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Strategy formulation in education: A systematic literature review

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Abstract

This study explored the various literatures in Strategy Formulation and its impact in education utilizing the systematic review analysis design via the PRISMA framework. Studies were included if they (1) involved strategy formulation in education both in public and private basic and higher education institutions and in business/ organizations; (2) investigated variables and/ or phenomenon of strategy formulation related to the educational system and delivery; and (3) included at least one nature of strategy formulation as utilized in education. All searches in Google Scholar were exported to Endnote, with duplicates deleted. The time frame of articles was 2020-2022. Thematic analysis was done to collect data on the strategy formulation in education. Based on the comprehensive review of the 14 articles, three themes were identified for the strategies utilized in education, namely: sharing vision in the organization, assessing the environment internally and externally, and planning lifelong learning activities. Two themes about the impact of strategy formulation were also communicated, namely: establishing control over decisions and improving the educational quality and service. This amounts to the need for collaboration and cooperation in planning, monitoring, and evaluating progress towards key outcomes to facilitate decisions in education and provide the path for better a future of education.

1. Introduction

Strategic management, which focuses on the creation of long-term strategies for the effective management of environmental opportunities and dangers in light of the organization's strengths and limitations [21,23], is a subset of strategy formulation [21,24,33]. Strategy formulation is planned in a methodical manner [33], beginning with the development of vision and mission statements as well as long-term goals [15,21,22,24] and devising strategies and establishing policy standards [21].

In the educational setting, the design of strategies for defining school programs is based on the applicable curriculum and is tailored to school settings and regional requirements [30]. Prior to implementing K to 12 policy, the government already started to make improvements to its system with the 2005 Basic Education Reform Agenda, which had five main foci: (1) school-based management; (2) teacher education advancement; (3) national learning approaches; (4) quality assurance and accountability; and (5) changes to DepEd administration, utilizing cutting-edge technology to ensure more efficient use of resources, whether staff or funds [17]. It includes the different learning programs, production units, internships, regional centers, building cooperative partnerships, generating resources, and promoting the fulfillment of school existence [30].

However, the COVID-19 pandemic has forced modifications in the educational process as a consequence [26,34] which expedites the shift from an outdated traditional schoolhouse model of instruction to the new normal culture of

education model and increases the rising responsibilities of stakeholders, notably teachers and educators [20,37] and jumpstarts the demands of the Fourth Industrial Revolution (FIRE) [28,35]. It also points that traditional strategy planning and formulation processes may not be enough for the "new normal." Pressure is already mounting, underlining that environmental and ethical behavior should become the standard in the new normal [19].

To be more specific, there are still several issues in some colleges and universities, and the teaching approach has to be changed [36] throughout time through strategic formulation [25,36]. With these changes in the educational setting, curricular delivery is also affected. This further highlights the need to consider the set vision and mission prior to COVID-19. If the organization did not exhibit a clear objective, vision, or mission, public/employee support, and a thorough understanding, the execution of strategy development would be meaningless [16]. A strategy must be created in the following ways in order to be effective: (1) a straightforward, understandable, and long-term goal line; (2) systematic familiarity of the competitive situation; (3) impartial evaluation of the resources; and (4) operative embedding [5]. A plan is useless if it cannot be successfully implemented [15].

This is not the initial review of the literature on strategy formulation in education; for instance, the use of a recognized strategy formulation procedure has a positive effect on the performance of the organization [18]. Additionally, SWOT analysis, when properly applied, continues to serve as a useful overarching outline that bridges instructive debates on how best to teach strategy formulation, and as such, it remains a treasured and flexible method for training students in strategy formulation [2].

Despite these studies, relatively few systematic reviews on strategy formulation in education were documented based on the various searches. Similar to the differences between our review and those mentioned above, our review only included literature based on empirical research and used the PRISMA framework [27]. This ensures that any policy recommendations made as a result of the review are supported not only by strong ideas but also by evidence from actual practice.

2. Methodology

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards for systematic review reporting [27,31]. Because the setting is under-researched and poorly understood as to its dynamics, a systematic review was judged acceptable to study this topic.

The following research questions served as the review's aim:

- What evidence in the literature is there for utilizing the strategy formulation in education?
- What evidence in the literature is there for the impact of formulating strategies in education?

To ensure that the review was systematic, we carried out the following steps (identification, screening, eligibility, and included) as recommended by Moher et al. [27] and illustrated diagrammatically in Figure 1. The strategic search terms were as follows: "Strategy Formulation in Education," "Strategy Formulation in Schools," and "Strategy Formulation in Learning."

2.1. Inclusion and Exclusion Criteria

Studies were included if they (1) involved strategy formulation in education both in public and private basic and higher education institutions and in business/ organizations; (2) investigated variables and/ or phenomenon of strategy formulation related to the educational system and delivery; and (3) included at least one nature of strategy formulation as utilized in education. As presented in Table 1, qualitative, quantitative, and mixed methods studies and meta-analysis were included and there were no criteria placed on the research design. Studies conducted before 2020, written in foreign languages other than English, inaccessible using the Google Scholar search engine, and relating to strategy formulation but not on the topic identified, were excluded.
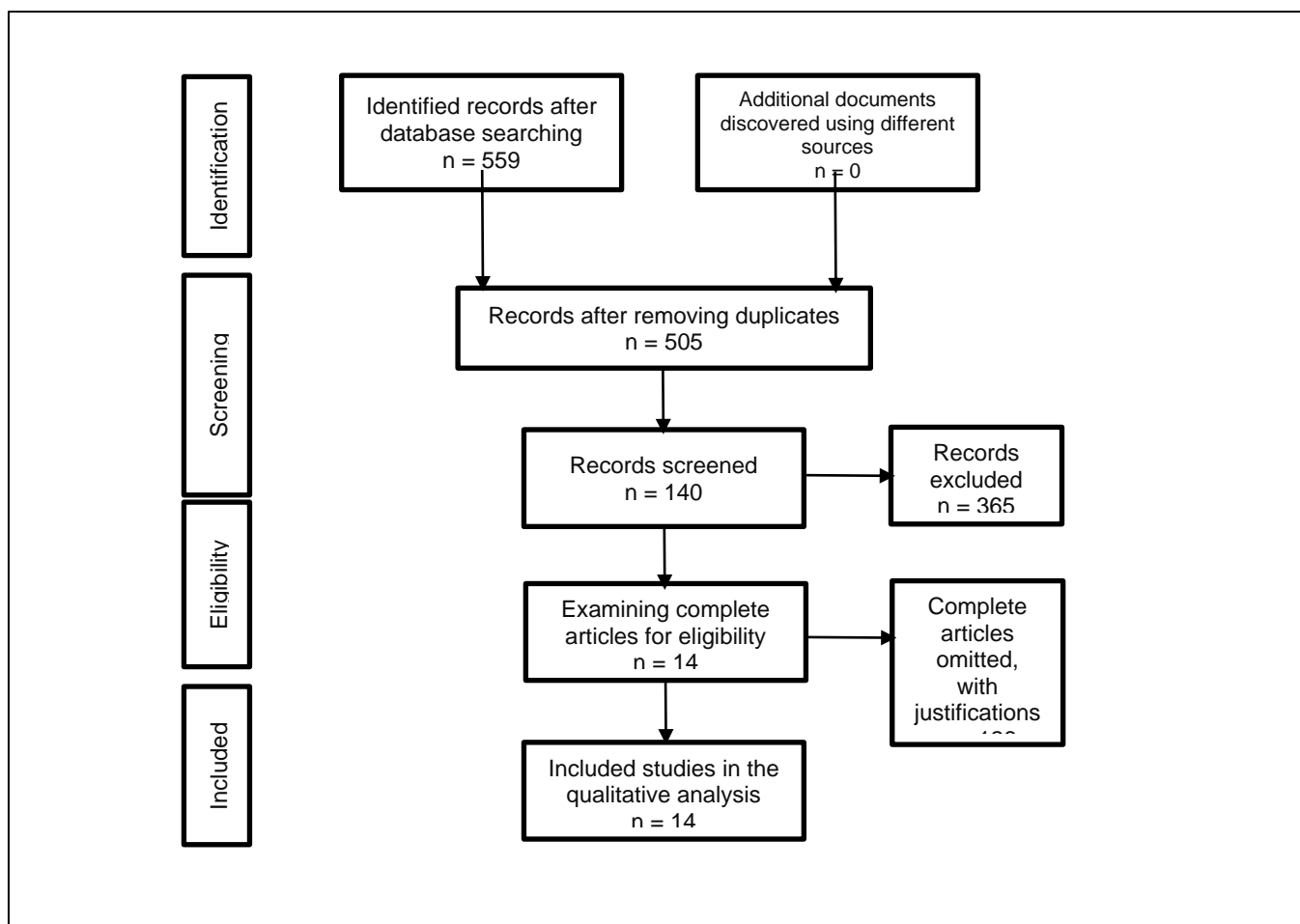
Figure 1 PRISMA Flow Diagram of the Study

Consistent with our definition that strategy formulation in education deals with the development of vision and mission statements, long-term goals, objective evaluation of resources, devising strategies, and establishing policy standards, the following criteria were applied. This means further that studies have to be in consonance with the strategy formulation in the educational setting or businesses with emphasis on how organizations or schools have impacted with this.

Table 1 Inclusion and Exclusion Criteria of the Study

Eligibility Criteria	Inclusion	Exclusion
Time Frame/ Years	2020 to 2022	Below 2020
Language	English	Other Languages
Methodology	Quantitative/ Qualitative/ Mixed Methods	
Electronic Databases	Google Scholar	Other Sources/ Inaccessible Studies
Publication Status	Published in Journals/ Books, Unpublished	

2.2. Search Strategy

Google Scholar, one electronic database, was searched until September 2022. The time frame was 2020-2022. The reference lists of the included research and related reviews were meticulously examined in order to find additional publications. Duplicate results were removed after exporting all searches to Endnote. Titles and abstracts were filtered independently by CTG and PC, and unrelated content was removed. CTG, who was not involved in the search, applied

inclusion and exclusion criteria after retrieving full-text versions of the selected articles. Conflicts were handled and settled.

2.3. Data Extraction

The following data was extracted from the selected studies: (a) author, year of publication, country, (b) study design, (c) participant characteristics, (d) study aim, (e) definition, (f) results and discussion, (g) conclusion, (h) recommendations/ implications, and (i) strategy formulation utilized in education. One researcher retrieved relevant data, which was confirmed by another. Disputes were settled through a consensus-building conversation. Table 2 shows the reviewed studies related to strategy formulation.

Table 2 Reviewed Studies on Strategy Formulation

ID	Author/s, Year	Country	Discipline	Sample Size	Research Focus
1	AlDhaheri et al. (2020)	Malaysia	Education	403	Analyzed how strategy formation affects on education and development within the UAE's public sector
2	Lohrke et al. (2021)	USA	Education	N/A	Created an improved SWOT framework for strategy formation instruction
3	Ansori et al. (2022)	Indonesia	Entrepreneurship	N/A	Figured out how to empower pupils at the Fathul Ulum Puton Islamic Boarding School in Diwek Jombang to cultivate an entrepreneurial culture.
4	Utomo et al. (2020)	Indonesia	Education	N/A	Investigated the creation of a plan Islamic Junior High School (SMP) al-Azhaar Tulungagung and Junior High School (strategic plan) Negeri 1 Tulungagung deeply (SMP)
5	Fuertes et al. (2020)	Chile		N/A	Reviewed the literature on the key theories underlying the development of organizational structures, the formulation of strategies, and the evaluation of strategic options
6	Limbong & Wiguna (2020)	Indonesia	Education	N/A	Strategic planning was the primary objective at one of Surabaya's private vocational high schools
7	Mintzberg et al (2020)	UK	Education	N/A	Described the 10 components of the beast of strategy creation
8	Johnson et al. (2020)	UK	Education	N/A	Investigated the tactic relies on the recognized virtues of this best-selling book
9	Cahapay (2020)	Philippines	Education	N/A	Developed a collection of teacher education abilities by integrating several curricular sources
10	Haiyan & Allan (2020)	China	Education	100	Looked at the part principals play in construction and maintenance of PLCs in Chinese schools
11	Nicdao & Ancho (2020)	Philippines	Education	N/A	Figured out the size of stakeholders' engagement in the development and implementation of the school improvement plan in terms of the assess, plan, and act phases, and explain the procedures for stakeholder involvement in the development and implementation of the school improvement plan

12	Gomez et al. (2020)	Ecuador	Education	N/A	Determined and ranked the ongoing training solutions for university professors that were suggested and assessed by four experts
13	Benavides et al (2020)	Colombia	Education	N/A	Outlined the salient characteristics of the DT implementation process that has taken place at HEIs
14	Leiblen & Reuer (2020)	USA	Education	142	Accumulated and integrated strategic management ideas

2.4. Risk of Bias (Quality) Assessment

Each included article was subjected to a risk of bias/quality evaluation using a modified approach developed for analyzing mixed-method reviews. The research design, randomization, blinding, and comprehensive outcome data were used to evaluate quantitative experimental investigations. The adequacy of sampling, rationale of measurements utilized, and management of confounding variables was used to evaluate observational research. The goal of the study, the adequacy of the design or process, the rationale of the sampling, the description of the participants, the data collection and analysis, and the discussion of the researchers' reflexivity were all taken into account. The risk of bias for each individual study was collected, assessed by one researcher, and discussed by another member if there were any discrepancies in the evaluation.

2.5. Data Analysis

Beginning with the final listing of the literatures, demographic data was done in terms of study year, country, and research focus/ topic area. To collect data on the strategy formulation in education and its impact, thematic analysis was done which highlighted the different constructs creating the themes for strategy formulation used in education and its impact.

3. Results and Discussion

The 14 reviewed articles were based on nine countries according to the following distribution: Abu Dhabi (1), Chile (1), China (1), Colombia (1), Ecuador (1), Indonesia (3), Philippines (2), United Kingdom (1), & United States of America (3) (see Table 3). Five studies (36%) focused on basic education while three studies (21%) were based on higher education. Moreover, around 43 percent (43%) was not identified as these are systematic literature reviews and books.

Table 3 Distribution of the Reviewed Studies by Country and by Educational Level

Place of Publication/ Study	Educational Level			Total
	Basic Education	Higher Education	Not Identified	
Abu Dhabi			1	1
Chile			1	1
China	1			1
Colombia		1		1
Ecuador		1		1
Indonesia	3			3
Philippines	1	1		2
United Kingdom			1	1
United States of America			3	3
Total	5	3	6	14

3.1. Strategy Formulation Utilized in Education

Based on the comprehensive review of the 14 articles, we have identified three themes for the strategies utilized in education which are: *Sharing Vision in the Organization, Assessing the Environment Internally and Externally,* and *Planning Lifelong Learning Activities.* Table 4 presents the different themes on the strategy formulation utilized in education.

Sharing Vision in the Organization. This theme has three constructs: Sharing Responsibility for Growth through Cooperation, Constructionist Approach, and Harmonizing Operations and Governance. It was shown that there are helpful practices for a certain school, typical techniques used by most individuals, just guidelines-based procedures, and special school-specific activities, but the amount of engagement in these behaviors is high. To aid in the growth and development of the school as a whole, teamwork and shared accountability is necessary [11]. Through setting this goal, members become aware of the processes and contribute to the vision sharing. In the Constructionist Approach, the interpretive viewpoint should characterize the job of a strategist as innovative, artistic, and creative. The finest work produced by strategic managers evokes wonderful connotations [7]. The learning institution reveals that the conventional view of strategy formation has been a dream, one that may have appealed to certain managers but did not reflect what really takes place in companies. To harmonize the operations and governance, organizations need to encourage the accumulation and the incorporation of strategic management concepts [14].

Assessing the Environment Internally and Externally. In establishing strategy formulations for organizations, it is highly evident in the papers to bank on environmental scanning. The factors external and internal to the organization should be included in the strategy formulation. This theme has two constructs which are Utilizing Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis for Organizing Strategic Decision and Applying a Corporate or Competitive Strategy. SWOT analysis for organizing strategic decision making is vital [2]. Likewise, analyzing the internal and external environments might help formulate these strategic choices. Location, value excellence, and community needs are three defining elements that might impact an educational institution's competitiveness. Strategic management is the art and science of creating, carrying out, and evaluating cross-functional decisions that aid a company in achieving its objectives. Strategic management integrates management, marketing, finance and accounting, production and operations, research and development (R&D), and information systems in order to achieve organizational success [6].

When it comes to applying a corporate or competitive strategy, institutions need to utilize techniques for formulating and implementing strategy and analyze the empirical results and investigation of the impact of strategy development [1]. The competitive strategy process includes the formulation of a comprehensive plan for how an institution will compete, together with the selection of appropriate goals (or purposes) and the necessary policies to attain those goals. This process is broken down into seven steps: evaluation of the organization's vision and mission, internal and external analysis, identification of key success factors, development of a cause-and-effect relationship diagram, definition of strategic objectives, selection of key performance indicators, and development of the balanced scorecard [5].

Planning Lifelong Learning Activities. This theme has four constructs: Incorporating Professional Learning Communities (PLCs) in teacher-learning activities, enrolling in diploma courses for pedagogical enhancement, empowering students through the formation of an entrepreneurial culture, and utilizing digital transformation approaches. Incorporating PLCs in teacher-learning activities requires the use of a range of strategies, many of which have been handed down from past generations, to enhance teacher proficiency and promote a professional mindset across the school community. Core PLC principles—shared vision, focus on learning, reflective discourse, deprivatization of practice, and collaborative activities—are closely aligned with what school principals intentionally promote and establish. A shared vision must be developed and communicated, collegial learning should be facilitated and monitored, and relationships must remain harmonious and collaborative [10]. This is further supported by the view that strategy based on experience is a demanding simulation that integrates theory and practice of strategy-making within the authentic context of a changing organization and sector [8].

For organizations to formulate effective strategies, members must engage in professional development programs. These initiatives can transform members' perspectives and ultimately enhance their pedagogical competence [12]. Similarly, strategies for student empowerment aimed at developing an entrepreneurial culture—particularly in Islamic boarding schools—emphasize the formulation of vision, goals, and strategies that cultivate lifelong learning experiences [3]. Moreover, higher education institutions must adapt to the digital revolution to remain responsive to contemporary demands. Digital transformation helps explain the complex interactions among participants in digitally supported learning environments [13]. Therefore, this dimension must be carefully considered when planning curricular and instructional adjustments.

Table 4 Themes on Strategy Formulation Utilized in Education

Themes on Strategy Formulation Utilized in Education	Characteristics	Study ID	Number of Studies
Sharing Vision in the Organization	Sharing Responsibility for Growth through Cooperation	[11]	1
	Constructionist Approach	[7]	1
	Harmonizing Operations and Governance	[9] [14]	2
Assessing the Environment Internally and Externally	Utilizing Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis for Organizing Strategic Decision	[2] [6]	2
	Applying a Corporate or Competitive Strategy	[1] [5]	2
Planning Lifelong Learning Activities	Incorporating the Professional Learning Communities (PLC) in the Teacher-Learning Activities	[8] [10]	2
	Enrolling in Diploma Courses for Pedagogical Enhancement	[12]	1
	Empowering Students through Forming the Entrepreneurial Culture	[3]	1
	Utilizing Digital Transformation Approaches	[13]	1

3.2. Impact of Strategy Formulation in Education

Based on the reviewed 14 articles, the impact of strategy formulation is communicated in two themes which are *Establishing Control Over Decisions* and *Improving Educational Quality and Service* (see Table 5).

Establishing Control Over Decisions. This theme has generated four constructs: the creation of the planning school, balancing strategic opportunities, and improving outcomes and methodologies. The planning school refers to the development of systematic procedures for defining and, where possible, measuring organizational goals [7]. This approach allows for the formulation, elaboration, and justification of strategies within an expanding hierarchy, making planning inherently linked to control. It involves benchmarking best practices from other organizations or refining internal processes through experimentation by eliminating inefficient routines, transferring effective routines across units, and introducing new ones. Moreover, it provides flexibility for emerging ideas, preliminary findings, conjectures, multiple perspectives, engagement with practice, and a stronger emphasis on innovation within traditional strategic challenges [14].

Another important outcome of strategy formulation is balancing strategic opportunities. The impact of strategic choices on both financial and non-financial performance indicators requires institutions to strike a balance between inherent risks and strategic opportunities to gain deeper insight into strategic decision-making. To maximize value in the strategy teaching-and-learning process, strategic opportunities must be emphasized [8].

Furthermore, strategy formulation improves institutional outcomes and methodologies. It has been shown to enhance organizational efficiency, provide clearer structures to guide managerial activities, and distinguish between results and methods for assessing the effectiveness of strategy design and organizational performance [1]. In a similar vein, strategy formulation aligns leadership roles with key management systems and processes and leverages causal linkages among strategic objectives. The development of a competitive strategy involves creating a comprehensive model for how an institution will compete, together with its goals and the policies required to achieve them [5]. Additionally, digital and strategic transformations can trigger deeper institutional changes that go beyond technological advancement, influencing organizational culture, administrative structures, pedagogical approaches, instructional practices, research and extension functions, and evaluation processes, as well as the stakeholders involved [13].

Improving Educational Quality and Service. This theme has four constructs: excellence in education and enhanced mobility of stakeholders, increased collaborative professional development, quality leadership in community-based programs, and the creation of a pedagogical paradigm. The use of SWOT analysis is vital for structuring strategic

decision-making and serves as an effective bridge between theory and practice. SWOT analysis is a core instructional technique that can be applied in schools to scaffold courses and enhance students' understanding of the complex process of strategy formulation [2]. The value of entrepreneurial culture is likewise strengthened through strategic design. Student empowerment processes related to the complexity of activities, value formation, and the development of an entrepreneurial culture are enhanced through well-formulated strategies [3].

Long-term planning is a key element of strategic management, as it seeks to identify and develop innovative and diverse future opportunities while anticipating emerging trends [6]. Ultimately, effective strategic planning can enhance student, teacher, and administrative mobility, as well as improve the overall quality of education [9].

Similarly, strategy formulation contributes to increased collaborative professional development. Findings indicate that administrators, external agents, and partner institutions significantly influence professional development opportunities. Moreover, a large proportion of teachers reported that leadership support for collaborative professional growth was good or very good, highlighting the positive role of leadership in professional learning communities [10].

Another important outcome is the enhancement of quality leadership in community-based programs. Team charisma and leadership skills have been identified as valuable assets for institutions, contributing to the effectiveness of school-based and community-oriented practices [11]. These leadership-driven practices may serve as a foundation for developing community-based school programs, even though contextual factors may vary across institutions. Furthermore, the need to develop instructional models in higher education has been emphasized, particularly in the field of continuing education, where strategic approaches are applied to guide decision-making and instructional design [12].

Table 5 Themes on the Impact of Strategy Formulation in Education

Themes on the Impact of Strategy Formulation in Education	Characteristics	Study ID	Number of Studies
Establishing Control Over Decisions	Creation of Planning School	[7] [14]	2
	Balancing Strategic Opportunities	[8]	1
	Improving Outcomes and Methodologies	[1] [5] [13]	3
Improving the Educational Quality and Service	Excellence in Education and Enhanced Mobility of Stakeholders	[2] [3] [6] [9]	4
	Increase in Collaborative Professional Development	[10]	1
	Quality Leadership in Community-Based Programs	[11]	1
	Creating Pedagogical Paradigms	[12]	1

4. Conclusion

This study seeks to provide a thorough review of the various literature on strategy formulation and its impact on education using the system review analysis approach. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was adopted for reporting systematic reviews and ensuring that reviews' policy recommendations are backed by evidence from practice. Extant literature must be consistent with strategy formation in educational settings or businesses, with an emphasis on how organizations or schools have affected this.

To collect data on strategy formulation in education and its impact, thematic analysis was performed, which emphasized the various constructions that created the themes for strategy formulation in education and its impact. Following a thorough analysis of the fully screened publications, three themes for strategy formulation in education were recognized: sharing vision in the organization; assessing the environment internally and externally; and planning lifelong learning activities. Two further themes concerning the impact of strategy formulation in education were conveyed: establishing control over decisions and improving educational quality and service. As per reviews' results,

strategy formulation was viewed as a critical technique for building a system that could withstand changes for institutions to function. It enables the institution to master the delivery of services through a well-defined strategy.

Given the paucity of studies on strategy formulation, and with the goal of developing this critical area of research, we believe that this review and the identified future research initiatives will serve as a useful roadmap and a source of inspiration for other researchers. As suggested, researchers may focus on how educational leaders propose changes after formulating strategies. There is also a need for a school community to work collaboratively in planning, monitoring, and analyzing progress toward essential outcomes to facilitate educational decisions and pave the way for a brighter educational future. Likewise, it is desirable to delve deeper and further explore a variety of theoretical viewpoints regarding the findings of the study on strategy formulation in education, particularly in light of the pandemic's abrupt shift in education.

Compliance with ethical standards

Disclosure of conflict of interest

We, Cromwell F. Gopo, Prima C. Canillas, Anna Lynn Nuyad, Johnell E. Zamora, Cecille T. Godin, Sharra Mae Tagaro, and Marilou D. Junsay, declare that we have no conflicts of interest or competing interests to disclose regarding the publication of this manuscript or any institution, product, or entity mentioned within. Furthermore, we have no affiliations or financial interests in products or organizations that could influence the study outcomes presented or compete with those discussed in the manuscript.

Statement of ethical approval

All ethical standards were strictly followed in the conduct of this study, including the use of the PRISMA framework. All sources and authors referenced in the manuscript were properly cited in accordance with academic and ethical guidelines.

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