BIBLIOMETRIC ANALYSIS OF SCHOOL WELL-BEING FACTORS IN SCHOOL ECOSYSTEM THROUGH LESSON STUDY PROGRAM

Muhamad Burhanudin¹
Qurrot Ayu Neina²
Diyamon Prasandha³
Dyah Ayu Widyawati Cahyono Putri⁴
Leni Septiani⁵
Alisia Nilam Sekar Ayu⁶

ABSTRACT

Objective: This study aims to identify and trend school well-being research through lesson study programs and visually display the topic through bibliometric results.

Theoretical Framework: Research topics related to school well-being factors through lesson study programs should be considered as patterns and trends in scientific literature.

Method: The approach used in this study was bibliometric analysis. This analysis can involve mapping collaboration between researchers and the most frequently used keywords. By looking at the number of publications available, the partnership between researchers, keywords that appear most often, and journals that publish the most work in this field, this study aims to produce an in-depth view of the direction and evolution of research related to the topic of school wellbeing through lesson study.

Results and Discussion: First, the topic of publication on "school wellbeing" is still low productivity, and opportunities for publication on related issues are still very wide open. Second, based on the analysis of the co-occurrence of keywords in research related to "Lesson Study" and "Teacher Education," essential keywords can be used as a reference in the novelty of the topic to conduct further research. Third, some exciting issues were found through the use of school wellbeing factor keywords through the "lesson study" cluster, namely "professional learning community," "initial teacher education," "professional learning," "teacher professional development," "collaboration," "pedagogical content knowledge," and "professional learning communities."

Research Implications: Detailed mapping of research topics can provide more in-depth results on topics and themes that are most interesting and need to be explored more. Thus, efforts to improve teacher professionalism with more humanism through community programs can be optimized.

Originality/Value: Substantially, this study identifies trends in school well-being research through lesson study programs and visually displays the topic through bibliometric results. The findings of this research novelty are relevant to school well-being through lesson study programs and offer more detailed future research topics so that researchers can better understand the focus of research related to the topic.

Keywords: bibliometric analysis, school well-being, lesson study, collaboration, professional learning communities.

¹ Universitas Negeri Semarang, Semarang, Indonesia. E-mail: mburhanudin79@mail.unnes.ac.id
Orcid: https://orcid.org/0009-0008-2817-4762

² Universitas Negeri Semarang, Semarang, Indonesia. E-mail: neina@mail.unnes.ac.id
Orcid: https://orcid.org/0000-0002-0877-3214

³ Universitas Negeri Semarang, Semarang, Indonesia. E-mail: diyamonprasandha@mail.unnes.ac.id
Orcid: https://orcid.org/0000-0002-2940-8435

⁴ Universitas Negeri Semarang, Semarang, Indonesia. E-mail: dyahayuwcp@students.unnes.ac.id

⁵ Universitas Negeri Semarang, Semarang, Indonesia. E-mail: lenisepti17@students.unnes.ac.id
Orcid: https://orcid.org/0009-0005-2623-3421

⁶ Universitas Negeri Semarang, Semarang, Indonesia. E-mail: alisianilam18@gmail.com

ANÁLISE BIBLIOMÉTRICA DOS FATORES DE BEM-ESTAR ESCOLAR NO ECOSSISTEMA ESCOLAR ATRAVÉS DO PROGRAMA DE ESTUDO DA LIÇÃO

RESUMO

Referencial Teórico: Este estudo tem como objetivo identificar e tendências de pesquisas sobre bem-estar escolar por meio de programas de estudo de aulas e apresentar visualmente o tema por meio de resultados bibliométricos.

Método: Os tópicos de investigação relacionados com factores de bem-estar escolar através de programas de estudo de aulas devem ser considerados como padrões e tendências na literatura científica.

Resultados e Discussão: Em primeiro lugar, o tema da publicação sobre “bem-estar escolar” ainda é de baixa produtividade e as oportunidades de publicação sobre questões relacionadas ainda estão muito abertas. Em segundo lugar, com base na análise da cocorrência de palavras-chave em pesquisas relacionadas a “Estudo de Lição” e “Formação de Professores”, palavras-chave essenciais podem ser utilizadas como referência na novidade do tema para a realização de pesquisas futuras. Terceiro, algumas questões interessantes foram encontradas através do uso de palavras-chave de fatores de bem-estar escolar no grupo “estudo de aula”, nomeadamente “comunidade de aprendizagem profissional”, “formação inicial de professores”, “aprendizagem profissional”, “desenvolvimento profissional de professores”, “colaboração”, “conhecimento de conteúdo pedagógico” e “comunidades de aprendizagem profissional”.

Implicações da Pesquisa: O mapeamento detalhado dos temas de pesquisa pode fornecer resultados mais aprofundados sobre temas e temas mais interessantes e que precisam ser mais explorados. Assim, os esforços para melhorar o profissionalismo dos professores com mais humanismo através de programas comunitários podem ser optimizados.

Originalidade/Valor: Substancialmente, este estudo identifica tendências na investigação sobre o bem-estar escolar através de programas de estudo de aulas e apresenta visualmente o tema através de resultados bibliométricos. As descobertas desta novidade de pesquisa são relevantes para o bem-estar escolar por meio de programas de estudo de aulas e oferecem tópicos de pesquisas futuras mais detalhados para que os pesquisadores possam compreender melhor o foco da pesquisa relacionada ao tema.

Palavras-chave: análise bibliométrica, bem-estar escolar, estudo de aulas, colaboração, comunidades de aprendizagem profissional.

ANÁLISIS BIBLIOMÉTRICO DE FACTORES DE BIENESTAR ESCOLAR EN EL ECOSISTEMA ESCOLAR A TRAVÉS DEL PROGRAMA DE LECCIONES DE ESTUDIO

RESUMEN

Objetivo: Este estudio tiene como objetivo identificar y marcar tendencias en la investigación sobre el bienestar escolar a través de programas de estudio de lecciones y mostrar visualmente el tema a través de resultados bibliométricos.

Marco Teórico: Los temas de investigación relacionados con los factores de bienestar escolar a través de programas de estudio de lecciones deben considerarse patrones y tendencias en la literatura científica.

Método: El enfoque utilizado en este estudio fue el análisis bibliométrico. Este análisis puede implicar mapear la colaboración entre investigadores y las palabras clave más utilizadas. Al observar el número de publicaciones disponibles, la asociación entre investigadores, las palabras clave que aparecen con mayor frecuencia y las revistas que publican la mayor cantidad de trabajos en este campo, este estudio pretende producir una visión en profundidad de la dirección y evolución de la investigación relacionada con el tema del bienestar escolar a través del estudio de lecciones.

Resultados y Discusión: En primer lugar, el tema de las publicaciones sobre "bienestar escolar" sigue siendo de baja productividad y las oportunidades para publicaciones sobre temas relacionados aún están muy abiertas. En segundo lugar, según el análisis de la coexistencia de palabras clave en investigaciones relacionadas con "Estudio de lecciones" y "Formación de profesores", las palabras clave esenciales se pueden utilizar como referencia en la novedad del tema para realizar más investigaciones. En tercer lugar, se encontraron algunas cuestiones interesantes mediante el uso de palabras clave de factores de bienestar escolar a través del grupo "estudio de lecciones", a saber,
"comunidad de aprendizaje profesional", "formación docente inicial", "aprendizaje profesional", "desarrollo profesional docente", "colaboración", "conocimiento del contenido pedagógico" y "comunidades de aprendizaje profesional".

Implicaciones de la investigación: El mapeo detallado de los temas de investigación puede proporcionar resultados más profundos sobre temas y temas que son más interesantes y necesitan ser explorados más. De esta manera, se pueden optimizar los esfuerzos para mejorar el profesionalismo docente con más humanismo a través de programas comunitarios.

Originalidad/Valor: Básicamente, este estudio identifica tendencias en la investigación del bienestar escolar a través de programas de estudio de lecciones y muestra visualmente el tema a través de resultados bibliométricos. Los hallazgos de esta novedad de investigación son relevantes para el bienestar escolar a través de programas de estudio de lecciones y ofrecen temas de investigación futuros más detallados para que los investigadores puedan comprender mejor el enfoque de la investigación relacionada con el tema.

Palabras clave: análisis bibliométrico, bienestar escolar, estudio de lecciones, colaboración, comunidades profesionales de aprendizaje.

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1 INTRODUCTION

Teachers are essential to the educational process (Datnow, 2020). In addition to being in charge of teaching science (Avery & Meyer, 2012; Kind, 2016), teachers also play a role in shaping a conducive academic climate (Chan-Anteza, 2020; Iurea, 2015; Kutsyuruba et al., 2015; Mansor et al., 2021). Teachers who lead learning not only have the responsibility to impart knowledge but also play a role in creating a school ecosystem that supports the well-being of all members of the school community (Deng et al., 2022; Kutsyuruba et al., 2015; Roffey, 2012).

Building Well-being in the school ecosystem through the role of teachers in advancing learning leadership cannot be separated from the understanding of Well-being in the school ecosystem, which refers to a good and balanced state of physical, mental, emotional, and social well-being of all members of the school community, including students, teachers, staff, and parents (Cefai et al., 2021; Ellyatt, 2022). The American Psychological Association (APA) corroborates this, defining well-being as a state with a sense of happiness, satisfaction, low-stress levels, physical and mental health, and good quality of life (Coulombe et al., 2020).

One of the initiatives in forming a school ecosystem that prioritizes well-being towards better teacher professionalism can be done by forming learning communities (Dania & Tannehill, 2022; Owen, 2016). The formation of this community is essential to improve the quality of teachers. This effort can be said to be more comprehensive in raising teachers'
enthusiasm for self-development (DeRobertis, 2017; Muhayat, 2019). This is corroborated by Rusilowati (2020), who revealed that the community could be used to improve themselves and society. In addition to forming empowered and independent teachers in professional improvement, this community is expected to encourage teachers through continuous research programs (Neina et al., 2023; Sumaryanta et al., 2019).

This learning community will be implemented based on teacher specialization and study programs. Collaboration between teachers and lesson study models was made to improve community well-being. Lesson study is a model of coaching (training) the educator profession through collaborative and continuous learning studies based on collegiality and mutual learning principles to build learning communities (Baricaua Gutierez, 2016; Stoll et al., 2006).

Lesson study can also be a model of teacher coaching in improving teacher performance, carried out jointly by a group of teachers to realize teacher performance in a better direction (Fox & Poultney, 2020). The role of groups and communities will undoubtedly provide additional enthusiasm and reduce pressure arising in improving professionalism. In line with this, Schipper et al. (2022) and Lewallen TC et al. (2015) revealed that lesson study is another way to develop teacher professional competence by paying attention to community wellbeing.

Some of the reasons for choosing the lesson study model in improving school well-being include: 1) the development of lesson study is carried out and based on the results of sharing professional knowledge based on the practice and teaching results carried out by teachers (Fox & Poultney, 2020); 2) based on experience in class, lesson study can be a foundation for learning development (Widjaja et al., 2017); and 3) lesson study can place teachers as learning researchers (Ronda & Danipog, 2022). Thus, it can be said that lesson study has advantages in creating cooperation between teachers in developing learning, providing opportunities for teachers to solve learning problems together, and making teachers closer to communicating. This will undoubtedly build the school community and provide better well-being opportunities for teacher professionalism.

Thus, it can be said that research topics related to school well-being factors through lesson study programs should be considered as patterns and trends in scientific literature. The approach used in this study was bibliometric analysis. Through lesson study, bibliometric analysis can identify research contributions to school well-being and professional improvement. This analysis can involve mapping collaboration between researchers and the most frequently used keywords.

By looking at the number of publications available, collaborative collaboration between researchers, keywords that appear most often, and journals that publish the most work in this
field, this study aims to produce an in-depth view of the direction and evolution of research related to the topic of school wellbeing through lesson study. Here are the questions research has brought up to guide this research.

RQ1. What is the productivity of research publications on "school wellbeing"?
RQ2. What is the productivity of research publications on "lesson study" and "teacher education"?
RQ3. What is the novelty of the topic of school well-being factors through the lesson study program?

Based on the formulation of the problem substantially, this study aims to identify and trend school well-being research through lesson study programs and visually display the topic through bibliometric results. In addition, the next goal is to reveal the novelty of research relevant to school well-being through lesson study programs and offer more detailed future research topics so that researchers can better understand the focus of research related to the topic. Detailed mapping of research topics is expected to provide more in-depth results on the most exciting topics and themes that need more exploration. Thus, efforts to improve teacher professionalism with more humanism through community programs can be optimized.

2 THEORETICAL FRAMEWORK

The development of positive psychology gave rise to a new term: well-being. Well-being is a general term for the condition of individuals or groups in social, economic, psychological, spiritual, or medically prosperous fields (Alatartseva & Barysheva, 2015). Well-being is a concept that refers to the state of individuals who have a healthy mentality (Huppert & So, 2013). Well-being also refers to the concept of happiness, where happiness is the goal of activities carried out by humans (Lyubomirsky & Layous, 2013).

In the recent decade, there has been more and more research on well-being with new perspectives adapted to the conditions of time and place, one of which is school well-being. School well-being is a subjective and emotional evaluation of the experiences of school residents that focuses on the quality of comfort at school (Steinmayr et al., 2018). The assessment is about aspects of satisfaction in school, positive effects in school, and adverse effects in school (Tian et al., 2016).

One of the concepts of school well-being that is widely used is Konu & Rimpelä (2002). Konu and Rimpela (2002) refer to Allardt's theory of welfare. Konu and Rimpela (2002) explain that school well-being is a learner who feels the atmosphere in school related to teaching and
education to achieve knowledge and achievement. School well-being includes four aspects, namely school conditions (having), social relationships (loving), means of self-achievement in school (being), and health status (Konu & Rimpelä, 2002).

Wellbeing in this study refers to well-being in the context of teacher professionalism, which is associated with collaboration with the surrounding environment to create mutual welfare through lesson study. This concept extends from simply focusing on the individual development of teachers to collective improvement that affects the entire school community and surrounding environment.

Lesson Study provides a platform for teachers to receive peer support and recognition for their efforts, which is vital for professional well-being (Gueldner et al., 2020). Integrating the community in this process adds an external and supportive validation layer, showing teachers that the wider community values their work. It can increase job satisfaction, reduce stress, and reinforce a sense of belonging and pride in the profession (Stachl & Baranger, 2020).

Through community integration in Lesson Study, schools can also build shared responsibility for their communities' educational and social well-being (Wahlstrom & Louis, 2008). This creates a shared ownership of educational outcomes and school well-being, affirming that education is a communal responsibility, not just an educational institution (Berei, 2020).

The school enhances teachers' professional capacity through integrated Lesson Study with community collaboration. It strengthens social cohesion and community well-being, creating a supportive environment for all members to learn, grow, and develop.

3 RESEARCH METHODS

3.1. DATA COLLECTION

The data used in this bibliometric analysis are Scopus-indexed publications to ensure the most comprehensive period required and the high quality of the collected publications. The data was collected based on the period from 1998 to 2024. The search relates to the keywords "school well-being," "Lesson Study," and "Teacher Education," which include titles, keywords, and abstract sections. Data is collected using Scopus and selected using VOSviewer. One hundred eighty-one publication data were obtained from search results in Scopus that had relationships to be analyzed.

3.2. ANALYSIS METHOD
The study used bibliometric analysis that adopted a four-step procedure recommended by Donthu et al. (2021). This includes determining the purpose and scope of research, choosing analytical techniques, collecting data for analysis, running the analysis, and reporting findings.

In Step 1: Defining the purpose and scope of the study, this study aims to explain the bibliometric and intellectual structure of the extant literature relating to "school wellbeing."

In Step 2: Selecting techniques for analysis, this study uses bibliometric and content analysis techniques to map the development of literature related to "school wellbeing."

In Step 3: Collecting data for analysis, we described in detail the data collection section of the previous section to identify articles and related bibliometric and bibliographic data for analysis.

In Step 4: Perform a bibliometric content analysis and report the findings from the analysis.

This document is assembled according to these steps with several step adaptations. First, we will observe how school well-being and study are explained and measured. Second, we will use literature analysis to analyze articles on lesson study and teacher education. We will look for prominent and up-to-date research patterns in school well-being through lesson study programs to provide a comprehensive overview of research developments in this field. Finally, we conclude this review by setting out some directions for future research. This research process is illustrated in Figure 1.

**Figure 1**
*The research process that will be carried out in this study*

4 RESULTS AND DISCUSSIONS

The findings of this bibliometric analysis are presented based on the productivity of publications related to "school well-being," "lesson study," and "teacher education." More specifically, the findings relate to prominent themes, theoretical foundations, novelty variables, and novelty of the research topic concerned with the matter.
4.1 PRODUCTIVITY RESEARCH PUBLICATION ON "SCHOOL WELLBEING"

In answering the first problem statement related to the productivity of research publications on "school wellbeing," publications are analyzed based on the year of publication. The number of publications published in a particular field may reflect changes in research over time. Figure 2 shows the volume of annual publications from 1998 to 2024 on "school well-being." The number of published publications seen from the elements of titles, abstracts, and keywords has increased and decreased. Overall, publications about "school wellbeing" have not been trendy. It started in 1998 and had a hiatus of up to 10 years. This publication reappeared in 2008 and gradually peaked in 2023 with 13 publications. Thus, it can be said that the topic of publication on "school wellbeing" is still low productivity, and opportunities for publication on related topics are still very wide open. Here is a graph regarding the productivity of publications on "school well-being."

Figure 2

_Graph of the number of publications about “school wellbeing.”_

Meanwhile, based on the results of keyword co-occurrence analysis, topics and themes about "school wellbeing" were found in article publications ranging from 1998 to 2024. Based
on 85 scientific articles collected, the keyword frequency function is used in VOSviewer software to produce a keyword map where each keyword has a network. Here is a frequency table representing topics about “school well-being.”

### Table 1

**High-frequency keywords represent topic clusters “school well-being.”**

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Occurrences</th>
<th>Total link strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>31</td>
<td>349</td>
</tr>
<tr>
<td>Article</td>
<td>28</td>
<td>315</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>303</td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>292</td>
</tr>
<tr>
<td>Child</td>
<td>20</td>
<td>249</td>
</tr>
<tr>
<td>Wellbeing</td>
<td>29</td>
<td>190</td>
</tr>
<tr>
<td>Humans</td>
<td>15</td>
<td>186</td>
</tr>
<tr>
<td>Adolescent</td>
<td>17</td>
<td>178</td>
</tr>
<tr>
<td>School</td>
<td>20</td>
<td>148</td>
</tr>
<tr>
<td>Major clinical study</td>
<td>12</td>
<td>139</td>
</tr>
<tr>
<td>Schools</td>
<td>13</td>
<td>129</td>
</tr>
<tr>
<td>Human experiment</td>
<td>10</td>
<td>127</td>
</tr>
<tr>
<td>Controlled study</td>
<td>11</td>
<td>123</td>
</tr>
<tr>
<td>Questionnaire</td>
<td>10</td>
<td>111</td>
</tr>
<tr>
<td>Adult</td>
<td>8</td>
<td>91</td>
</tr>
<tr>
<td>Teacher</td>
<td>9</td>
<td>77</td>
</tr>
<tr>
<td>School wellbeing</td>
<td>20</td>
<td>77</td>
</tr>
<tr>
<td>Student</td>
<td>7</td>
<td>75</td>
</tr>
<tr>
<td>Education</td>
<td>6</td>
<td>70</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>6</td>
<td>70</td>
</tr>
<tr>
<td>Psychology</td>
<td>5</td>
<td>70</td>
</tr>
</tbody>
</table>

Based on these findings, it can be concluded that research with the keyword "school wellbeing" in 1998-2024 was carried out 20 times. Based on keyword co-occurrence data, 21 widespread "school wellbeing" keywords were found. VOSviewer keyword cluster analysis shows that the research topic is related to the keyword "school wellbeing." Based on the diagram of the results of data processing using VOSviewer, the dominant keywords that appear in the study are related to the topics "well-being," "teacher," and "education," as seen in Figure 3.
Figure 3
Research network diagram related to “school wellbeing.”

4.2 PRODUCTIVITY RESEARCH PUBLICATIONS ABOUT “LESSON STUDY” AND “TEACHER EDUCATION”

The second problem formulation is related to the productivity of research publications with the themes "Lesson Study" and "Teacher Education." Based on the results of publication analysis in the last ten years, namely 2014-2024, 196 publication documents were found with the themes "Lesson Study" and "Teacher Education." Figure 4 shows the volume of publications from 2014 to 2024. In general, it can be concluded that there has been an increase in the number of publications in the last ten years. The most publications related to the theme "Lesson Study" and "Teacher Education" are in 2023, with 36 documents. Therefore, it can be concluded that publications or research related to "Lesson Study" and "Teacher Education" are getting wider and increasing. The general improvement can be seen in the following graph.
Figure 4

*Graph the number of publications with the keywords “Lesson Study” and “Teacher Education.”*

Meanwhile, based on the analysis of the co-occurrence of keywords in research related to "Lesson Study" and "Teacher Education," ten critical keywords can be used as a reference in the novelty of the topic to conduct further research. Cluster analysis with VOSviewer also closely correlates with many studies over the past ten years. The proximity relationship of these keywords can be shown in Figure 5 below.
4.3 NOVELTY OF SCHOOL WELLBEING FACTOR TOPICS THROUGH LESSON STUDY PROGRAMS

This section presents answers to respond to the third problem formulation regarding the novelty of the topic of well-being factors through a lesson study program. In bibliometric analysis, an overlay visual representation depicts light-colored circles as an indicator that a topic is under-researched or has not been extensively explored. In contrast, circles with dark colors indicate that the topic has been heavily researched. This is visible and mapped in Figure 6.
The first keyword that became the basis of interest in this topic was "professional learning community." Several studies on these two keywords discuss both approaches supporting continuous professional development. Teachers continue learning and growing through Lesson Study and professional learning communities, improving their teaching skills and increasing job satisfaction and motivation (Stoll et al., 2006).

The second and third keywords that base interest in this topic are "initial teacher education" and "professional learning." Topics regarding initial teacher education include educational theory, content knowledge, and teaching practice experience. The ultimate goal is to prepare aspiring teachers for classroom challenges and give them the tools necessary to teach effectively. "Lesson Study" and "Initial Teacher Education" are two critical aspects of teacher professional development and have a significant influence on overall school well-being (Brady & Wilson, 2021; Desimone, 2009). Although they are focused on different stages in a teacher's career, these two approaches can complement each other to create a more effective and supportive educational environment.

The fourth and fifth keywords that can be developed from the topic are "teacher professional development" and "collaboration." The topic of "teacher professional development" has an essential purpose in the lesson study process: to improve the quality of teaching and learning and support teacher professional growth. Lesson Study provides a platform for effective teacher collaboration (Hrastinski, 2021; Schipper et al., 2022). Through this teamwork, teachers feel more supported by peers, which can reduce stress and increase job satisfaction to strengthen school well-being.
The sixth keyword that can be developed from the topic is "pedagogical content knowledge." In the context of lesson study, "pedagogical content knowledge" has a vital role in strengthening school well-being by providing a structure that supports continuous teacher professional development and improves teaching practices (Akram et al., 2021; Nilsson, 2008), which directly affects the positive learning environment for students and teachers.

Moreover, the seventh keyword that can be developed from this topic is "professional learning communities." Professional learning communities provide a supportive organizational and cultural framework for lesson study (Zhang & Pang, 2016; Zhang & Sun, 2018). In professional learning communities, Lesson Study can be considered a core activity where teachers are actively involved in action research and practice-based learning. Professional learning communities facilitate ongoing discussion and reflection, an essential part of the Lesson Study process (Tam, 2015; Tan & Caleon, 2016). Both concepts focus on collaboration, continuous learning, and improved teaching practices, all of which contribute to creating a more effective and supportive learning environment in school wellbeing.

5 CONCLUSION

Based on the formulation of the problem prepared, there are three results from the research conducted. First, the topic of publication on "school well-being" is still low productivity, and opportunities for publication on related topics are still very wide open. Second, based on the analysis of the co-occurrence of keywords in research related to "Lesson Study" and "Teacher Education," essential keywords can be used as a reference in the novelty of the topic to conduct further research. Third, some exciting topics were found through the use of school well-being factor keywords through the "lesson study" cluster, namely "professional learning community," "initial teacher education," "professional learning," "teacher professional development," "collaboration," "pedagogical content knowledge," and "professional learning communities." These themes are still not widely used, so they can be developed and collaborated to support research novelty.

REFERENCES


