

# Fifteen years of The Independent Journal of Teaching and Learning: A review and bibliometric analysis<sup>1</sup>

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## ABSTRACT

*The rise of academic publishing due to the 'publish or perish' phenomenon has placed increased scrutiny on African scholars. The limited footprint of African scholars in international open-access journals has led to a drive for Africa to produce and disseminate its research. Publication analytics has become an essential strategy for journals for managing journals. This study uses bibliometric metrics to explore the publications metrics of the Independent Journal of Teaching and Learning, an open-access journal in South Africa. The study analyses bibliometric data from its articles published between 2008 and 2022. The study highlights the research clusters, themes and hotspots in the journal. This study helps obtain a snapshot of the journal's status. The paper illustrates the development trends of the journal, which provides an essential reference for the future development of this and other similar journals. The journal has made a significant impact on the education landscape in South Africa.*

**Keywords:** bibliometric analysis, degree of collaboration, doubling time, journal quality, keyword analysis, relative growth rate

## INTRODUCTION

The 'publish or perish' phenomenon in academia pressures academics to produce more research outputs (Teelken, 2012). Knowledge creation and application determine power, development, and equality worldwide. The heart of knowledge creation is the Global North, with the Global South hindered in this regard by a lack of scholarship and by not participating in global knowledge production and its dissemination (Wolhuter, 2017). A study by Asare, Mitchell and Rose (2021) found that between 2010 and 2018, only 25% of open-access articles on education research were from Africa. Open-access articles by authors based in Africa primarily appeared in journals with low-impact factors, casting doubt on the calibre of these publications. Choosing open access is impacted by the associated costs, which tends to steer African authors toward low-impact journals with minimal or no associated costs. Despite official fee waivers, authors from Africa are constrained by the higher fees charged by higher-impact journals (Asare *et al.*, 2021). The pay-to-publish model employed in most open-access journals may encourage these journals to publish more submissions to generate more revenue. This conflict results in worries about the quality and the allure of predatory publications (Tomaselli, 2021).

South Africa's school and post-school education systems have difficulties that present excellent research opportunities. Both have experienced and still experience turmoil and violence, and they also must contend with the realities of high drop-out and low success rates, as well as other difficulties. The Department of Higher Education and Training (DHET) administers the government's incentive

programme in South Africa. The DHET funds institutions in exchange for articles published in journals in their accredited list (Academy of Science of South Africa, 2020). One of the factors influencing the rise in South African paper publications is the research incentive programme by the DHET (Lee & Simon, 2018).

Out of the more than three hundred South African journals, only 17 focus on education and offer possibilities for academics to publish their findings across various study disciplines. Nine of these journals have a broader focus, such as *The Independent Journal of Teaching and Learning* (The IJTL), the *South African Journal of Education* and the *Journal of Education*. Eight are 'specialist' journals with a specific focus, including the *Southern African Journal of Environmental Education* and the *South African Journal of Childhood Education* (Academy of Science of South Africa, 2020).

The IJTL, formerly the Journal of Independent Teaching and Learning, was founded in 2006 by the Independent Institute of Education, a private education provider in South Africa. The IJTL aims to provide a platform for researchers specialising in primary, secondary and tertiary education sectors to publish their work (The Independent Institute of Education, 2022). The IJTL has grown and developed, publishing 17 volumes to date. The IJTL is accredited by the DHET and is indexed by major bibliographic databases, such as the Clarivate's Web of Science (WoS) - Emerging Sources Citation Index (ESCI), Sabinet (Sabinet ePublications in the Education, Social Sciences and Humanities Collections – Open access), and EBSCOhost. The WoS ESCI indexed IJTL from 2008 (The Independent Institute of Education, 2022).

Advances on the Internet and other technologies that aid the production and dissemination of information forced journal publications to move from hard-copy prints to open-access publishing with more frequent volumes and issues (Asare *et al.*, 2021). From 2006 to 2016, The IJTL published one volume with one issue per year. The following year, it transitioned from the annual print publication format to an online, open-access journal following international standards. The IJTL also continued with one volume per year but increased the issues to two (The Independent Institute of Education, 2020).

The IJTL publishes empirical research, synoptic articles, reflective papers, theoretical articles, discussion or advocacy papers and book reviews. The IJTL also publishes doctoral abstracts where recent doctoral graduates in primary, secondary and tertiary education could showcase their research. The IJTL's editorial policy allows authors to publish once within a three-edition cycle. Less than half of the reviewers for an edition should not have conducted reviews in the previous issue. Furthermore, unpaid reviewers review articles as part of their academic citizenship (*The Independent Journal of Teaching and Learning*, 2020). This practice allows for various reviewers to be involved in the review process. This and other sound editorial processes have enhanced the quality of articles published in the journal.

Bibliometrics is a sub-research field within the library and information sciences field that studies bibliographic data by exploring, organising and analysing large amounts of data (Daim *et al.*, 2006). Bibliometrics track academic journal citations to understand the past and forecast the future (Morris *et al.*, 2002). When using bibliometrics, the researcher explores, organises and analyses vast amounts of historical data to identify unseen trends. Several bibliometrics methods exist that visualise the data and reveal qualitative and quantitative developments with a topic. These methods involve quantity indicators, which measure productivity; quality indicators, which measure the impact; and structural indicators, measuring the connections between the various scientific actors (Durieux & Gevenois, 2010). Bibliometric analysis can construct a comprehensive journal overview (Bar-Ilan, 2008) and create a retrospective look at its development (Schwert, 2002).

A review of the literature revealed numerous bibliometric analysis works on a wide variety of issues, such as areas of interest (Chiu & Ho, 2007), countries (Bornmann, Wagner & Leydesdorff, 2015),

institutions (Cancino, Merigó & Coronado, 2017), journals (Ittmann, 2021), enduring problem areas (Maphosa, Doorsamy & Paul, 2022) and topical issues (Maphosa & Maphosa, 2022). Literature reveals that many scholars analysed journals to map their characteristics and progress when they reach a significant milestone or anniversary. For example, IEEE Transactions on Learning Technologies (Zurita et al., 2022) published a bibliometric analysis for its fifteenth anniversary. Glottometrics published a bibliometric study commemorating its seventeenth anniversary (Lin & Liu, 2017).

Reputational and citation-based approaches are two techniques that are frequently used to gauge journal quality. In the first approach, specialists evaluate journals to ascertain how people perceive overall status and quality. Due to the limitations in this approach, for example, specialists may rank journals they are unfamiliar with poorly, even though they perform well using other measures, citation approaches are widely used. Journals may also be ranked highly due to achieving a level of excellence in the past, even though their current performance is relatively modest (Hodge & Lacasse, 2011). The citation-based approach is a performance analysis approach that measures influence and productivity indicators, for example, the number of articles published and citations received. There are scientific measures to calculate the scientific growth rate of publications and citations within a journal or research field, such as the relative growth rate (RGR) and doubling time (DT) model (Mahapatra, 1985).

In 2022, The IJTL celebrated its seventeenth anniversary and fifteen years of being indexed by WoS ESCI. In commemoration of this event, this study is a retrospective analysis of The IJTL's publications since WoS indexed it. The study aims to gauge the journal's quality using the citation-based approach (performance analysis). Additionally, a bibliometric analysis measures success and quantitatively visualises and summarises history (Valenzuela et al., 2017). This study analyses the degree of collaboration (DC), RGR and DT of articles published in The IJTL between 2008 and 2022. The objectives of this study are to:

- analyse articles published between in the journal 2008 and 2022
- determine the DC among authors
- demonstrate the RGR and DT of articles published in the journal
- identify the citation trends of articles published in the journal
- identify the research themes and hotspots in articles published in the journal.

The rest of this paper is structured as follows: Section 2 outlines the methodology followed for the study and how data were collected and analysed. Section 3 presents the results using descriptive methods and the outcomes from analysis done on VOSviewer version 1.6.18. Section 4 discusses the results' implications. Finally, in Section 5, the article analyses the conclusions and limitations of the study.

## METHODOLOGY

The bibliometric analysis assesses bibliographic data to determine the research themes and hotspots (Ye, Song & Li, 2012) and the prominent trends in the field (Merigó et al., 2017). This study collected bibliographic data from Clarivate's WoS comprehensive citation database (Bar-Ilan, 2010). The data were collected by searching for the *Independent Journal of Teaching and Learning* under 'publication titles' in WoS, which generated 185 documents. The study focussed only on peer-reviewed articles because these can be considered 'certified knowledge'. Editorial articles were not considered because they were not peer-reviewed. Twenty-two editorial articles were excluded, leaving 163 articles published between 2008 and 2022, which were retrieved for analysis. Table 1 summarises the details of the data used.

A bibliometric analysis of The IJTL was constructed using several indicators, such as authorship analysis, DC, RGR, DT, h-index and citation analysis. The most influential articles and the geographical distribution of authors are analysed. VOSviewer is a free tool that generates maps on indicators such as

bibliographic coupling, co-authorship, citation, co-citation and co-occurrence of keywords. This study uses VOSviewer to develop a co-occurrence network and a density visualisation map to identify the research clusters, themes and hotspots using bibliographic material obtained from the WoS database.

*Table 1:  
Data summary*

<b>Criteria</b>	
<b>Data source</b>	Clarivate's Web of Science
<b>Search terms</b>	Independent Journal of Teaching and Learning
<b>Citation index</b>	ESCI
<b>Publication period</b>	2008 and 2022
<b>Document type</b>	Article
<b>Language</b>	English
<b>Number of articles</b>	163

## RESULTS

This section presents the results of this study: authorship analysis, publication and citation analysis and h-index, DC, the RGR and DT of publications and keywords analysis.

### *Authorship Analysis*

Two hundred and seventy-six authors (nine of these authors contributed two articles each) wrote the 163 articles published by The IJTL between 2008 and 2022. Table 2 shows the authorship analysis of articles. In 2010 and 2013, all articles published in the journal had one author. In 2009 and 2011, articles were published by a single author or co-authored. Seventy-four of the 163 articles (45.4%) were written by one author.

*Table 2:  
Authorship analysis of articles*

Year	Total Articles	Number of authors					Co-authorship	Total authors
		1	2	3	4	5		
2008	6	4	-	2	-	-	2	10
2009	6	4	2	-	-	-	2	8
2010	6	6	-	-	-	-	0	6
2011	6	4	2	-	-	-	2	8
2012	6	4	1	1	-	-	2	9
2013	6	6	-	-	-	-	0	6
2014	8	2	5	1	-	-	6	15
2015	8	2	5	-	-	1	6	17
2016	8	2	5	1	-	-	6	15
2017	16	8	7	-	1	-	8	26
2018	16	6	10	-	-	-	10	26
2019	15	6	6	3	-	-	9	27

<b>2020</b>	18	6	8	4	-	-	12	34
<b>2021</b>	18	6	6	2	2	2	12	42
<b>2022</b>	20	8	10	1	-	1	12	36
<b>Total</b>	163	74	67	15	3	4	89	285
		45.4	41.1	9.2	1.8	2.5		

Articles with two authors contributed 67 (41.1%), three authors 15 (9.2%), and multiple authors seven (4.3%). It is also detected that the usual trend for The IJTL is that nearly half of the articles are written by one author, followed by two co-authors. The journal has an average of 0.58 authors per article.

Table 3 shows the information on the top ten cited articles. As can be seen, articles in the journal receive a fair amount of citations, indicating the quality of the articles being published in the journal. The table also shows that the articles have received more citations on Google scholar than on WoS. The most cited work of The IJTL is *Revisiting the debate on the Africanisation of higher education: an appeal for a conceptual shift* (Letsekha, 2013), which was cited 35 times, with an average citation per year of 3.18. The article *Stimulating and maintaining students' interest in computer science using the hackathon model* (Mtsweni & Abdullah, 2015) is the second most cited, with 17 citations, with an average of 1.89 per year. *Project-based learning for professional identity: A case study of collaborative industry projects in marketing* (Vande Wiele et al., 2017) is the third most cited article with 11 citations, with an average citation per year of 1.57. the top three cited articles are the only ones with an average citation per year greater than one.

Table 3:  
Top 10 cited articles

	Article Title	Reference	Citations	Average citations per year
1	Revisiting the debate on the Africanisation of higher education: an appeal for a conceptual shift	(Letsekha, 2013)	35	3.18
2	Stimulating and maintaining students' interest in computer science using the hackathon model	(Mtsweni & Abdullah, 2015)	17	1.89
3	Project-based learning for professional identity: A case study of collaborative industry projects in marketing	(Vande Wiele, et al., 2017)	11	1.57
4	Reflections on the NCS to NCS (CAPS): Foundation phase teachers' experiences	(du Plessis & Marais, 2015)	8	0.89
5	Higher education studies as a field of research	(McKenna, 2014)	8	0.8
6	Mentorship challenges in the teaching practice of distance learning students	(du Plessis, 2013)	8	0.73
7	'Only a name change': The move from Technikon to University of Technology	(McKenna & Powell, 2009)	8	0.53
8	Risk, resilience and retention a multi-pronged student development model	(du Plessis & Benecke, 2011)	5	0.38

9	Student throughput trends in postgraduate level: An African case study	(Botha, 2018)	4	0.67
10	A conceptual competence-based framework for enhancing the employability of graduates	(Moolman, 2017)	4	0.57

Authors from 16 countries published 163 articles. Of these, five are African countries, Europe has five countries, the Middle East has three, Asia has two, and the Americas has one. Table 4 shows the articles shows the contributions of the authors. As shown, authors with institutional affiliation with institutions based in South Africa (151) dominate, accounting for nearly 93%, followed by Zimbabwe (3), accounting for nearly 2%.

*Table 4:  
Publications per country*

	Country	Count	% of 163
1	South Africa	151	92.6
2	Zimbabwe	3	1.8
3	Bahrain	2	1.2
4	England	2	1.2
5	France	2	1.2
6	Thailand	2	1.2
7	USA	2	1.2
8	Austria	1	0.6
9	Botswana	1	0.6
10	Iran	1	0.6
11	Lesotho	1	0.6
12	Nigeria	1	0.6
13	Norway	1	0.6
14	Pakistan	1	0.6
15	Saudi Arabia	1	0.6
	Sweden	1	0.6

Table 5 shows the top 11 most common institutional affiliations out of the 64 claimed by authors. Of the 64 institutions, 43 contributed one article each, three contributed two articles each, and three contributed three articles each. The University of Zululand, Cape Peninsula University of Technology, Nelson Mandela University, and Stellenbosch University contributed five articles each. The most common institutional affiliation for authors is the University of South Africa, with 21 articles, followed by the University of Johannesburg, with 17 and the University of KwaZulu Natal, with 16. Authors affiliated with the Durban University of Technology and The Independent Institute of Education (the owners of the IJTL) contributed 12 articles each.

All the top eleven most common institutional affiliations are from South Africa, indicating a strong interest in The IJTL by institutions in South Africa. This is expected as The IJTL is based in South Africa and is on the DHET list, meaning authors from public institutions in South Africa receive incentives from

publishing in the journal. Furthermore, the fact that The IJTL does not charge publication fees is an advantage for African authors. This supports the dominance of South Africa (Table 3) regarding the geographical location of the authors.

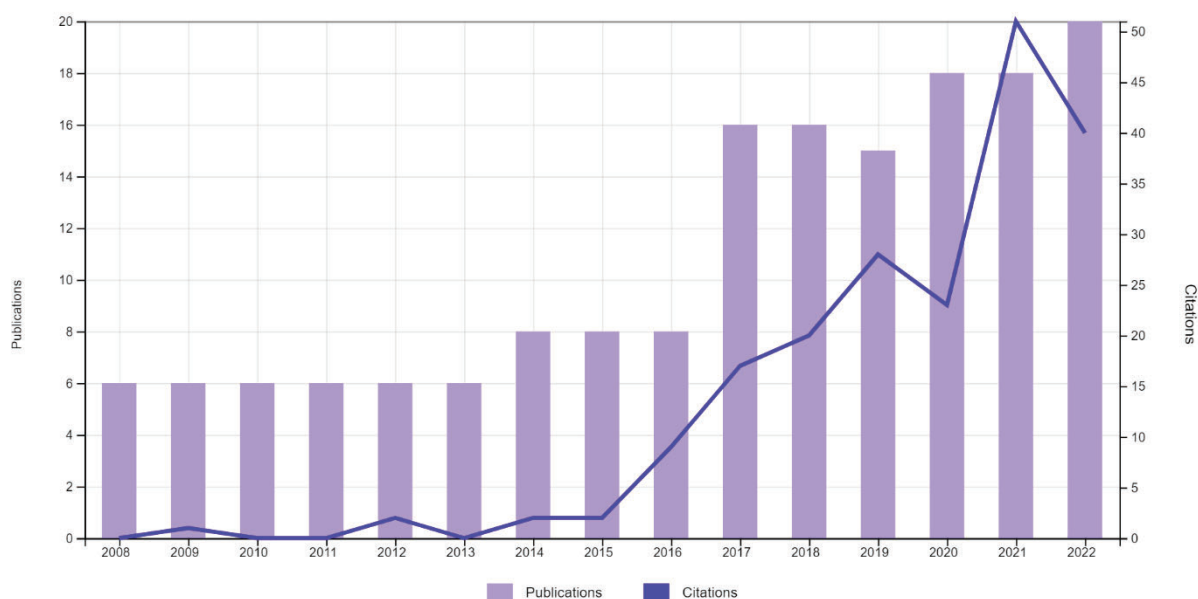
*Table 5:  
Top 11 most common institutional affiliations*

	<b>Institution</b>	<b>Count</b>	<b>% of 163</b>
1	University of South Africa	21	12.9
2	University of Johannesburg	17	10.5
3	University of KwaZulu Natal	16	9.8
4	Durban University of Technology	12	7.3
5	The Independent Institute of Education	12	7.3
6	North-West University	11	7.2
7	University of Pretoria	10	6.1
8	University of The Free State	8	4.9
9	Rhodes University	7	4.3
10	University of Fort Hare	7	4.3
11	University of Witwatersrand	7	4.3

***Publication Analysis, Citation Analysis and H-Index Analysis***

Figure 1 shows the publication and citation trends for articles published in the journal between 2008 and 2022. One hundred and sixty-three articles were published in the past 15 years, with an average of 10.9 per year. In the last six years, 103 articles have been published, with an average of 17.2 articles per year. There were no citations in 2008, 2010, 2011 and 2013. Citations below ten per year from 2008 to 2016 were observed. There was a steady increase in citations from 2017, reaching a peak of 51 in 2021. The 163 articles were cited by 193 articles 197 times between 2008 and 2022. Each article has been cited with an average of 1.21. The retrieved research papers have an h-index of seven. The h-index of seven means that of the 163 research articles, seven have received at least seven citations.

Figure 1:  
Publication and citation trends of articles published in The IJTL



### Degree of collaboration

The DC indicates the extent of collaborative research. The DC of The IJTL publications is measured by using the formula below (Subramanyam, 1983):

$$DC = Nm / Nm + Ns \tag{1}$$

where Nm = the number of multi-authored articles; Ns = the number of single-authored articles.

Table 6 shows the DC among authors with articles published in the journal between 2008 and 2022. There was no collaboration in the articles published in 2010 and 2013, as they were all single-authored. The highest DC was achieved in 2014, 2015 and 2016 with a value of 0.75, followed by 0.67 in 2020 and 2021. It is also seen from the table that the years 2008, 2009, 2011, 2012, 2017, and 2022 fall below the average DC (0.55). Overall, the DC for the articles published by The IJTL is 0.55. It means that slightly more articles are co-authored than single-authored.

Table 6:  
Degree of collaboration among authors

No	Year	Ns	Nm	Ns + Nm	DC
1	2008	4	2	6	0.33
2	2009	4	2	6	0.33
3	2010	6	0	6	0.00
4	2011	4	2	6	0.33
5	2012	4	2	6	0.33
6	2013	6	0	6	0.00
7	2014	2	6	8	0.75
8	2015	2	6	8	0.75



9	2016	2	6	8	0.75
10	2017	8	8	16	0.50
11	2018	6	10	16	0.63
12	2019	6	9	15	0.60
13	2020	6	12	18	0.67
14	2021	6	12	18	0.67
15	2022	8	12	20	0.60
<b>Total</b>		74	89	163	0.55

### Relative Growth Rate and Doubling Time of Publications

The RGR and DT are essential research scientometric techniques when measuring the status quo of a journal (Mahapatra, 1985). RGR is the increased number of articles per unit of time, and DT is the time required for exponentially doubling a quantity. RGR and DT were used to calculate The IJTL's research productivity from 2008 to 2022. The formula below was used to calculate the RGR (Mahapatra, 1985):

$$RGR: 1 - 2^R = \log_e W_2 - \log_e W_1 / T_2 - T_1 \quad (2)$$

Where

$1 - 2^R$ : mean RGR over the specific period of the interval.

$\log_e W_1$ : log of the initial number of articles.

$\log_e W_2$ : log of the final number of articles after a specific interval period.

$T_2 - T_1$ : the unit difference between the initial time and the final time.

The formula below was used to calculate DT (Mahapatra, 1985):

$$DT = 0.693/R \quad (3)$$

where R = RGR

Table 7 presents the RGR and DT of The IJTL. The values show a slight increase and decrease during the study period. For example, RGR decreased from 0.69 in 2009 to 0.13 in 2022. To better understand RGR, averages for every five years were calculated. There is a decrease in the mean RGR from 0.32 (2008-2012) to 0.19 (2013-2017) and then to 0.15 (2018-2022). The DT increased steadily until 2016, with a value of 4.95. The DT decreased in 2017 to 2.89, when articles published yearly doubled from eight to sixteen. After that, the DT increased steadily, reaching 5.33 in 2022.

Table 7:  
Relative growth rate and doubling time of articles in The IJTL

Year	Articles	Cumulative Articles	$\log_e W_1$	$\log_e W_2$	RGR	Mean RGR	DT	Mean DT
2008	6	6	0	1.79	0	0.32	0	1.65
2009	6	12	1.79	2.48	0.69		1.00	
2010	6	18	2.48	2.89	0.41		1.69	
2011	6	24	2.89	3.18	0.29		2.39	
2012	6	30	3.18	3.40	0.22		3.15	
2013	6	36	3.40	3.58	0.18	0.19	3.85	3.85

2014	8	44	3.58	3.78	0.20		3.47	
2015	8	52	3.78	3.95	0.17		4.08	
2016	8	60	3.95	4.09	0.14		4.95	
2017	16	76	4.09	4.33	0.24		2.89	
2018	16	92	4.33	4.52	0.19	0.15	3.65	4.58
2019	15	107	4.52	4.67	0.15		4.62	
2020	18	125	4.67	4.83	0.16		4.33	
2021	18	143	4.83	4.96	0.13		4.95	
2022	20	163	4.96	5.09	0.13		5.33	

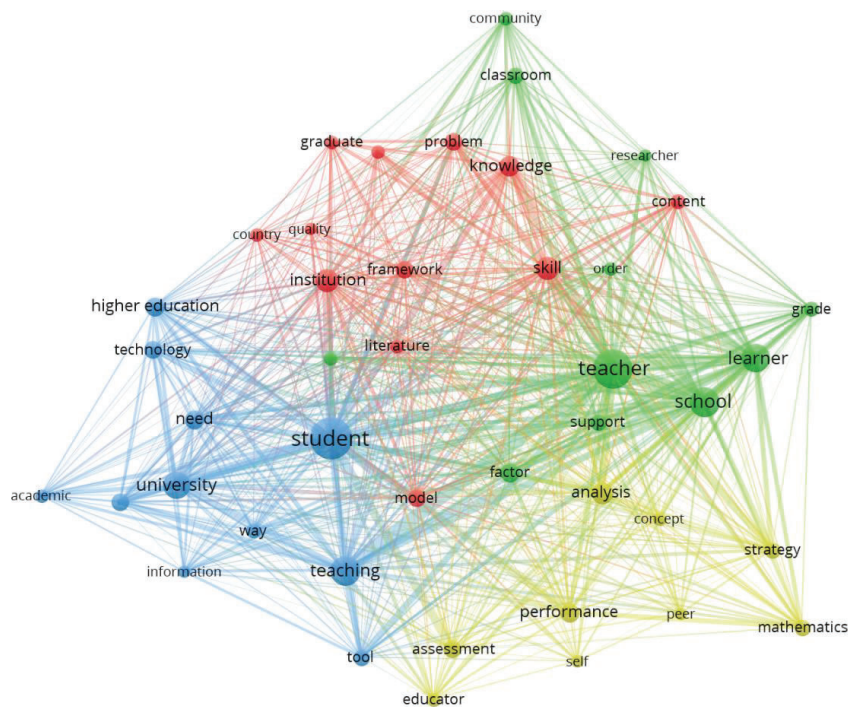
### **Keyword Analysis**

Keyword analysis was used to understand the research themes and topics in articles published in The IJTL. Keywords co-occurrence shows the research hotspots in a research field. The keyword co-occurrence analysis is an efficient and essential instrument that supports knowledge mining and provides a view of the research trends (Li et al., 2016). The keyword analysis was performed by extracting terms from the titles and abstracts of the articles. Full counting was used to count all term occurrences, and the threshold was set to 15. There are 3699 keywords in the titles and abstracts of the articles published in the journal from 2008 to 2022.

Seventy-three terms met the threshold, and based on this, VOSviewer calculated 60% most relevant terms, resulting in 44 terms. Analysis of the terms revealed a singular and plural form of the same term. The plural was removed, leaving 43. Figure 2 indicates the keyword co-occurrence network of articles published in the journal. VOSviewer was used to generate clusters. Analysis of the cluster analysis shows the different research themes in each cluster. Terms that belong to the same cluster are closely related to one another. In other words, any given cluster reflects a research theme based on the similarity of the terms used in the title and abstract to categorise each article. This suggests that even while the terms are objectively connected to one another, they do not share enough links to form a cluster.

Each colour represents a cluster, and there are four clusters coloured red, green, blue and yellow. The red cluster is the biggest, with 12 items, followed by the green and blue, each with 11 items and the yellow cluster has nine. *Skill, institution* and *knowledge* are prominent in the red cluster; *student, teaching* and *university* are prominent in the blue cluster; *teacher, learner* and *school* are dominant in the green cluster; *analysis, performance* and *assessment* form the yellow cluster. The research focus of the journal can be classified into four clusters. In the first cluster (red), the research theme centred on institutions, skills, knowledge and problems. The second cluster (green) focuses on schools, with research themes on the teachers, learners, classroom and community activities. The third cluster (blue) shows the research theme covering student, teaching, university, and higher education as the main focus areas fourth cluster (yellow) is about performance, analysis and assessment research.

Figure 2:  
Keyword co-occurrence network for articles published in The IJTL



A node represents a term; the bigger the node means the term appears more frequently in the title and abstract of the one hundred and sixty-three articles. The closeness between the nodes indicates more association between them. The line between the two keywords implies that they have appeared together. The thicker the line is, the more co-occurrence they have (Gu et al., 2017). Figure 3 shows the keyword density visualisation map, the same terms as figure 2. In a visualisation map, related terms occurring in articles form research hotspots (van Eck & Waltman, 2017). Each term is illustrated by using density illustrated through different colours.

The number of occurrences of the term in the title and abstracts of the articles was used to calculate the density visualisation. The keyword density map shows the overall structure of a research field and draws attention to the most critical areas in the field (Chawla & Davis, 2013). VOSviewer uses colours to reveal the density of the terms, with green having the lowest density while red having the highest density (van Eck & Waltman, 2017). Changing colours from green to yellow and then red means more occurrences of the term. The terms in the red area appear more frequently, followed by yellow; however, the keywords between the green and blue areas appear less frequently. VOSviewer also forms a network map with a cluster-specific structure. The research hotspots in The IJTL articles are clustered around the terms: *teacher*, *school* and *learner*. Another prominent research area focuses on *students*, *teaching* and *institution*. This shows that these terms have appeared more frequently in articles published between 2008 and 2022.



vast majority of them were hardly noticeable in the global rankings (Academy of Science of South Africa, 2006).

The IJTL has a global reach attracting authors from 16 countries around the globe. Authors based in South Africa dominate publications in the journal, accounting for more than 90%. There is a need for The IJTL to increase their reach in Sub-Saharan Africa, where research on primary, secondary and tertiary sectors brings new and diverse perspectives. This dominance is shown in terms of the most common institutional affiliations, with the top 10 from the country. The University of South Africa is the most common institutional affiliation, with 21 articles. The DC in The IJTL publications is 0.55. It means that slightly more articles are co-authored than single-authored, indicating increased collaborative research. The IJTL has a better DC than the *Journal of Indian Education* (2014-2019), which was 0.30 (Jain, 2021) and the *Journal of Higher Education Management* (2007 – 2016), which was 0.43 (Antia-Obong, Casselden & Pickard, 2019). The journal has room for improvement as some journals have achieved higher DC levels, such as the *International Journal of Physical Education, Fitness and Sports* (2017-2021), which was at 0.94 (Mahadeva & Shivaraja, 2022).

Initially, the number of articles published per year was low and grew in later years, reaching a maximum of 20 in 2022. The average number of articles published per year for the journal is 10.9 for the fifteen years under review. In the last six years, the average number of articles published per year increased to 17.2, indicating publication growth. Publications in The IJTL kept rising yearly; RGR and DT demonstrated that the quantity and the growth rate of research kept expanding and declined in 2022. This is because only one issue of 2022 was included in the study, with the second issue in progress. The average of the RGR was between 0.69 (2009) and 0.13 (2022), where the DT increased from 1.00 to 5.33 from 2009 to 2022. The average RGR calculated in five-year periods shows a steady decline from 0.32 to 0.19 and then to 0.15. The average DT increased steadily from 1.65 to 3.85 and then to 4.58. This means the journal takes more to produce the same number of articles.

The IJTL has a sound editorial policy stipulating that various reviewers be used; 75% of authors emanate from multiple institutions, and authors publish only once in three editions (The Independent Institute of Education, 2020). The requirement that at least 75% of articles published in a journal come from different institutions is prescribed by the DHET (Department of Higher Education and Training, 2015). This authorship stipulation aims to raise the standard of academic publications. The journal's focus area is an essential niche in the education landscape, given that only 17 journals focus on education in South Africa. There is scope for The IJTL to increase publications by including special issues. The IJTL can also enhance the quality of the published papers by appointing area editors specialised in the areas they are handling. The journal has three focus areas - primary, secondary and tertiary education. In the future, the journal could consider splitting the volumes or issues to be focused on one of the three areas.

## CONCLUSION

In 2022, The IJTL celebrated its seventeenth anniversary and 15 years of being indexed by the WoS database. This event served as the impetus for this study, which uses two techniques, performance analysis and scientific mapping analysis, to thoroughly assess the journal's accomplishments. The study analysed articles published between 2008 and 2022 using bibliometric methods revealing the journal's knowledge structure and development process. It provides a general overview of the publication and citation structure of the journal.

The result shows the strong growth of The IJTL and a healthy balance between single-authored and co-authored articles in the journal. 163 articles were published over the fifteen years under study and have been cited 197 times. The journal has significantly increased its output and influence. The DC indicates



a slightly higher collaboration in the articles. RGR and DT demonstrated that the research's quantity and growth rate kept expanding and declined in 2022. South Africa is the most productive and leading country, and the University of South Africa is the most influential institution. The fact that the journal has drawn several authors from various international locations demonstrates its worldwide reach.

The IJTL is vital in accumulating and disseminating knowledge in primary, secondary and tertiary education sectors. The study employs a wide range of indicators to provide information. It presents the data from several angles so readers can interpret it by interests and priorities. The findings paint a picture of the present perception of The IJTL and prove that the themes of interest have changed over the past fifteen years. The results also depict the journal's research themes and trends. IJTL will grow in published articles, and the citations received.

The current study uses various bibliometric metrics but has certain limitations. Additionally, the citation data used to assess the impact in this bibliographic analysis may not reflect the quality of individual articles. This bibliometric study used citation data from the WoS database, whose limitation was carried forward into this study and excluded citations of articles not indexed by the WoS database. In the future, other bibliometric metrics, such as co-citations and indices like the i10 index, can be used for further analysis. Also, excluding the 2006 and 2007 publications not indexed by the WoS may influence the bibliometric metrics of the IJTL.

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