% have not authored textbooks, and similar trends are seen in monographs, chapters in books, and technical reports. The high percentages of low output in these categories, along with the small standard deviations (e.g., 0.042 for monographs and 0.118 for chapters in books), indicated that these forms of research are far less common compared to journal articles and conference proceedings. The overall weighted mean of 1.17 across all publication types indicated low research productivity among the staff in these polytechnics. Hence, there is a low level of research productivity among academic staff in selected public polytechnics in South-West, Nigeria.

Objective two: To find out level of computer self-efficacy of academic staff of public polytechnics in South-West, Nigeria.

Table 5. Computer self-efficacy of academic staff in public polytechnics

Item	SA (4)		A (3)		D (2)		SD (1)		Mean	SD
	N	%	N	%	N	%	N	%		
Basic computer skills										
I am able to use the internet to search for information resources	542	95.9	13	2.3	10	1.8	0	0	3.94	0.301
I am able to use Word Processor to create, edit and format documents for specific purposes (e.g. Microsoft Word)	542	95.9	13	2.3	10	1.8	0	0	3.94	0.301
I am able to use presentation software (e.g. Microsoft Power Point) for research purpose	531	94.0	16	2.8	18	3.2	0	0	3.91	0.384
I am able to use Spreadsheet to record data, compute simple calculations and represent data in the form of tables and graphs (e.g. Microsoft Excel)	509	90.1	14	2.5	26	4.6	16	28	3.80	0.651
I am able to organise and manage files	512	90.6	37	6.5	16	2.8	0	0	3.88	0.405
I am able to use email (e.g. Hotmail, Outlook, Yahoo, Gmail, and so on.	508	89.9	20	3.5	34	6.0	3		3.83	0.543
I am able to handle a floppy correctly	402	71.2	17	3.0	129	22.8	17	3.0	3.42	0.940
I am able to enter, delete, save, copy and cut up data from computer	506	89.6	29	5.1	30	5.3	0	0	3.84	0.489
			Weighted mean						**3.82**	**0.502**
Intermediate computer skills or media related skills										
I am able to use video editing software (e.g. Microsoft Movie maker, Adobe Premier and Ulend Video Studio)	354	62.7	21	3.7	162	28.7	28	5.0	3.24	1.027
I am able to use website editors (e.g. Microsoft Front Page and Macromedia Dreamweaver) to create and or modify WebPages	455	80.5	17	3.0	71	12.6	22	39	3.60	0.852
I am able to use graphic editors (e.g. Microsoft Paint, Adobe Photoshop) to create and/or modify resources for research	414	73.3	19	3.4	117	20.7	15	2.7	3.47	0.908
I am able to use animation software (e.g. macromedia flash, author-ware and director) to create animation	318	56.3	16	2.8	202	35.8	29	5.1	3.10	1.057
I am able to get help for problems in the computer system	473	83.7	16	2.8	40	7.1	36	6.4	3.64	0.869

	Weighted mean								**3.41**	**0.943**
Advance computer skills										
I am able to use computer to analyze data	387	68.5	60	10.6	116	20.5	2	0.4	2.87	1.065
I am able to learn variety of computer programs (software)	375	66.4	148	26.2	36	6.4	6	1.1	3.01	0.778
I am able to describe the functions of computer hardware (keyboard, monitor, disk drives, processing unit)	454	80.4	76	13.5	27	4.8	8	1.4	3.12	0.726
I am able to write simple programs for computer	409	72.4	96	17.0	54	9.6	6	1.1	3.09	0.843
I am able to use conferencing software for research collaboration	409	72.4	110	19.5	40	7.1	6	1.1	3.07	0.760
I believe I could fix any problem when occurs while working with computers	337	59.6	170	30.1	48	8.5	10	1.8	2.54	0.849
	Weighted mean								**2.95**	**0.837**

Decision rule: If mean is 1-0.0 = Very Low; 1.1-2.0 = Low; 2.1-3.0 = High; 3.1-4.0 = Very High
Key: SA- Strongly Agree (4); A- Agree (3); D - Disagree (2); SD - Strongly Disagree (1)

Analysis presented in Table 5 focused on the computer self-efficacy of academic staff in public polytechnics in South-West, Nigeria, assessing their confidence in using various computer skills. These skills are categorised into basic, intermediate, and advanced levels. Respondents were asked to indicate their level of computer self-efficacy. The results revealed that academic staff show high level of computer self-efficacy (grand =3.72). Details analysis is presented as follows: basic computer skills (weighted = 3.82) with the greatest confidence in using the internet to search for information and in using word processors to create, edit, and format documents (3.94). However, handling floppy disks appears to be a less familiar skill among the staff (3.42). For intermediate computer skills, staff show moderate self-efficacy (3.41), feeling more confident in using website editors and getting help for computer problems. However, skills such as using video editing software and animation software are areas where staff feel less confident. Advanced computer skills show generally lower confidence (2.95) compared to basic and intermediate skills. Staff feel relatively confident in describing the functions of computer hardware and writing simple programs, (3.12 & 3.09) respectively, but they are less confident in fixing problems (2.54) and using computers to analyze data (2.87).

Objective 3: To determine the relationship between computer self-efficacy and research productivity of academic staff in public polytechnics in South-West, Nigeria.

Table 6 Pearson's Product-Moment Correlation (PPMC) showing the relationship between computer self-efficacy and research productivity of academic staff in selected public polytechnics in South-West, Nigeria

Variables	Mean	Std. Dev.	N	R	p-value	Remarks
Research productivity	37.1664	28.83821	565	.174*	.001	Sig.
Computer self-efficacy	60.1257	9.02794				

* Correlation is significant at the 0.05 level

Table 6 showed the findings of a Pearson's Product-Moment Correlation (PPMC) analysis investigating the relationship between computer self-efficacy and research productivity of academic staff in selected public polytechnics in South-West, Nigeria. The table showed that there is a statistically significant relationship between computer self-efficacy and research productivity (r=174, n=565, p (.001) <.05). Hence, computer self-efficacy

influenced/enhanced research productivity of academic staff in the study.

Table 7: Summary of regression analysis showing relative contribution of computer self-efficacy dimensions on research productivity of academic staff in selected public polytechnics in South-West, Nigeria

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta Contribution		
(Constant)	9.052	8.618		1.050	.294
Basic computer skills	.521	.340	.085	1.534	.126
Media related skills	1.474	.602	.159	2.447	.015
Advance computer skills	-.442	.408	-.055	-1.081	.280

Table 7 revealed the relative contribution of the three independent variables to the dependent variable, expressed as beta weights, viz: Basic computer skills (β= .085, p>.05), Media related skills (β = .159, p<.05), and Advanced computer skills (β= -.055, p>.05) respectively. Hence, media related skills were significant this means media related skills could independently and significantly predict research productivity of academic staff in the study.

Discussion

The study sought to find the level of research productivity of academic staff in public polytechnics in the South-West, Nigeria. Findings from this study presented in table 3 revealed that the level of research productivity of academic staff in public polytechnics is moderately low. The respondents indicated the number of journal publications, conference proceedings, book authors, chapters in book production, technical reports, occasional papers, and others published in the last 10 years. The findings of the analysis showed that academic staff were involved mostly in journal publications and conference proceedings. The research productivity of academic staff in these two publication types (journal and conference proceedings) is relatively higher compared to other types of publications. Although on average the quantity in these categories is low. This is consistent with Adetomiwa (2018), whose study on the level of research productivity of academic staff in private universities in South-West, Nigeria found that research productivity of academic staff in private universities in South-West, Nigeria was higher in journal publications and conference papers.

The study also indicated that the research productivity of academic staff in other publication types such as textbooks, monographs, chapters in textbooks, co-authored textbooks, technical reports, occasional papers, patents and certified inventions, and scientific review bulletins is a source of worry because academic staff in public polytechnics in South-West, Nigeria are not so productive in these aspects of publications. On average, the number of research outputs in all categories of publications in the last ten years of academics in public polytechnics is low. This development could be attributed to many factors, such as the fact that quite a number of these academic staff in surveyed polytechnics are at the practitioner level of research writing without higher qualifications such as a Ph.D., as argued by Babalola (2018) and Chepkorir (2018), who established that academics with the highest qualifications recorded a higher number of publications than those with lower qualifications. The low level of research productivity could as well be a result of financial constraint, excess workload, family responsibility, brain drain of experienced lecturers, and so on, which had

a recorded negative impact on the level of research productivity of respondents.

The finding of this study is in agreement with Hanna, Momoh, and Ismail (2023), whose study on the research and publication productivity of academic staff of Auchi Polytechnic, Edo State, Nigeria, revealed that the level of research productivity at the institution was low, and this was attributed to financial constraints and the excess workload of academic staff. However, the study is inconsistent with Ogunkoya et al. (2020), whose study investigated the contribution of academic staff in polytechnics in Nigeria to national development revealed that the research output of academic staff in South-West polytechnics was high and that their research had impacted national development.

The study also sought to determine the level of computer self-efficacy of academic staff in public polytechnics in South-West, Nigeria. The finding as presented on table 4 revealed that academic staff exhibited high computer self-efficacy in basic computer skills, but moderate self-efficacy was reported in intermediate computer and advanced computer skills. The basic computer skills possessed by academic staff in public polytechnics in South-West, Nigeria, are a type of computer skills that is mostly required to carry out research work. The finding corroborates Teo & Ling Koh (2018), whose study revealed that confidence in basic computer skills is sufficient to perform daily word processing tasks such as producing routine letters, memorandums, creating new documents, entering text, saving it, opening and editing existing documents, navigating in a document and performing a search, moving text, formatting characters and paragraphs, working with tabs, indenting, using margins, lists, and backspacing, and using tools that can be adequately applied to perform research work.

The level of computer self-efficacy expressed by academic staff on these basic computer skills would impact their research productivity if properly utilised in carrying out research works. Academic staff with high computer self-efficacy in the basic computer skills would have the ability to deploy technology to access information resources, thereby improving their skills to utilize information resources gathered to execute quality research. This finding is in association with Garba et al. (2019), whose study on computer self-efficacy and research productivity of academics at Babcock University, Ileshan-Remo, Ogun State, Nigeria, revealed that computer self-efficacy has significant influence on the research productivity of academic staff at Babcock University. The consequence of this finding is that the changes in research productivity could be accounted for by the level of computer self-efficacy possessed by researchers if other factors are taken into consideration. Suggesting that level of computer self-efficacy could determine the level of research productivity of academic staff in public polytechnics in South-West, Nigeria.

Conclusion

The study revealed that research productivity of academic staff in public polytechnics in South-West, Nigeria varied across different publication types. Most academic staff produced between 1 and 9 journal articles, with only a small group achieving 20 or more publications within ten years. The general research productivity level of academic staff can be viewed to be very low for the period of ten years covered by this study. Conference proceedings and journal articles are the most prominent research publications among academic staff in public polytechnics within the ten-year period. The study established that there was a significant relationship between computer self-efficacy, and research productivity of academic staff in public polytechnics in South-West, Nigeria. It was established that academic staff in the public polytechnics in South-West, Nigeria are proficient in basic and intermediate computer use, but lack

confidence in advanced or web-based computer use. Above all the level of computer self-efficacy of academic staff in public polytechnics was high. However, this does not translate to high level of research productivity; this could be attributed to other factors such as socio-economic factors of academic staff in the public polytechnics.

The following are recommended based on the results of the study:

1. Polytechnic authority should continuously offer training programmes to improve intermediate and advanced computer skills. Emphasis should be placed on training in areas where confidence is lower in computer skills, such as video editing, animation software, and fixing computer problems.
2. Polytechnic management should motivate by rewarding hard-working academic staff through incentives such as prompt promotion and sponsorship of research to encourage research publications in reputable foreign journals among academic staff. 3. Polytechnic management should ensure timely payment of academic allowance particularly the hazard allowance, improving administrative support and recognition for well-done work, which is crucial for maintaining staff motivation that will result in high research productivity.
3. Encouraging research collaboration and providing mentorship programmes can help academic staff overcome challenges related to research productivity. Polytechnic management should foster interdisciplinary research to promote collaborative research efforts among academic staff in public polytechnics in South-West, Nigeria.

References

Abdullah, Z. D. & Mustafa, K I. (2019). The underlying factors of computer self-efficacy and relationship with students' academic achievement. *International Journal of Research in Education and Science*, 5(1), 346-354.

Akpojotor, L. O. (2024). computer self-efficacy, computer anxiety and information retrieval skills as correlate of electronic library use among LIS undergraduate in Southern Nigeria universities. *Library Philosophy and Practice.* https://digitalcommons.un/.edu/libphi/prac/4165

Alkatag, I. (2015). Computer self-efficacy, computer anxiety performance and personal outcomes of Turkish Physical Education Teachers. *Educational Research Review*, 10 (3) 328-337.

Arani, O. K. (2016). Researching Computer Self-efficacy. *International Education Journal*, 2 (4), 164-177.

Brancolini, K. R. & Kennedy, M. R. (2017). The development and use of a research self-efficacy scale to assess the effectiveness of a research training program for academic librarians. *Library and Information Research*, 41(24), 44-84.

Cai, Z., Fan, X., & Du, J. (2017). Gender and attitudes toward technology use: A meta-analysis. *Computers & Education, 105*, 1–13. doi: 10.1016/j.compedu.2016.11.003

Carlie, L.S. (2018). Computer Anxiety, Computer Self-efficacy and Attitudes towards the Internet of first year Students at a South African University of Technology. https//www.tandfonline.com/ioi/rear20.

Garba, A. Musa, S, kabara, A. S &Dahirius, A. (2019). Computer self-efficacy and research productivity of academics at Babcock University, Ilishan-Remo, Ogun State Nigeria.

Nasarawa. Journal of Library and Informal Science, 3 (1), 34-46.

Haruna, Z., Momoh, A. L., & Ismail, J. M. (2023). Research Publication Productivity of Academic Staff of Auchi Polytechnic, Edo State, Nigeria. *British Journal of Library and Information Management*. 3, (1), 1-22.

Kuku, V. & Karatas, S. (2019). Computer thinking self-efficacy scale: Development, validity and reliability. *Information in Education*, 18(1), 151-164.

Oghenekaro, A. P. (2017). Information Literacy Skills, Computer Self-Efficacy, and e-resources use by postgraduate students in private university libraries in South-West, Nigeria. unpublished Dissertation submitted to the Department of Information Resources, Babcock University, Ilishan Remo, Ogun State.

Okafor, N.C, Agboeze, E. & Obi, H. O. (2017). Effect of organizational Structure on Organization performance. *The International Journal of Business and Management*, 5, (5).

Otte, J. R. (2019). Computer Self-Efficacy, digital learners, and completion rates in the California community college system (Thesis, Concordia University, St. Paul). https:// digitalcommons.csp.edu/cup_com monsgrad_edd/402on10 December, 2025

Schlebusch, C. L. (2018). Computer anxiety, ccomputer self-efficacy and attitudes towards The internet of first year students at a South African University of Technology. https://doi.org/10.1080/18146627.2017.1341291

Shao, Z., Wang, T., & Feng, Y. (2015). Impact of organizational culture and computer self-efficacy on knowledge sharing. *Industrial Management & Data Systems, 115* (4), 590– 611. doi:10.1108/IMDS-12-2014-0377

Quadric, G.O. (2013). The influence of Demographic Factors on use of online Library Resources by Undergraduate students in Two private Nigerian University Libraries. *Library Philosophy and Practice*. https://digitalcommons. unl.edu/libphilprac/976.

Sadiku, S. & Kpakiko, M. M. (2017). Computer Self-Efficacy and Use of Electronic Resources by Students in Nigerian University Libraries. *Journal of Applied Information science and Technology*, 7 (6), 207-223.

Simisaye, A.O. & Popoola, S. O (2019). Relationship between Information Literacy Skills and Research Productivity of Researchers in Nigeria and the Meditating roles of socio-Economic Factors. *Librarie*, 29 (1).

Tella, A. (2017). Electronic and paper based data collection methods in Library and Information Science Research: A comparative Analysis. *New Library world,* 16 (9/10), 588-609.

Tuncer. M. (2013). An analysis of the effect of computer self-efficacy over scientific research self-efficacy and information literacy self-efficacy. *International Journal of Social and Management Science,* 14(3), 37- 46.