



## Creative Performance of Accounting Students in The VUCA Era: Bibliometric Analysis

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### *Abstract*

*The objective of this study is to examine and chart research subjects and propose future research directions concerning the creative performance of accounting students. This analysis also enables scholars to identify new keywords for upcoming research areas. This literature review utilizes bibliometric analysis to examine 136 articles on creative performance in accounting students, employing the VOSviewer analysis tool version 1.6.19. The articles were sourced from the Scopus database accessed via Harzing's Publish or Perish software between 2019 – 2023. The findings of this study reveal that growth of global scientific publications on creative performance in accounting students has shown fluctuations annually. Furthermore, researchers have identified new keywords that have not been extensively explored in the early to mid-2023, specifically “emotional intelligence”, “locus of control”, “self efficacy”, “interpersonal communication”, and “critical thinking”. It is anticipated that this research will provide valuable insights for further studies related to the creative performance of accounting students.*

**Keywords:** Accounting Students, Creativity, Self Management, Technology Adaptation, VUCA.

## INTRODUCTION

Disruption has occurred in various aspects of life and science (Alawiyah, 2020), and of course, the accounting field is included. The world is now facing the VUCA era (Bahri, 2020). The term VUCA in the industrial era 4.0 continues to apply in society 5.0. VUCA stands for Volatility, Uncertainty, Complexity, and Ambiguity (Azahari et al., 2021). The VUCA era describes a situation that leads to uncertainty and changes quickly, causing anxiety (Yuniningsih, 2022). The definition of VUCA, according to the US Army War College (Hendrarso, 2020), including Volatility, can be interpreted as something that quickly evaporates, changes, and explodes. Uncertainty describes a situation that is difficult to predict. Complexity can be described as an increasingly complicated situation because of the challenges that keep popping up. Finally, Ambiguity means something full of unclear, directionless situations that tend to change very quickly.

In the VUCA era, the world is changing very quickly, unexpected things, factors that are difficult to control, and truth and reality are very subjective (Fitriani, 2022). Technological developments are one of the factors reducing the number of human resources needed in a company (Zaidaha et al., 2019), including the accounting profession. Undeniably, the accounting profession can be replaced by robots that perform basic tasks such as recording daily transactions and processing them into financial reports. The accounting profession is being underestimated by technological developments in the work of accountants, this should be an opportunity and a challenge for the accounting profession (Rosmida, 2019). Unwittingly, the accounting profession has an influential role in global business, so the abilities and skills of an accountant must also keep up with current developments (Azzahra, 2020). The role of an accountant is expected to be able to understand a concept, perception, and insight into data, analyze, and also check and interpret these results (Kurniawan & Badriatin, 2019).

The VUCA era that occurred in the Industrial Revolution 4.0 saw extraordinary developments in various scientific and professional aspects. Along with these developments, it is therefore necessary that the ways of working and accounting practices be changed in order to improve the quality of services and widespread digital development (Asri & Rahmat, 2022). In facing this digital age as potential decision makers, accountants are responsible for fast and accountable financial reporting audits. According to Woods and Linsley (Candra et al., 2021), the current role of the accounting profession is as an adviser for making decisions in business and as a user of digital systems. Accountants act as application controllers, software to process guards and actors.

In the research Deaz & Riadi (2022) and Afif & Arifin (2022), apart from having to have scientific-related knowledge obtained during formal learning, the research also states that accounting students must have a good attitude and be literate in technology, in other words can adapt to technological changes that occur. In addition, the research conducted Damiyana et al. (2022) and Zuniarti & Rochmawati (2021) explains that the quality of a student's ability can be seen by how the student recognizes and controls himself so that he can manage existing resources or can be called with self-management.

Higher education as a forum for producing future national leaders, especially technocrat candidates, requires a different way of governance from the management of non-educational institutions because, in this organization, people who have knowledge and reason gather. The role of higher education institutions in the digital era is to prepare the younger generation to

have complex skills and soft skills so that harmony is needed between universities and the work industry (Ivan, 2021). At this time, more than superior and reliable human resources are needed, but they also must have the skills and expertise according to the needs of the work industry. Vocational college graduates aren't enough if they have a diploma. Graduates must be equipped with competence as diploma companions. Competency certification is essential for graduates to get the required professional jobs (Anjelina et al., 2020).

Students must actively develop their potential by learning, seeking scientific truth and mastering, developing and practicing a branch of science and technology to become a cultured scientists, intellectuals, practitioners or professionals (Poernomo, 2020). Therefore, as prospective young accountants, accounting students must prepare the skills needed in the world of work to fulfill the role of accountants at this time. New skills and competencies need to be mastered in order to remain relevant and add value, such as having basic skills in information technology and spreadsheet skills (Putritama, 2019). Accounting students who are studying must prepare themselves to meet future market needs. Students must improve their skills and keep abreast of information and communication technology developments that are continuously developing at this time (Dewi et al., 2020).

Based on the background of the problems above, this literature study research aims to analyze and map research topics and find opportunities for further research topics regarding creative performance in accounting students. This research is expected to provide a new perspective regarding creative performance based on new phenomena.

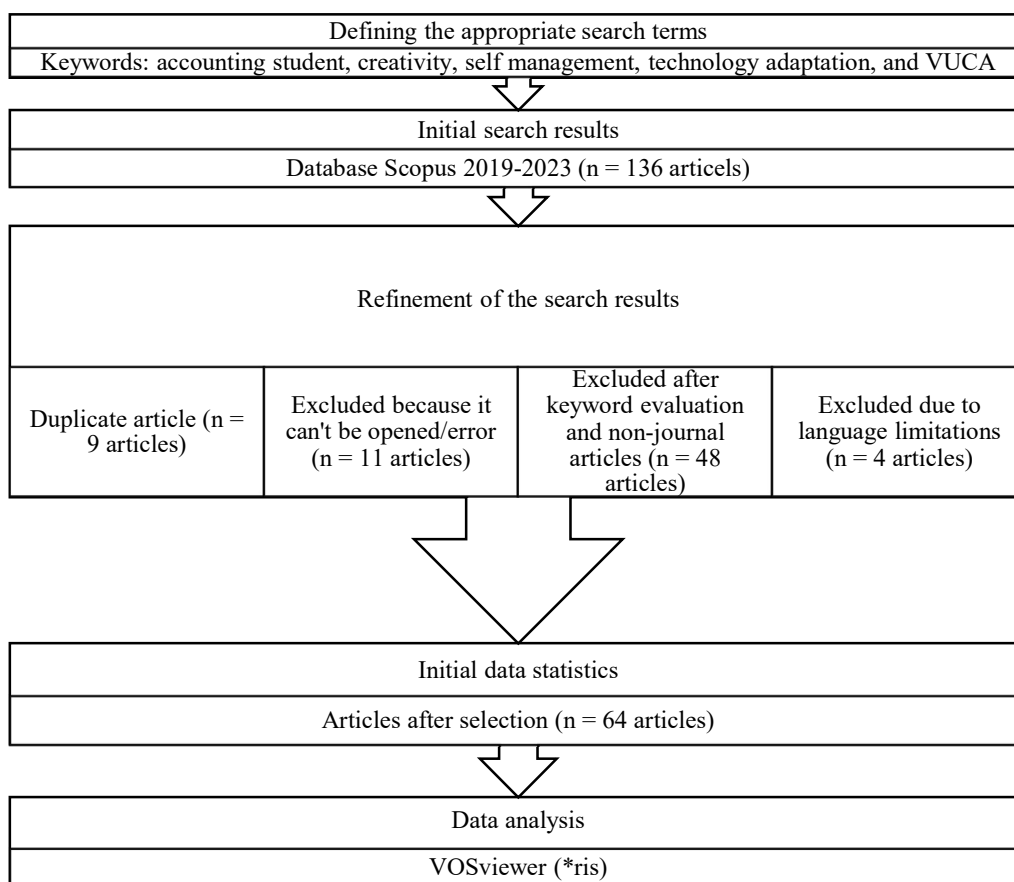
## **RESEARCH METHOD**

The method used in this research is a literature review. A literature review is a research methodology that aims to collect and draw conclusions from previous research. Literature review research is essential because the results of this study can provide information about research developments with specific keywords and can become new research topics for future researches (Bachmid & Yuhertiana, 2023). This research uses a bibliometric approach, namely study that applies mathematical and statistical methods to measure a change, research development, literature, books, or documents in a particular field (Hakim, 2020). Bibliometrics is divided into two major groups: descriptive and behavioral bibliometrics. Descriptive bibliometrics describes the characteristics of a piece of literature, while behavioral bibliometrics examines the relationships formed between the components of the literature

(Karim et al., 2022). The bibliometrics analysis method has five steps namely: defining the appropriate search terms, refining the search results, initial data statistics, and data analysis (Bachmid & Yuhertiana, 2023).

## RESULTS AND DISCUSSION

Researchers use the keywords “accounting student”, “creativity”, “self management”, “technology adaptation”, and “VUCA”. The reason researches use these keywords is because these five keywords are related to creative performance. Researchers use Harzing’s Publish or Perish application with the Scopus database to search for these five keywords. The total number of articles found was 136 in the 2019-2023 (the last five years).



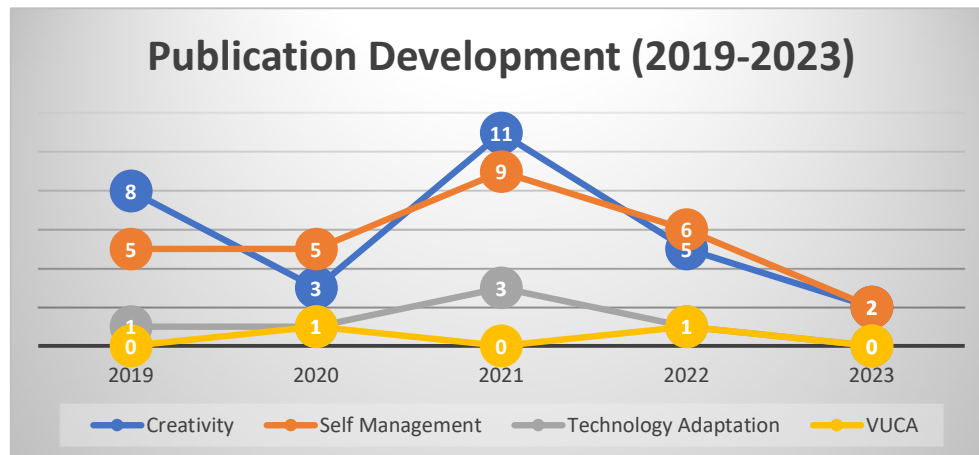
Source: Personal processed data (2023).

**Figure 1 Article selection process**

The 136 articles found in the initial search had as many as 9 duplicate articles, as many as 11 articles could not be opened/read, as many as 48 articles that did not match the keywords

and non-journal, and as many as 4 articles could not be understood due to language limitations. So, the researchers decided to eliminate duplicate articles, could not be opened/errors, did not match the keywords and non-journal, and articles that needed to be more apparent due to the limited language of the researchers. After narrowing or eliminating the articles, as many as 64 articles were downloaded in \*ris format so that they could be read by applications used for data analysis. Researchers used the VOSviewer application version 1.6.19 to analyze data from downloads in \*ris format. The analysis was carried out using the VOSviewer application: network visualization, overlay visualization, and density visualization.

The search results for articles with the keywords “accounting student”, “creativity”, “self management”, “technology adaptation”, and “VUCA” were 64 articles that met the researchers’ requirements, namely duplicate articles, could not be opened/errors, no according to keywords and non-journal, and articles with language that is difficult to understand.



Source: Personal processing data (2023).

**Figure 2 Publication development (2019-2023)**

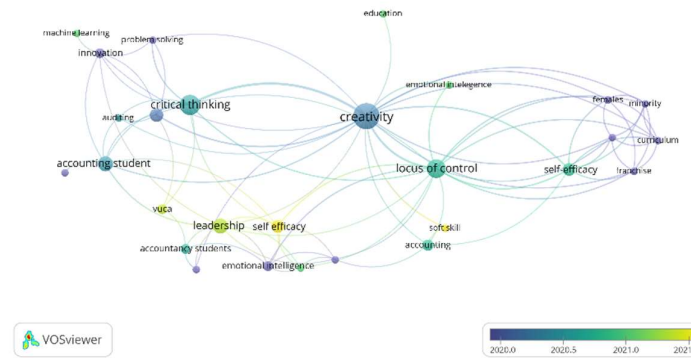
Figure 2 explains that the keywords “creativity”, “self management”, “technology adaptation”, and “VUCA” fluctuated. Indirectly, the development of publications illustrates that creative performance for accounting students can be an opportunity for the latest research because topics with the theme of creative performance for accounting students are still rare.

Based on the 136 articles obtained from the initial search results, they were narrowed down and re-sorted to obtain 64 articles indexed by Scopus in 2019-2023. Among the 64 articles, 15 were most cited in the last five years (Table 1).

**Table 1 Most cited articles**

<b>Cites</b>	<b>Authors</b>	<b>Title</b>
10	(Beatson et al., 2021)	Factors impacting on accounting academics' motivation and capacity to adapt in challenging times.
7	(Byron et al., 2022)	Building blocks of idea generation and implementation in teams: A meta-analysis of team design and team creativity and innovation.
7	(Ruiz-Pastor et al., 2021)	Effect of the application of circularity requirements as guided questions on the creativity and the circularity of the design outcomes.
7	(Kardoyo et al., 2020)	Analyzing university's service quality to student satisfaction; academic and non-academic analyses.
6	(Rossetto & Chapple, 2019)	Creative accounting? The critical and creative voice of students.
5	(Mercader et al., 2021)	A Focus on Ethical Value under the Vision of Leadership, Teamwork, Effective Communication and Productivity.
5	(Main et al., 2019)	Effects of Group Training in Problem-Solving Style on Future Problem-Solving Performance.
5	(Spoon et al., 2021)	Team effectiveness in creative problem solving: Examining the role of students' motivational beliefs and task analyses in team performance.
4	(Stewart & Khan, 2021)	A strategy for using digital mindsets and knowledge technologies to move past pandemic conditions.
4	(Frawley et al., 2019)	Building graduate attributes using student-generated screencasts.
3	(Birkey & Hausserman, 2019)	Inducing Creativity in Accountants' Task Performance: The Effects of Background, Environment, and Feedback.
2	(Powell et al., 2020)	A comparison of time management skills among accounting, business, and information systems students by age and gender.
2	(McGuigan et al., 2021)	Designing Accounting Futures: Exploring Ambiguity in Accounting Classrooms through Design Futuring.

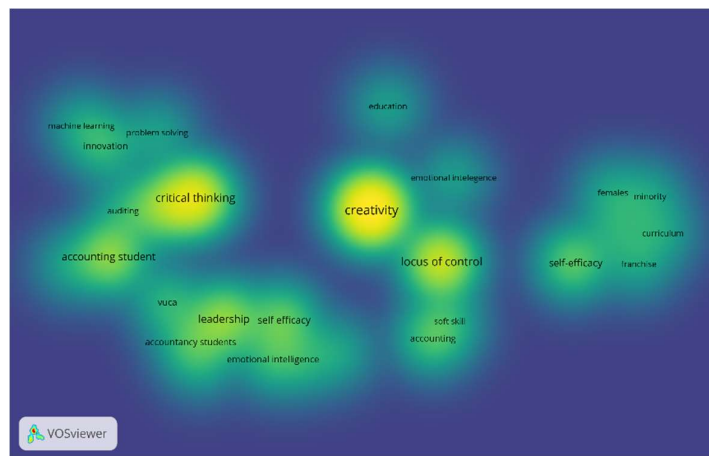




Source: Personal processed data (2023).

**Figure 4 Overlay visualization**

The overlay visualization analysis (Figure 4) explains much research was carried out in the 2019-2023 period. Cluster 1 mainly conducted research in early 2020, cluster 2 conducted most of the research in mid-2020, cluster 3 conducted most of the research in late 2020 or early 2021, cluster 4 conducted most of the research in mid-2021, and cluster 5 conducted most of the research at the end of 2021 and early 2022. From mid-2022 to early 2023, research on creative performance in accounting students could become a new opportunity for subsequent research.



Source: Personal processed data (2023).

**Figure 5 Density visualization**

Figure 5 shows that the density visualization analysis on co-occurrence explains dense areas that indicate keywords or topics that are widely used as research material. The keyword “creativity” is the most densely populated area compared to other regions. From the results of the density visualization analysis, the researcher found several keywords, such as “emotional



intelligence”, “locus of control”, “self efficacy”, “interpersonal communication”, and “critical thinking” which can be used as a reference for the latest research. The five keywords in network visualization and overlay visualization analysis results show a relationship.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the result and discussion of the bibliometric analysis above, it can be concluded that the development of global scientific publications regarding the creative performance of accounting students has fluctuated and decreased yearly. In addition, researchers also found new keywords that have yet to be widely researched in early to mid-2023, namely “emotional intelligence”, “locus of control”, “self efficacy”, “interpersonal communication”, and “critical thinking”. These five keywords are considered to be new opportunities for researchers because the results of the density visualization analysis of the keywords “emotional intelligence”, “locus of control”, “self efficacy”, “interpersonal communication”, and “critical thinking” show little density space.

The limitations experienced in this study are the articles obtained only sourced from the Scopus database and do not include publications in other databases or books, and data searches in this study were also carried out in 2023, so the data obtained in 2023 only reaches mid-year, namely August 2023. Suggestions from the authors for further research are that researchers can search for research articles in different databases, such a Google Scholar, Crossref, PubMed, or Web of Science (WOS) and physical references such as books. The more databases used allow researchers to obtain more and wider sources of articles.

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