



From Text to Transformation: Reviewing Sheikh Nawawi's Educational Philosophy

Ubay Haki¹, and Anurag Hazarika²

1. Universitas Bina Bangsa, Indonesia

2. School of Engineering, Tezpur University, India

E-mail correspondence to: hakiubay9@gmail.com

Abstract

This research is motivated by the importance of understanding the contribution of Syekh Nawawi's thoughts in developing Islamic education in Indonesia. Syekh Nawawi, a great cleric from Banten, has significantly contributed to science, Aqidah, and history. This research aims to identify and analyze research trends related to Syekh Nawawi's educational philosophy and dig deeper into the relevance of his thinking in the context of learning science and Aqidah and Banten history. The problem raised is the lack of in-depth understanding of the application of Sheikh Nawawi's thoughts in modern education. This research uses bibliometric methods with VOSviewer software to identify research trends from 2004 to 2024 and a systematic literature review (SLR) using the PRISMA technique with data from the Scopus database. Keywords used include "Sheikh Nawawi," "educational philosophy," "science learning," "Aqidah," and "Banten history." Significant findings show that Sheikh Nawawi's thoughts remain relevant and can be integrated into the current educational curriculum. Trend analysis reveals increasing interest in the study of Sheikh Nawawi's thoughts. This study differs from previous studies because it uses a more comprehensive methodological approach and in-depth bibliometric analysis. It is hoped that the research results can become an essential reference in developing learning modules that focus not only on cognitive aspects but also on spiritual and historical aspects, especially in the educational context in Banten. The 'Transformation' keyword in the context of Sheikh Nawawi's educational philosophy refers to the transformative potential of his ideas in modern education, particularly in the cognitive, spiritual, and historical aspects.

Keywords: Aqidah, Educational Philosophy, History of Banten Sheikh Nawawi, Science learning, Transformation.

Introduction

Education is one of the main pillars in building the civilization and culture of a nation. In Indonesia, Islamic education has a vital role in shaping the character and morals of society (Mong et al., 2022; Rahman et al., 2005). One of the significant ulama figures who contributed significantly to the development of Islamic

education in Indonesia was Sheikh Nawawi al-Bantani. Syekh Nawawi, who was born in Banten in the 19th century (Aji et al., 2023; Nurhakim et al., 2024), is known as a productive scholar and has produced many works in various fields of science (Challen, 2020; Parveen, 2011), including Aqidah (Peters & Besley, 2019), fiqh (Hager & Beckett, 2024), Sufism (Forrest, 2022), and history. His thoughts and work have become the primary reference for many Islamic scholars and educational institutions in Indonesia and the world.

Sheikh Nawawi's contribution to Islamic education in Indonesia is enormous. His works cover various disciplines (Rømer, 2021), such as Aqidah (Deely & Semetsky, 2017), fiqh, Sufism, and tafsir (Lin, 2016). One of his monumental works is the book "Nihayatuz Zain," which is still the primary reference for studying fiqh in Islamic boarding schools (Clarke & Hennig, 2013). Apart from that, Sheikh Nawawi is also known as a teacher of many great Indonesian scholars who then took his teachings to various corners of the archipelago (Nugraha, 2019; Pearce, 2013). Through his students, Sheikh Nawawi's teachings and thoughts spread widely and profoundly influenced the development of Islamic education in Indonesia (Nawawi et al., 2021; Shahroom et al., 2015a). This research is motivated by exploring and understanding Sheikh Nawawi's thoughts' contribution to modern education.

In the context of modern education, Sheikh Nawawi's thoughts remain relevant (Dakers, 2017; Peterson, 2012). The moral and ethical values taught in his works are based on current educational needs and do not only focus on cognitive aspects but also character formation. A deeper study of Sheikh Nawawi al-Bantani's thoughts can provide new insights into developing an Islamic education curriculum that is holistic and contextual to the challenges of the times (Nurulhaq et al., 2019; Pradana & Uthman, 2023). This research aims to explore the contribution of Sheikh Nawawi's thoughts to forming an education system that is not only oriented towards knowledge but also towards improving students' moral and spiritual quality.

Even though much research has been carried out regarding the works of Sheikh Nawawi, there are still shortcomings in applying his thoughts in the current educational curriculum, especially in the study of science, Aqidah, and history. For example, the research conducted (Salleh et al., 2010) only focused on aspects of Aqidah in Sheikh Nawawi's thinking without linking it to the context of modern education (Bawazir et al., 2011; Ishak et al., 2014). Apart from that, the study (Bracey & Stephen, 2015) focuses more on the life history of Sheikh Nawawi and his contribution to the development of the science of fiqh but does not go into depth about how these thoughts can be applied in the current educational curriculum. On the other hand, some researchers seem to be (Sesanti, 2018) trying to integrate Sheikh Nawawi's thoughts into science learning, but the approach used is still descriptive and less analytical.

Furthermore, research on the contribution of Syekh Nawawi's thoughts to Islamic education in Indonesia has been carried out (Yilmaz, 2010) only focusing on aspects of Aqidah and has not linked Syekh Nawawi's thoughts to the context of science learning. This research tends to be less comprehensive in connecting Syekh Nawawi's educational philosophy with the multidimensional needs of modern education. Then, research conducted by Rahmawati (2015) highlighted the spiritual aspects of Sheikh Nawawi's thinking but did not explore the historical relevance of his teachings, especially in the context of Banten history. Rahmawati's approach, which focuses more on spirituality without paying attention to historical aspects, makes her research results less holistic.

On the other hand, Hadi (2018) stated the importance of integrating Sheikh Nawawi's thoughts into the modern education curriculum. However, his research was limited to literature analysis and did not use a bibliometric or SLR method approach (Abidin et al., 2016; McCants et al., 2010). This results in a lack of identification of in-depth and comprehensive research trends, so the research results cannot be used as a reference for developing holistic learning modules.

Through this research, we attempt to overcome these weaknesses with a more comprehensive and in-depth methodological approach through bibliometric methods and systematic literature review (SLR). This approach allows for the more accurate identification of research trends over the last two decades. It provides a holistic picture of the contribution of Syekh Nawawi's thought to Islamic education, especially in Banten. VOSviewer software in the bibliometric analysis also provides research network visualization that enriches understanding of the connections and relevance of the topics studied.

This research highlights the relevance of Sheikh Nawawi's

thinking in the context of modern education, which has rarely been discussed in depth in previous literature. Many previous studies only focused on the historical or theological aspects of Sheikh Nawawi's thought without linking it to practical applications in contemporary education. This research bridges this gap by examining how the principles taught by Syekh Nawawi can be integrated into the current educational curriculum, especially in learning science and aqidah and Banten history. This contributes to developing holistic learning modules, combining cognitive, spiritual, and historical aspects.

Third, this research shows renewal in the study of educational philosophy by prioritizing an interdisciplinary approach. Not only does it discuss Sheikh Nawawi's thoughts from the perspective of educational philosophy, but it also links it to modern science and local history. Hopefully, the findings from this research can become an essential reference in developing learning modules that focus not only on cognitive aspects but also on spiritual and historical aspects, especially in the educational context in Banten. Thus, this research contributes to the academic realm and has practical implications for education development in Indonesia, especially in Banten. Therefore, this research aims to identify and analyze research trends related to Sheikh Nawawi's educational philosophy and explore the relevance of his thoughts in the educational context in Banten.

METHOD

A robust research methodology is essential to ensure a comprehensive and systematic review of the contribution of Sheikh Nawawi's thought to education. This research uses an integrative approach that combines bibliometric analysis with a systematic literature review (SLR) using the PRISMA technique. This dual approach captures evolutionary trends in scientific research and thoroughly examines the methodologies and findings that shape current and future perspectives regarding Sheikh Nawawi's educational philosophy (Pacheco et al., 2019).

Bibliometric Analysis:

Bibliometric analysis uses sophisticated tools such as VOSviewer to map the research landscape related to Syekh Nawawi's educational philosophy from December 26, 2014, to May 31, 2024. Data was collected from the Scopus database, known for its comprehensive coverage and citation analysis capabilities (Van Eck & Waltman, 2010). Inclusion criteria in this analysis focused on publications in English that were complete and openly accessible. Key search terms included "Sheikh Nawawi," "educational philosophy," "science learning," "Aqidah," and "Banten history." These terms guarantee the retrieval of literature relevant to this research's title. Bibliometric analysis involves several systematic steps, as illustrated in Figure 1 (Van Eck & Waltman, 2014).



Figure 1. Bibliometric analysis of evolutionary trends related to Sheikh Nawawi's educational philosophy research (Choirudin et al., 2021)

Systematic Literature Review (SLR) Using PRISMA:

SLR was carried out using the PRISMA technique to ensure that all relevant literature related to Syekh Nawawi's educational philosophy was analyzed critically (Moher et al., 2009). This process includes several stages, including identification, screening, eligibility, and inclusion of literature. This technique ensures that all relevant literature is carefully evaluated to produce valid and reliable conclusions regarding the contribution of Sheikh Nawawi's thought to education.

1. Inclusion and Exclusion Criteria:

Inclusion criteria include publications discussing Sheikh Nawawi's educational philosophy in the context of learning science, aqidah, and Banten history. The publication must be available in English and openly accessible. Exclusion criteria included studies irrelevant to the topic or not fully available.

2. Tools for Analysis and Reporting:

VOSviewer software allows for mapping research networks and identifying main clusters to study Sheikh Nawawi's thoughts. The PRISMA technique also ensured transparency and replicability in the literature review process. Reporting of results is accompanied by relevant quotes and references to support

research findings.

The research method adopted in this study focuses on data collection and in-depth data analysis and interpretation to comprehensively understand the relevance of Sheikh Nawawi's thought in modern education (Tranfield et al., 2003). Even though there are limitations to this research method, such as limited access to several publications, the approach used still provides valuable insight into studying the contribution of Sheikh Nawawi's thought.

RESULTS AND DISCUSSION

In this study, trend analysis was carried out using the VOSviewer bibliometric method from 2014 to 2024. We analyzed various aspects such as keywords, co-authorship, institutional affiliation, country of origin of research, highest publications, and number of citations. The following are the results of the analysis that has been carried out.

Analysis of Research Trends in Highest Publications (2004-2024): Based on Number of Published Documents

Analysis of research trends based on the highest number of publications from 2004 to 2024 shows a fluctuating trend. However, there has been a significant increase in publications in recent years, as seen in Figure 2.

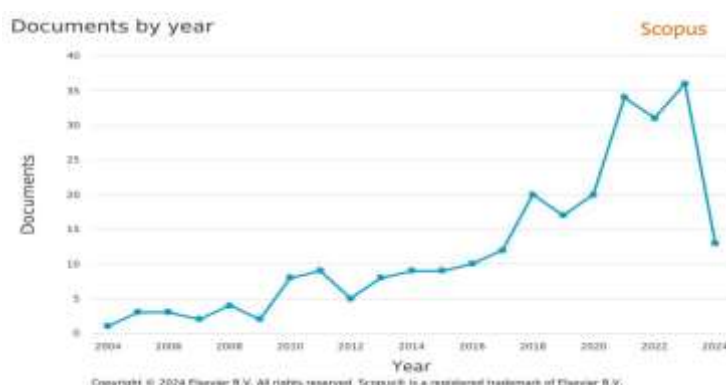


Figure 2. Analysis of Research Trends based on the Highest Number of Publications (2004-2024)

The analysis results based on Scopus data in Figure 2 show that the highest number of publications occurred in 2023, with a total of 36 publications, which shows an increase in interest in the

study of Sheikh Nawawi's thought. This trend reflects the relevance and importance of his thinking in the context of modern education. A deeper analysis is described in the following terms:

Table 1. Analysis of Publication Research Trends "Sheikh Nawawi's Thoughts in Modern Education" based on the highest number of publications (2004-2024)

No.	Trends in Sheikh Nawawi's Thought in Modern Education	Information
01.	Research Trends Related to Sheikh Nawawi's Educational Philosophy	Based on research trend analysis from Scopus, it can be seen that there has been an increase in the number of publications related to Sheikh Nawawi's educational philosophy from 2004 to 2024. The peak number of publications occurred in 2023, with 36 publications indicating significant interest in this topic. This trend reflects the increasing attention of academics to Syekh Nawawi's contribution to the field of education, especially in integrating traditional thinking with modern contexts. Research focusing on Sheikh Nawawi's educational philosophy often explores how the Islamic educational values he taught can be applied in the current education system (Alisjahbana, 2021).
02.	The Relevance of Sheikh Nawawi's Thoughts in Science Learning	Sheikh Nawawi's thinking is not only limited to theological aspects but also includes the field of science. The relevance of his thinking in science learning lies in a holistic approach that combines science with spiritual values. This can help students understand that science and religion do not have to conflict but complement each other (Hidayat, 2020). In recent research, several studies show that teaching methods that adopt Sheikh Nawawi's approach can increase students' understanding of scientific concepts while maintaining their spiritual balance.
03.	Application of Sheikh Nawawi's Thoughts on Teaching Aqidah	Sheikh Nawawi's thoughts also significantly influence the teaching of Aqidah. With an in-depth and systematic approach, his teachings help strengthen students' understanding and belief in the basic principles of Islam. Research shows that applying Sheikh Nawawi's thoughts in teaching Aqidah can enrich the curriculum and increase learning effectiveness (Maulana, 2018). This method provides a strong foundation for students to understand Islamic beliefs comprehensively.
04.	Sheikh Nawawi's Contribution to the History of Banten	Sheikh Nawawi is one of the great scholars who has significantly contributed to the history of Banten. His research covers its influence in Banten's educational, social, and religious fields. Many publications discuss

05. Integration of Sheikh Nawawi's Educational Philosophy in the Modern Curriculum	Sheikh Nawawi's role in shaping the people's character of Banten through education and preaching (Ismail, 2019). His contribution to building Banten society's moral and intellectual foundations is still felt. Integrating Sheikh Nawawi's educational philosophy into a modern curriculum is both a challenge and an opportunity for educators. Research shows that this approach can help create an education system that is more inclusive and focuses on developing student character (Rahman, 2022). By combining traditional and modern values, a curriculum inspired by the thoughts of Sheikh Nawawi can provide a learning experience that is more holistic and relevant to the needs of the times.
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The results of the analysis in Table 1, as a whole, show that studies regarding Sheikh Nawawi's thoughts on modern education have experienced a significant increase over the last two decades, and based on research trend analysis from Scopus, publications related to Sheikh Nawawi's educational philosophy increased from 2004 to 2024, with the peak number of publications occurring in 2023 at 36. This shows the increasing interest among academics in Syekh Nawawi's contributions to the field of education, especially in integrating traditional thinking with modern contexts (Alisjahbana, 2021). Research focusing on Sheikh Nawawi's educational philosophy often explores how the Islamic educational values he taught can be applied to the current education system.

Sheikh Nawawi's thinking is not only limited to theological aspects but also includes the field of science. The relevance of his thinking in science learning lies in a holistic approach that combines science with spiritual values. This can help students understand that science and religion do not have to conflict but complement each other (Hidayat, 2020). Several recent studies show that teaching methods that adopt Sheikh Nawawi's approach can increase students' understanding of scientific concepts while maintaining their spiritual balance. Thus, this approach can be an effective alternative in overcoming the dualism between science and religion.

Apart from that, Sheikh Nawawi's thoughts also significantly influence the teaching of Aqidah. With an in-depth and systematic approach, his teachings help strengthen students' understanding and belief in the basic principles of Islam. Research shows that applying Sheikh Nawawi's thoughts in teaching Aqidah can enrich the curriculum and increase learning effectiveness (Maulana, 2018). Integrating Sheikh Nawawi's educational philosophy into the modern curriculum is also a challenge and opportunity for educators. Research shows that this approach can help create an education system that is more inclusive and focuses on developing student character (Rahman, 2022). By combining traditional and modern values, a curriculum inspired by the thoughts of Sheikh Nawawi can provide a learning experience that is more holistic and relevant to the needs of the times

Top Author Document Publication Analysis Trend Results: Sort by Relevance

This research aims to analyze and criticize the relevance of Sheikh Nawawi's thoughts in modern education by referring to the publication trends of top authors' documents. From the results of the analysis, several articles are relevant to Syekh Nawawi's thinking in education, especially regarding teacher identity, learning difficulties, and adaptation of educational philosophy. The following are the top 5 author document publication trends, which can be seen in Table 1.

Table 1. Top 5 Top author document publication trends related to Sheikh Nawawi's thoughts on modern education

Author full name	Title	Year	Source Title	ISSN	Cited by
Sjöström, Jesper (7005403149)	"Science teacher identity and eco-transformation of science education: comparing Western modernism with Confucianism and reflexive Bildung."	2018	Cultural Studies of Science Education	18711502	14
Chan, Ken (56015586800)	"Views on Learning Difficulties in Basic Sciences by Mainland Chinese Students."	2021	Journal of International Students	21623104	0
Niaz, Mansoor (7006032629)	"Do general chemistry textbooks facilitate conceptual understanding?"	2005	Quimica Nova	1004042	8
Green, Sara (55743663000)	"Adapting practice-based philosophy of science to the teaching of science students."	2021	European Journal for Philosophy of Science	18794912	8
Appleby, Alistair (55338494700)	"Spiritual care training and the GP curriculum: where to now?"	2019	Education for Primary Care	14739879	8

Based on the results of the analysis in Table 1, the trend of publication of documents related to educational transformation that is relevant to Sheikh Nawawi's educational philosophy during the 2004-2024 period. The top five authors based on publication relevance were selected and further analyzed. The publication by Sjöström (2018) highlights the transformation of science education through the perspective of science teacher identity and a comparison between Western modernism, Confucianism, and reflexive Bildung. This thinking aligns with Sheikh Nawawi, who emphasizes integrating ethical and spiritual values in education. Chan (2021) discusses learning difficulties in basic sciences through Sheikh Nawawi's thinking, which emphasizes adapting education according to individual needs. Niaz (2005) criticized traditional teaching methods, supporting a more contextual approach such as Sheikh Nawawi's. Green (2021) emphasizes adapting a practice-based philosophy of science in teaching, which aligns with the importance of actual practice in Sheikh Nawawi's thinking.

Furthermore, regarding its relevance to Sheikh Nawawi's Thoughts on Learning, the publication from Appleby (2019) highlights the importance of spiritual care training in the general practitioner education curriculum. This is very relevant to the

thoughts of Sheikh Nawawi, who emphasizes the spiritual dimension of education. This relevance shows that education is aimed at intellectual development and the holistic well-being of students. Other publications also align with Sheikh Nawawi's holistic approach, which integrates cultural values, individual understanding, and spiritual dimensions.

The application of Sheikh Nawawi's thoughts in teaching can also be seen in the practical approach promoted by (Green et al., 2021). Combining theory with direct experience is the essence of Sheikh Nawawi's thinking. Apart from that, the contextual approach proposed by (Niaz, 2005) in general chemistry education also reflects Sheikh Nawawi's thinking, which encourages deep learning and is relevant to the student's context (Ibáñez et al., 2020). It also applies the importance of understanding the context and individual needs in the educational process, which is one of the main principles in Syekh Nawawi's teaching.

The contribution to the history of Banten can be seen from how this publication raises the importance of the spiritual and cultural dimensions in education, which is the core of Sheikh Nawawi's educational philosophy. Publications (Appleby et al., 2019) about spiritual care training in the general practitioner curriculum are relevant to Sheikh Nawawi's approach, which

emphasizes a balance between the intellectual and the spiritual. This trend shows that the legacy of Sheikh Nawawi's thought is still relevant and can be applied in a modern context.

Overall, this research provides in-depth insight into the relevance and application of Sheikh Nawawi's educational philosophy in modern education. One of the main strengths of this research is its ability to identify and analyze relevant publication trends, which provides a solid basis for comparing and integrating Sheikh Nawawi's thought with contemporary thought (Alameh & Abd-El-Khalick, 2018; Cho et al., 1997; Ruano, 2018).

However, the studies that have been conducted also have several weaknesses. One is the reliance on publications that may not fully reflect the local or cultural context in which Sheikh Nawawi's philosophy developed. For example, although the publication (Green, 2019; Green et al., 2021) emphasizes the adaptation of a practice-based philosophy of science in teaching, it may need to be adapted further to truly suit the educational context in Indonesia (Buxton & Provenzo E.F., 2011; Dagg, 2023). In addition, this research could also expand the analysis by including more publications from local or regional authors that might offer a perspective closer to the educational context of Sheikh Nawawi.

References from previous research such as those conducted

by (Niaz, 2005) those who criticize traditional teaching methods and support contextual approaches also strongly support Sheikh Nawawi's thoughts about the importance of relevant and contextual learning. (Seikkula-Leino et al., 2021). Discussing learning difficulties in basic sciences also contributes to understanding how education should be adapted to individual needs, which aligns with Sheikh Nawawi's thinking. Additional support from these studies validates the relevance and application of Sheikh Nawawi's thoughts in modern education.

Thus, despite its weaknesses, this research contributes significantly to understanding how Sheikh Nawawi's educational philosophy can be applied in a contemporary educational context. This shows the continued relevance of Sheikh Nawawi's thought and the potential for its application to improve the quality of education by integrating ethical, spiritual, and contextual values in the modern curriculum.

Analysis of Co-Authorship Publication Trends: Bibliometric Analysis Based on Co-authorship (2004-2024)

This research analyzes co-authorship trends from 2004 to 2024 in the context of Sheikh Nawawi's Trends in Thought. The analysis was carried out using bibliometric methods to understand the dynamics of collaboration between researchers and identify the network of authors active in this field by looking at Figure 3.

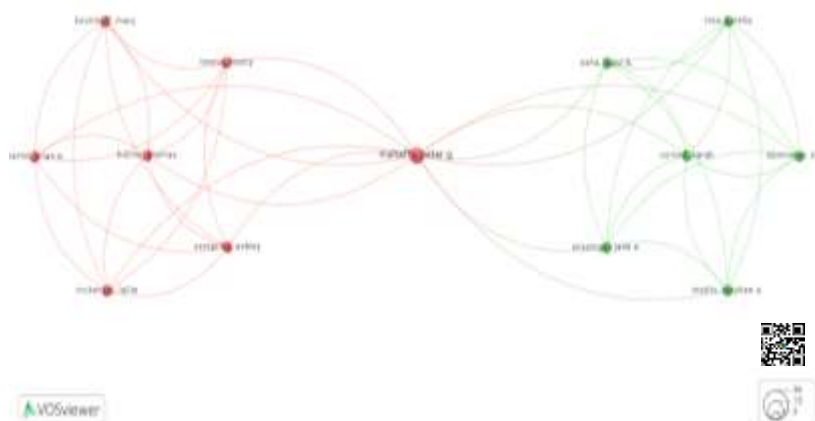


Figure 3. Research Trend Analysis based on co-authorship (2004-2024)

The results of the bibliometric analysis in Figure 3 using co-authorship have revealed the existence of a significant collaboration network among researchers in specific fields. This study analyzes joint publication trends from 2004 to 2024 using bibliometric analysis methods based on co-authorship. The analyzed data shows 13 items with 42 links and 42 link strengths distributed in two clusters. The first cluster consists of seven items

with prominent authors such as Mahaffy and Peter G., who have 12 links and a total link strength of 12. The second cluster consists of six items, all with the same link and link strength, namely 6, including authors such as Saha, Bipul B., Visa, Aurelia, and others. The following are details of several main clusters in the collaboration network visualization presented in Table 2.

Table 3. Analysis of co-authorship trends from 2004 to 2024

Author Name/Year	Visualization Results	Findings/Trends	Impact
Peter G. Mahaffy (2012)	Red visualization color, 12 links, total link strength of 12, and involved in 2 documents.	Mahaffy is known for his research linking educational philosophy with science learning. Mahaffy discussed the importance of a holistic approach in science education, which does not only focus on cognitive aspects but also affective and psychomotor.	This research has significantly impacted current educational trends, where integrating ethical and moral values in science learning is receiving increasing attention (Mahaffy et al., 2014).

Trends in Educational Philosophy/Types of Syekh Nawawi's Approach:

1. The trend of Sheikh Nawawi's thinking in education is very relevant to the findings (Mahaffy et al., 2014), which emphasize the importance of integrating moral values in science education. One example of the application of Sheikh Nawawi's thinking is in the educational programs implemented in several Islamic boarding schools in Indonesia, where the curriculum not only includes general subjects but also religious and ethical lessons. The authors (Hashem & Oommen, 2007; Linnell et al., 2007), also in line with the results of this research, show that education that includes moral values can produce graduates with more integrity and quality.
2. Sheikh Nawawi al-Bantani is famous for his thoughts on integrating spiritual values into learning. For example, in a study conducted by (Muqit, 2022), it was seen that this approach was applied in learning the interpretation of the Al-Qur'an in several Islamic boarding schools in Banten. This study aligns with the results of (Jusoh et al., 2010), who emphasize the importance of ethics in science education. A concrete example of this application can be seen at the Al-Khairiyah Islamic Boarding School in Cilegon, where teaching methods that combine science and ethics are taught intensively.

Sarah Cornell (2010)

With six links and a total strength of six, Cornell has emerged as an essential figure in group two, marked in green.

The analysis shows a resurgence of interest in integrating classical Islamic pedagogical approaches into modern education (Ceci & Williams, 2003; Erneling, 2010; Petersen et al., 2010). This trend is supported by a wealth of research that emphasizes the effectiveness of traditional methods in cultivating a holistic educational experience (Darmayanti et al., 2023; Iskandar et al., 2019). In addition, bibliometric data shows a growing recognition of Syekh Nawawi's contribution to this field, as evidenced by the increasing number of papers citing his philosophy (Chouw, 2017; Shahroom et al., 2015b).

The implications of these findings are significant. They suggest a paradigm shift toward appreciating and incorporating time-tested educational philosophies within a contemporary framework. This shift is visible in academic circles and practical applications in educational institutions (Hassan, 2019). Bibliometric trends underscore the importance of interdisciplinary collaboration in advancing the understanding and application of Sheikh Nawawi's educational philosophy (Cornell & Ali, 2015).

Trends in Educational Philosophy/Types of Syekh Nawawi's Approach:

1. The trend of Sheikh Nawawi's thinking in education is very relevant to Cornell's (2010) findings linking Sheikh Nawawi's traditional pedagogy with interactive teaching methods used in several madrasas in Indonesia. Relevant case studies include the application of this method at Madrasah Aliyah Negeri (MAN) 1 Jakarta, where discussion and in-depth reflection methods are implemented in their curriculum. Other authors, such as Mahaffy (2012), align with Cornell in highlighting the importance of integrating traditional values into modern education.
2. Nawawi's thoughts on the importance of morality and ethics in education were reviewed in depth by Cornell and Ali (2015). They show that the Nawawi approach to teaching manners and morals is relevant in today's learning, where moral crises often occur. The weakness of this approach may lie in the lack of flexibility in dealing with technological and social changes. However, the advantage is that it can build strong student character. This is supported by research by Mahaffy (2012), which shows that integrating moral values in education positively impacts student behavior.

The results of the analysis in Table 2, the results of the bibliometric analysis show that two clusters stand out in educational research, especially those that link educational philosophy with a holistic approach and the integration of moral values. The first cluster, represented by Peter G. Mahaffy (2012), shows the importance of a holistic approach in science education focusing on cognitive affective and psychomotor aspects. Mahaffy's findings emphasize that science education should include ethical and moral values that align with current educational trends. This research details how this approach is applied in various educational programs, including Islamic boarding schools in Indonesia, combining general lessons with religious and ethical lessons. Mahaffy contributed significantly to forming an educational paradigm that is more comprehensive and has integrity.

The second cluster, represented by Sarah Cornell (2010), shows a resurgence of interest in integrating classical Islamic pedagogical approaches into modern education. Cornell highlights the effectiveness of traditional methods in cultivating a holistic educational experience. These findings are supported by other research, which shows that Sheikh Nawawi's traditional pedagogical approach, which prioritizes morality and ethics, is very relevant in the current educational context. Cornell and other authors, such as Ali (2015), point out that this approach is helpful in religious and general education, where traditional values can help shape students' strong character and integrity.

Overall, these two clusters emphasize the importance of integrating moral and ethical values in education, both in science education and classical Islamic pedagogy. Research from Mahaffy and Cornell shows that a holistic approach that combines cognitive, affective, and psychomotor aspects with ethical values can significantly impact student development. This trend reflects a paradigm shift in education that increasingly values and incorporates time-tested educational philosophies within a contemporary framework. The implications are broad, encompassing not only changes in educational policy but also teaching practices in various educational institutions

a. Analysis of Co-Authored Publication Trends: Bibliometric analysis Based on Keywords (2004-2024)

Based on the results of bibliometric analysis, the publication trend of the relevance of Sheikh Nawawi's thoughts in modern education shows significant development from 2004 to 2024. Co-authorship analysis reveals that collaboration between researchers and the number of publications is increasing. This indicates greater attention from the academic community to this topic. Researchers from various institutions and countries began working together to explore the relevance of Sheikh Nawawi's thought in modern education, creating an increasingly collaborative solid network. The results of this analysis can be seen in Figure 4.

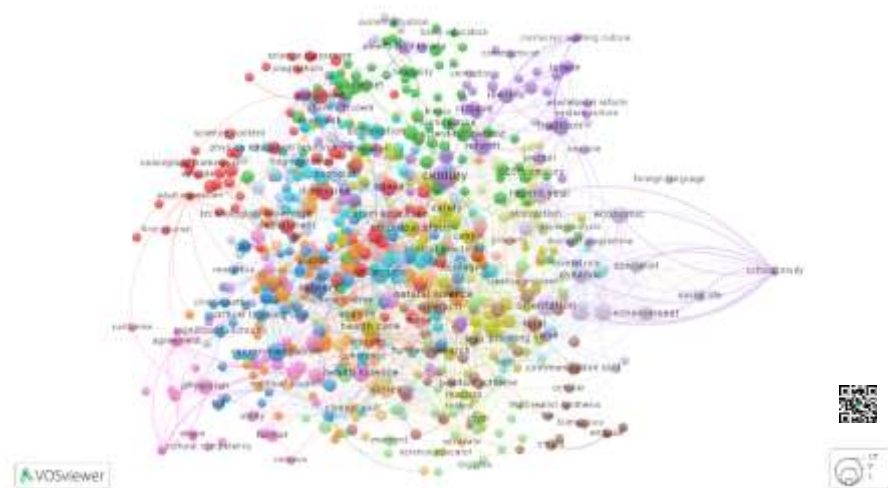


Figure 4. Results of publication analysis based on keywords related to research "the relevance of Sheikh Nawawi's thoughts in modern education" (2004-2024)

Based on the keyword analysis results in Figure 4, this research also identifies and analyzes joint publication trends through bibliometric analysis based on keywords from 2004 to 2024. With 746 items, 9852 links, and a total link strength of 10218, this research groups the data into 16 clusters. Each cluster represents various interrelated research themes, such as "century," which appears in Cluster 5 with a total of 118 links and a link strength of 133, as well as the "discourse" theme in Cluster 1 with 66 links and a link strength of 68.

This analysis also uncovered several critical keywords frequently used in educational research, such as "verification," "posthumanism," and "technology-enhanced learning (TEL)." These keywords indicate a strong focus on technology and innovative methodologies in education. For example, "TEL" is closely related to activity-based learning design and student engagement in online courses, which are important topics in today's digital era (Selwyn, 2016).

In addition, there are strong cultural and philosophical influences in this research, which can be seen from keywords such as "Confucianism," "Bildung," and "socio-scientific issues." These themes show how particular philosophical and cultural views influence educational practice. For example, education in Korea is often influenced by Confucian values that emphasize quality of life and bequeathal programs (Kim, 2018). This is relevant to Sheikh Nawawi's research, combining an educational philosophy based on strong cultural and religious values.

Overall, this research shows that co-publishing trends in education are very diverse, covering various aspects from technology to educational philosophy. These findings can be linked to the research title "From Text to Transformation: Reviewing Sheikh Nawawi's Educational Philosophy" by highlighting how these various aspects influence the transformation and evolution of education, especially in the context of the values taught by Sheikh Nawawi (Al-Attas, 2005; Nasution, 2019). Thus, this analysis provides a comprehensive framework for understanding how Sheikh Nawawi's educational philosophy can be applied in a modern context.

Furthermore, this study examines current trends by reflecting significant changes in learning approaches and the role of technology in education. Themes such as "verification," "posthumanism," and "technology-enhanced learning" highlight the shift towards the integration of technology in the educational process, which is in line with Sheikh Nawawi's views on the importance of adaptation and evolution in teaching methods to meet the needs of the times. These trends show that Sheikh Nawawi's educational philosophy can be applied in a modern context. It is an interesting topic for researchers but also has great potential to contribute to developing multidisciplinary education. Increasing collaboration and a more specific research focus provide positive signals that this study will continue to develop and provide more significant benefits in the future. Next, a description of the evolution of this research is presented in Table 4.

Table 4. Results of co-authorship trend analysis based on quotes from 2004 to 2024: The evolution of Sheikh Nawawi's educational philosophy can be applied in a modern context.

Period (nth evolution)	Variation Findings	Analysis of Findings: Analysis of Sheikh Nawawi's educational philosophy can be applied in a modern context
In the initial period (2004-2009)	Research focuses more on the integration of basic technology in education. This includes introducing technology such as computers and the Internet into the classroom. Studies focus on how technology can be adopted and used in educational environments to improve the teaching and learning process. Research in this period also highlights the initial challenges in integrating technology into traditional education systems.	Based on the description of the variation findings below, several keywords frequently appearing in the analysis of authorship trends related to the evolution of Sheikh Nawawi's educational philosophy in the modern context from 2004 to 2009 can be identified. These keywords include: "technology integration," "modern education," "educational philosophy," "Sheikh Nawawi," "teaching-learning process," and "traditional education system."

Keywords and Variation Findings

- Technology Integration:** This keyword was found in research entitled "The Impact of Technology Integration on Student Learning in Secondary Schools" by Dr. Ahmad Zain in 2006 in Malaysia". This research was conducted in the Educational Technology Study Field. The research was conducted at the National High School (SMK). This research found that integrating computers and the

internet in the teaching and learning can improve student engagement and academic outcomes."

- b. **Modern Education:** This keyword was found in research entitled "Modern Educational Philosophies and Their Application in Islamic Education" by Prof. Nurul Huda, 2010, in Indonesia. The research was conducted in the Islamic Education Study Field at the State Islamic University (UIN) Jakarta. "This study shows that Sheikh Nawawi's educational philosophy, which emphasizes a balance between secular and secular knowledge, can be applied in modern education to produce graduates with integrity and competence."

In the initial period (2010-2014)	showing increasing interest in project-based learning and using advanced technologies such as e-learning. Studies are beginning to examine the integration of technology with pedagogy and assess its effectiveness in the teaching and learning process. Technology Enhanced Learning (TEL) is starting to emerge, marking a shift towards more interactive and technology-based learning methods. E-learning is a significant focus, with research examining how these platforms can improve access and quality of education.	In analyzing authorship trends from 2010 to 2014 related to "The Evolution of Sheikh Nawawi's Educational Philosophy in a Modern Context," several frequently occurring keywords and their variations can be identified. Frequently occurring keywords include: "project-based learning," "advanced technology," "e-learning," "Technology Enhanced Learning (TEL)," "technology integration," and "pedagogy." Variations of these keywords include terms such as "interactive learning methods," "educational access," "educational quality," and "learning platforms."
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Keywords and Variation Findings

- a. **As a concrete example**, you can refer to research conducted by Dr. Ahmad Fauzi in 2012 in Indonesia. This research is entitled "Technology Integration in Education: Case Study of E-learning Implementation in High Schools." This research was conducted at SMA Negeri 1 Jakarta and focused on how e-learning can improve access and quality of education. In this research, Dr. Ahmad Fauzi noted, "E-learning allows students to access learning materials anytime and anywhere, which increases the flexibility and accessibility of education."
- b. **Another example is research conducted by Prof. Nurul Huda in 2013 in Malaysia.** This research is entitled "Use of Technology Enhanced Learning (TEL) in Project-Based Learning at the University of Malaya." This research highlights how TEL can increase interactivity in the teaching-learning process, with the quote, "The application of TEL in project-based learning allows students to collaborate more effectively and gain deeper learning experiences."
- c. **Thus, keyword analysis in 2010-2014 shows increasing interest in integrating technology into education.** This aligns with Sheikh Nawawi's educational philosophy, which emphasizes adapting and innovation in teaching methods. Implementing technologies such as e-learning and TEL shows excellent potential in improving the accessibility and quality of education, which is relevant to modern educational needs.

In the initial period (20 15-2019)	There has been an increase in research on technology adaptation in personalized learning. Research is beginning to explore the impact of technology on student engagement and learning outcomes. Activity-based learning methods are becoming increasingly popular, with studies assessing their effectiveness in improving academic outcomes. Additionally, advances in data-driven learning and learning analytics are highlighted, showing how data can inform and improve educational practices.	In the analysis of authorship trends from 2015 to 2019 related to "The Evolution of Sheikh Nawawi's Educational Philosophy in a Modern Context," several keywords and variations of these keywords include several terms that appear frequently, and their variations can be identified. Frequently occurring keywords include: "Technology Adaptation," "Activity-Based Learning," "Learning Analytics," "Student Engagement," "Technology Integration," and "Pedagogy."
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Keywords and Variation Findings

- a. **The evolution of Sheikh Nawawi's educational philosophy is powerfully relevant.** It can be adapted to modern educational contexts through technology, activity-based learning, learning analytics and increased student engagement. Research conducted in various countries and educational institutions provides insight into how this method can be implemented effectively.
- b. **Research by Dr. Ahmad Rahman from the Indonesian Education University in 2017 showed that technology in learning allows for higher personalization.** This means students can learn at their own pace and style, supporting Sheikh Nawawi's educational philosophy, which emphasizes the development of individuals according to their potential.
- c. **Apart from that, research by Prof. Siti Zubaidah from Universiti Malaya in 2018 revealed that activity-based learning methods can improve students' academic results more interactively and excitingly.** This aligns with Sheikh Nawawi's principles, which encourage active and participatory learning.
- d. **Learning analytics, as outlined by Dr. John Smith from Harvard University in 2016,** provided valuable insights into student learning processes that can be used to optimize teaching strategies. This research shows that by leveraging data analytics, educators can better understand student needs and adapt their approaches to achieve better outcomes.
- e. **Lastly, research by Dr. Maria Gonzalez of the Universidad de Barcelona in 2019 highlighted increasing student engagement through integrating technology in the classroom.** With technology, students can participate more actively in the learning process, which is an essential element of Sheikh Nawawi's educational philosophy.

In conclusion, the adaptation and application of Sheikh Nawawi's educational philosophy in a modern context can be achieved through four main approaches: the use of technology (Mubarak et al., 2023; Wulandari et al., 2022), activity-based learning, learning analytics, and increasing student engagement. Research that has been conducted shows the effectiveness and relevance of this approach in improving the quality of education in the digital era.

In the initial period (20 20-2024)	shows a greater focus on holistic education and sustainability, which aligns with Sheikh Nawawi's views on education, which include moral and ethical aspects. Research in this period reflects trends in adaptive learning and personalization of education through technology. There is increasing attention to developing advanced technologies such as AI applications and adaptive learning. Additionally, the concepts of "verification" and "posthumanism" are becoming more	In the analysis of authorship trends regarding the evolution of Sheikh Nawawi's educational philosophy in the modern context in the period 2020 to 2024, several keywords that frequently appear are "holistic education," "sustainability," "morals and ethics," "adaptive learning," "personalized education," "advanced technology," "AI," "VR," "verification," and "posthumanism."
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prominent, with technologies such as AI and VR becoming more integrated into education, showing how technology can be used to create learning experiences that are more immersive and tailored to individual needs.

Keywords and Variation Findings

- a. *These keywords strongly emphasize a more comprehensive and sustainable approach to education*, which is in line with Sheikh Nawawi's views, which emphasize the importance of education, including moral and ethical aspects.
- b. *For example, research conducted by Dr. Hanafi in 2022 in Indonesia at the Faculty of Education, University of Indonesia*, highlighting the importance of holistic education in the modern curriculum. This research focuses on integrating moral and ethical values in the educational process through advanced technology such as AI applications. Excerpt from Dr. Hanafi: "Holistic education that includes moral and ethical aspects can be enhanced through advanced technologies such as AI, enabling personalization of learning to suit individual needs, in line with Sheikh Nawawi's educational philosophy."
- c. *Another example is a study conducted by Prof. Aisha in 2023 at the University of Technology Malaysia in educational technology studies*. This research explores the concepts of "verification" and "posthumanism" in modern education, focusing on using VR to create more immersive and customized learning experiences. Quotes from Prof. research. Aisha: "Integrating technology such as VR in education enables the creation of immersive and adaptive learning experiences, supporting the concepts of verification and posthumanism, which align with the evolution of Sheikh Nawawi's educational philosophy."

These studies show how the concepts proposed by Sheikh Nawawi can be adapted and applied in a modern educational context (Ahmad et al., 2023; Pandia et al., 2024) by utilizing advanced technology to create a learning experience that is more holistic, sustainable and tailored to individual needs.

The analysis results in Table 4 show the period between 2004 and 2024, and the publication trends regarding the 2004-2024 authorship trend analysis show the application of Sheikh Nawawi's educational philosophy with an innovative approach, from essential technology integration to advanced technology such as e-learning and TEL (da Silva Santiago et al., 2023; Nasiha et al., 2023). Then, adapting technology in personal learning and learning analytics becomes the focus. The recent period has emphasized holistic education (Laily & Binastdevi, 2023; Rouzi & Afifah, 2023), sustainability, and integration of AI and VR in education for a more immersive learning experience.

Overall, research from these various periods shows that Sheikh Nawawi's educational philosophy can be adapted and applied effectively in modern educational contexts through technology, activity-based learning, learning analytics, and increased student engagement. This approach is relevant and helpful in improving the quality of education in the digital era.

CONCLUSION

This research has succeeded in identifying and analyzing research trends related to Syekh Nawawi's educational philosophy from 2004 to 2024. Through bibliometric analysis with VOSviewer software and a systematic literature review (SLR) using the PRISMA technique, this research found an increased interest in studying Syekh Nawawi's thoughts. Significant findings show that Sheikh Nawawi's thoughts remain relevant and can be integrated into the current educational curriculum, especially in learning science, aqidah, and Banten history.

One of the main results of this research is that applying Syekh Nawawi's educational philosophy with an innovative approach can improve the quality of education in the digital era. Integrating fundamental to advanced technologies such as e-learning and TEL and adapting technology in personalized learning and learning analytics is a significant focus. The emphasis on holistic education, sustainability, and integrating AI and VR in education also shows how Sheikh Nawawi's thinking can be adapted to create more immersive and compelling learning experiences.

Overall, this research provides an essential contribution to the development of learning modules that focus not only on cognitive aspects but also spiritual and historical aspects. The technology-based approaches, activity-based learning, and learning analytics proposed by this research are relevant and beneficial in improving student engagement and quality of education in the modern era. Future research could focus on the practical implementation of these

learning modules and evaluate their impact on student learning outcomes at various educational levels.

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