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A Proposed Model for Policies and Procedural Tasks to Develop Curriculum in General Education Stages Based on Beauchamp's Model of Curriculum Engineering

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ABSTRACT: This research aimed to construct a model for curriculum development in general-education stages that incorporates clear and specific policies and procedural tasks by adopting an approach aligned with Beauchamp's Curriculum Engineering Model as a potential alternative to the model currently applied in Saudi Arabia. To achieve this, a descriptive-analytical methodology was employed via a survey review of the scientific literature on curriculum development and Beauchamp's Curriculum Engineering Model. In light of these reviews, a proposed curriculum-development model was constructed, comprising four phases: planning, implementation, follow-up and evaluation. A corresponding list of policies and procedural tasks was then developed and presented in the form of a closed-open questionnaire. The Delphi Technique was applied by submitting this list to five purposively selected curriculum and instruction experts over two rounds, with individual discussions held after each round. The findings yielded a model grounded in curriculum-engineering principles based on analytical and inferential literature reviews and identified 24 procedural policies encompassing 66 procedural tasks across the planning, implementation, follow-up and evaluation phases. Finally, the research recommended that these policies and tasks be reviewed, refined and approved by the relevant curriculum authorities and thereafter employed in curriculum design and development processes.

Keywords: curriculum system, curriculum policies, curriculum engineering model, curriculum development.

I. INTRODUCTION

The 20th century marked a pivotal era in the history of educational science, characterized by rapid social, economic, and scientific advancements that led to the emergence of the field of curriculum studies. This development began with the writings of the American educator Franklin Bobbitt, particularly his seminal work "The Curriculum" (1918), where he posed philosophical questions about the purpose and societal value of the curriculum, its significance for learners, and the benefits it was intended to achieve [1]. Subsequent research and studies in the field solidified its status as a distinct scientific discipline, addressing contentious issues related to the curriculum's structure, components, planning, design, development, implementation, and evaluation processes.

The research contributions of the American educator George Beauchamp stand out as some of the earliest and most significant efforts in this field. Beauchamp proposed a theoretical framework for curriculum development by describing, analyzing, understanding, and interpreting curriculum phenomena comprehensively. His perspectives on "Curriculum Engineering" and "Curriculum Design" were

particularly noteworthy, as they represented a scientific attempt to provide a conceptual framework for the procedures of curriculum development. Beauchamp's work emphasized identifying the sources of decisions in curriculum planning and implementation, which were rooted in diverse cultural and societal contexts, as well as the needs and interests of learners. He also addressed the nature of related challenges, the issues inherent in the process, and the roles of theorists and practitioners involved [2].

"Curriculum System" is defined as a decision-making framework encompassing procedures related to the curriculum's functions as part of the broader educational system. These functions include the development, implementation, and evaluation of both the curriculum and the system supporting it [3]. The curriculum system intersects with other educational systems, particularly the teaching and evaluation systems. He identified "Curriculum Design" and "Curriculum Engineering" as critical dimensions of curriculum theory. Beauchamp justified his use of the term "Curriculum Engineering" in his model as a means to precisely delineate the required actions at each stage of curriculum development—planning, improvement, implementation, and evaluation [3]. The overarching goal of these processes was to transform and refine ideas about all aspects of the curriculum to create a meaningful impact on the community and the environment where it is implemented. This was achieved by constructing a model for an effective curriculum capable of fulfilling these objectives [4]. Curriculum design involves specifying learning outcomes (objectives), organizing learning experiences (cultural content), and presenting them in a written plan (document) that reflects progressive development across educational stages. It highlights the interactive relationships among curriculum elements and includes plans for curriculum evaluation and revision, as well as guidelines for its usage [3, 2].

The process of curriculum design (Figure 1) follows Beauchamp's model dynamically [5]. It begins by establishing a general framework for learning outcomes (objectives) with broad formulations, leaving detailed articulation to practitioners at the instructional level. These objectives encompass cognitive, skill-based, and affective domains. The second element is the curriculum's cultural content, which includes organized disciplinary knowledge-preferably selected for higher educational stages-and general practical knowledge, more suited for earlier stages [3]. This content aligns with general and specific objectives defined during instructional planning.

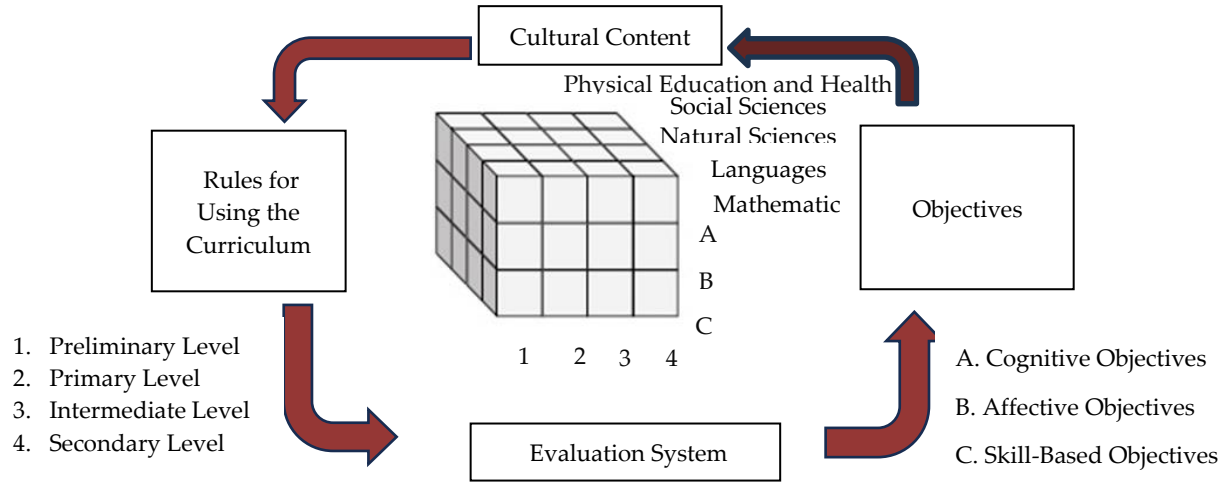

FIGURE 1. Beauchamp's curriculum design model [3, 5].

Beauchamp emphasized organizing cultural content by aligning objectives (cognitive, skill-based, and affective) across specialized knowledge domains such as languages, health, physical education, fine and applied arts, natural sciences, social sciences, and mathematics [5]. The organization adheres to standards of

scope, sequence, and both vertical and horizontal articulation according to the educational stage (preparatory, elementary, intermediate, secondary). Furthermore, the model underscores the importance of providing instructional guidelines for curriculum users, including rules and directives to modify experiences during implementation. Evaluation is an integral and comprehensive phase in the model, aiming to provide feedback that encompasses the curriculum system, teaching processes, and all associated factors.

Curriculum engineering, as a fundamental process within the curriculum system, refers to the reciprocal interactions among the system's components. This process encompasses the description of essential operations, including planning, implementation, evaluation, and review, all aimed at developing an effective and applicable curriculum system for schools [6]. The significance of curriculum engineering lies in its contributions to curriculum production, improvement, and assessment of its practical effectiveness in real-life contexts [7]. Moreover, it serves as a dynamic model [3] underpinning a set of intricate and interrelated processes for curriculum development, while delineating the tasks to be performed by those responsible for curriculum implementation and improvement [4].

Beauchamp identified the primary participants in curriculum engineering as curriculum supervisors, school administrators, and consultants engaged at each stage of the process. Their roles include organizing and directing various operations and tasks across planning, implementation, evaluation, and review to ensure the curriculum remains active and effective [3]. Curriculum engineering encompasses all operations and tasks associated with curriculum management [8], which includes three core processes: curriculum planning, implementation, and evaluation (Figure 2).

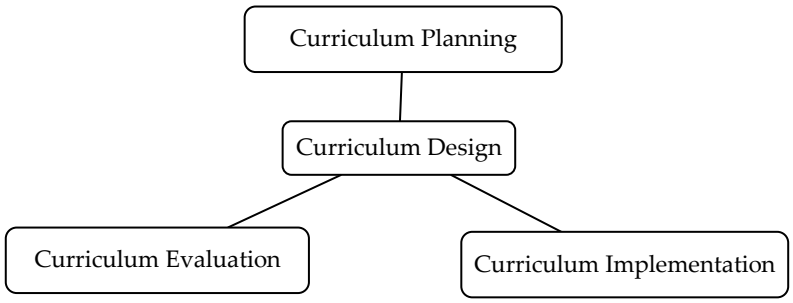

FIGURE 2. Curriculum engineering processes in Beauchamp's model.

Derived from Beauchamp's perspective on curriculum engineering is his curriculum development model, classified by some as an administrative model [5]. This model involves the following phases and stages (Figure 3) [2, 4, 9].

1. Selecting and defining the target geographical area for curriculum development, which may range from a single school or district to a nationwide scope.
2. Selecting participants in the curriculum development process. Beauchamp advocated broad community involvement in curriculum development, including experts and specialists in curriculum studies (e.g., academics and university professionals), practitioners such as supervisors, teachers, laboratory technicians, librarians, and counsellors, alongside other community leaders (e.g., policymakers, industrialists, and entrepreneurs).
3. Establishing procedures and policies for curriculum development, which include:

- Forming committees and task forces, specifying their roles.
- Evaluating the current state of the curriculum through observations, interviews, and reports.
- Identifying suitable criteria for developing the new curriculum.
- Drafting and documenting the initial version of the revised curriculum, considering the social, political, and historical context of the target area.

4. Implementing the revised curriculum, ensuring continuous monitoring and follow-up.

5. Comprehensive evaluation of the curriculum, incorporating formative feedback throughout all stages of development and implementation in schools.

The development process, according to this model, should be flexible, allowing transitions between stages during the development cycle [3]. The developed curriculum ultimately constitutes the primary output of the curriculum system, characterized as both a planned curriculum and a perceived curriculum [2].

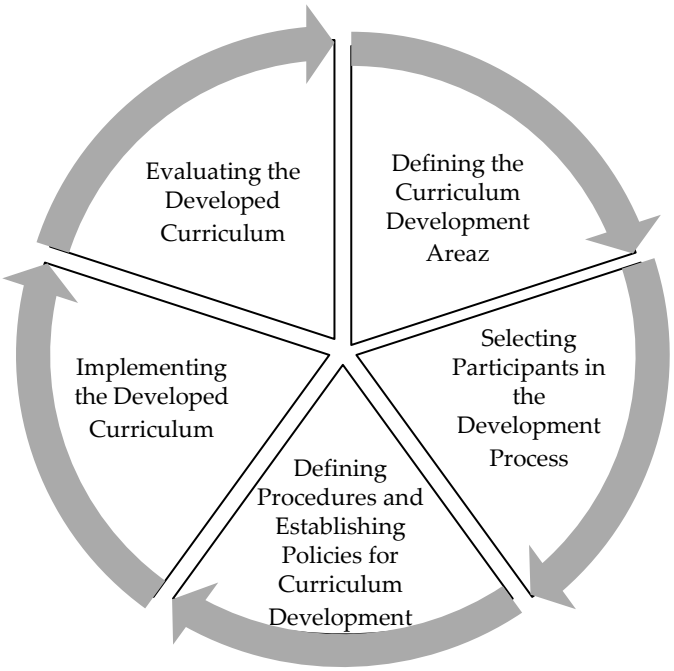

FIGURE 3. Stages of curriculum development in Beauchamp's model.

Beauchamp's model is distinguished by its comprehensiveness, clarity of concepts and steps, emphasis on meticulous planning, and precision in specifying required procedures to achieve desired outcomes. Additionally, the model highlights formative and summative evaluations and the utilization of feedback, with applicability at school, local, and national levels [10]. Moreover, this model is regarded as the most suitable for an educational system grounded in centralized organization and administration [11]. Despite the limited research addressing curriculum development as outlined in this research, as evidenced by the review of diverse sources, the available studies provide a foundation for supporting the theoretical framework underlying the current research. For instance, a study conducted a detailed analytical review of various curriculum development models spanning different approaches. Using a descriptive analytical methodology, the researchers examined sources addressing these models, including Tyler's (behavioral), Hilda Taba's, Beauchamp's (administrative), and Roger's models. The study identified critical procedures deemed essential for curriculum development, emphasizing their role in enhancing teachers' implementation and ensuring curriculum success and continuity [12].

Another study was conducted aimed to evaluate the suitability of a comprehensive proposed curriculum planning model for Saudi Arabia. Employing a descriptive analytical approach, the researcher reviewed various Arab and international curriculum planning models and proposed a model comprising six stages (design, construction, experimentation, implementation, evaluation, and development). This model was evaluated by 14 educational specialists, achieving unanimous approval for its suitability, with an average agreement rate of 99.4% for the appropriateness of procedures associated with each process. The findings underscore the model's applicability for general education curriculum planning in Saudi Arabia and recommend its adoption by relevant authorities [10].

The Regional Centre for Quality and Excellence in Education conducted a comprehensive study aimed at developing policies and systems for curriculum development in Arab countries. To achieve this objective, a descriptive-analytical approach and a comparative method were employed. Data were collected through questionnaires and in-depth interviews. The sample included 30-47 experts who completed the questionnaires, and 5-14 experts who participated in the interviews. Through a review of relevant literature, reports, and curriculum models, four dimensions of policies and systems were identified, pertaining to curriculum planning, design, implementation, and evaluation. These dimensions were initially mapped against the practices and experiences of selected international benchmarks, including Scotland, Australia, Canada, Singapore, and South Africa. Subsequently, the study examined the status of these dimensions in chosen Arab countries: Saudi Arabia, Oman, Jordan, Tunisia, and Morocco. The study then proposed a flexible development framework suited to Arab educational systems. The findings revealed that curriculum development in Arab countries is often reactive and lacks a clear, comprehensive plan. Furthermore, the study highlighted ambiguities in the legislative frameworks governing curriculum development, which are often limited to general criteria. The concept of curriculum is frequently misunderstood and equated with textbooks during the development process. Additionally, the study identified a lack of meaningful participation from key stakeholders in curriculum development. The study recommended the establishment of clear legislative frameworks for curriculum planning and development, and the enhancement of stakeholder involvement in the development process [13].

Three curriculum development models were analyzed [5] to assist developers in identifying appropriate principles and procedures. Employing a descriptive analytical methodology, the study examined Tyler's (behavioral), Beauchamp's (administrative), and Saylor, Alexander, and Lewis's (organizational) models, comparing the development processes across these models. The study concluded that curriculum developers predominantly adhere to behavioral and administrative principles and procedures.

Most curriculum-development models share four core stages comprehensive needs analysis, design, implementation, and evaluation—yet they argued that the ultimate success of any model depends on adopting a clearly structured, participatory approach that engages all relevant stakeholders, integrates contemporary technologies, and rigorously specifies and adapts procedural steps to accommodate varying contexts. Moreover, policy formulation in curriculum development has evolved beyond traditional frameworks to include digital curricula as an established reality requiring equivalent methodological rigor [14]. In response, applied a mixed-methods design and the Delphi technique with a panel of curriculum experts to propose a digital-curriculum model comprising four phases design, development, implementation, and evaluation each defined by a detailed set of tasks and policies [15].

An overarching analysis of these studies underscores a clear consensus on the necessity of a standardized, theory-driven model to guide curriculum design and development one that is both logically coherent and aligned with existing educational policies, with transparent, step-by-step procedures to ensure that development objectives are consistently met. Several authors warn that reliance on broad standards or general principles alone can foster ambiguity, misinterpretation, and fragmented implementation, thereby undermining the entire development process [10, 13]. Comparative investigations have repeatedly highlighted Beauchamp's model for its procedural clarity and its compatibility with centralized administrative frameworks for curriculum engineering [5, 10, 12]. Accordingly, the present research's proposed model—grounded in Beauchamp's Curriculum Engineering approach seeks to build on this body of work by addressing the existing gap in clearly articulated policies and procedures. It does so by delineating precise policies and procedural tasks for each phase of curriculum development, thereby enhancing the governance and coherence of the development process. Therefore, it is hoped that the proposed model in the current research, which is based on Beauchamp's model, will contribute alongside all previous efforts to bridging the existing gap resulting from the lack of clarity in the current curriculum development processes, particularly in terms of policies and procedures. This model aims to address that by proposing specific policies and procedural tasks for each stage, thereby supporting the governance of the overall process.

II. RESEARCH PROBLEM

Since the inception of formal education in Saudi Arabia in 1925, curriculum development has not been prioritized by the education management system. Early efforts relied on adapting curricula from other Arab countries to suit the Saudi context, complemented by initial contributions from educational experts, such as Muhammad Kamel Al-Qassab's development of the first Saudi curriculum in 1926 [16]. The establishment of the Ministry of Education in 1953 marked the beginning of efforts to create a national curriculum [17].

Curriculum development in Saudi Arabia has traditionally been conducted through a centralized system under the supervision of the Ministry of Education, relying on committees comprising ministry specialists and university faculty members. These processes, driven by general guidelines set by the Ministry, incorporate internal and external justifications, as well as national, global, knowledge-based, and societal references. They are implemented through projects, such as the Comprehensive Curriculum Development Project and the Mathematics and Science Curriculum Development Project [18- 23].

A pivotal moment in the evolution of Saudi curriculum development arose with the launch of Saudi Vision 2030, a comprehensive reform and development agenda that, among its recommendations for enhancing educational quality, called for substantive curriculum reform through the formulation of strategic plans and initiatives and the adoption of models and policies designed to establish an integrated national curriculum. This curriculum is to be aligned with contemporary scientific, technological, and pedagogical advances, responsive to twenty-first-century educational imperatives, and focused on preparing students for life, character development, and global competitiveness [21- 23]. In response, a specialized Curriculum Development Centre was established, the National Framework for General Education Curriculum Standards was promulgated, and the process of designing and revising new curricula commenced—steps that underscore the imperative of drawing upon theoretical scholarship and educational research to inform and sustain these modern curricular reforms, policies, and procedures.

While curriculum development in Saudi Arabia adheres to specific procedures and policies, these have often lacked governance, resulting in inconsistent practices, ambiguous interaction among curriculum operations, and the absence of a clear timeline for sequential steps. This underscores the need for explicit legislative frameworks to support curriculum development processes [13].

The absence of standardized frameworks, clear policies, or specific models for curriculum development in the Saudi education system has resulted in a lack of clarity in the practices of curriculum planners. This has led to a loss of interaction and integration among the various stages of the curriculum process, from planning to implementation, evaluation, and development. Furthermore, there is a dearth of clear and sequential timelines for each step of the curriculum development process [13, 10]. The design and development of a curriculum necessitates the establishment of clear and central criteria and principles for each stage of the curriculum process, including its development, implementation, monitoring, improvement, evaluation, and course correction, to ensure its effectiveness in schools [4]. This is precisely the foundation upon which the curriculum engineering model and its underlying philosophy are built, as emphasized by Beauchamp [24]. Maintaining a curriculum system requires a thorough understanding of its components and processes, as well as a clear and precise definition of the associated areas, steps, and tasks.

This research seeks to develop a curriculum-development model underpinned by concise, clearly defined procedural policies for each phase of the development process, drawing on Beauchamp's curriculum-engineering framework. Beauchamp's model is distinguished by its transparent step-by-step procedures, strong emphasis on practical tasks, and broad stakeholder engagement particularly among mid-level education administrators and implementing bodies such as schools. Its logical coherence, adaptability, and compatibility with Saudi Arabia's traditionally centralized curriculum management make it an ideal foundation for reform. The proposed model adapts and extends Beauchamp's vision by embedding elements of decentralization within each phase, thereby laying the groundwork for systematic governance of curriculum processes and ultimately enhancing both the quality and sustainability of curriculum outcomes. The main research questions of this work are addressed as:

1. What are the stages of the curriculum development process according to Beauchamp's model of curriculum engineering?
2. What are the stages of the proposed model for curriculum development?

3. What are the appropriate policies and procedural tasks for the stages of curriculum development according to the proposed model?

The main objectives of the proposed study are given as:

1. To delineate the stages of curriculum development according to Beauchamp's Curriculum Engineering Model.
2. To enhance the model currently employed for curriculum development in Saudi Arabia by specifying and refining the policies and procedural tasks for each development phase, using the Curriculum Engineering framework as a theoretical reference.
3. To describe the phases of the proposed curriculum-development model.
4. To identify, from the perspective of subject-matter experts, the policies and procedural tasks most appropriate for each phase of the proposed curriculum-development model.

Significance of the Research is listed are the following:

1. The phased procedures of the proposed model can inform and guide curriculum-development efforts across all stages of general-education.
2. The specified policies and procedural tasks may serve as a governance framework for curriculum-development processes within the Saudi Arabian context.
3. This research opens avenues for further scholarly inquiry into curriculum-development models.
4. It re-examines and highlights George Beauchamp's pedagogical philosophy, his Curriculum Engineering theory, and its applicability to contemporary curriculum practices.
5. To the best of the researcher's knowledge, this is one of the few studies that operationalizes Curriculum Engineering as a practical methodology for curriculum development.

III. RESEARCH TERMINOLOGIES

1. CURRICULUM DEVELOPMENT MODEL

A model is a theoretical tool used to represent events or phenomena and their relationships in an accurate and precise manner, contributing to understanding and interpreting ambiguous concepts [4, 3]. Curriculum development refers to a process aimed at constructing a practical and implementable curriculum system [3] through organized efforts to align the curriculum with emerging social, educational, and economic variables, thereby achieving better and deeper impacts on learners [26].

For this research, the operational definition of a curriculum development model is a proposed descriptive procedural framework outlining specific stages (planning, implementation, monitoring, and evaluation) for developing a curriculum, including specified policies and tasks to assist stakeholders in decision-making and accomplishing requirements accurately for each stage.

2. PROCEDURAL POLICIES

Policies are a set of legislations (laws, decisions, necessary rules) in the form of guidelines and broad outlines that assist in decision-making and unify work culture by organizing activities, execution processes, and defining responsible roles, aiming to achieve primary visions and objectives of public policy. They require collective commitment through unified procedures [26]. In this research, procedural policies for curriculum development are operationally defined as standardized, measurable, and observable statements that include specific tasks for each stage of the proposed curriculum development model. These policies aim to outline the context, methods of implementation, and guide stakeholders in the curriculum development process.

3. CURRICULUM ENGINEERING

Beauchamp defined curriculum engineering as a concept referring to the interaction between internal components of the curriculum system, encompassing all processes necessary to make the curriculum system effective in schools, including curriculum planning, implementation, evaluation, and review [3].

Operationally, curriculum engineering in this research refers to a planning intellectual process that involves formulating and constructing policies and procedural tasks for curriculum development stages (planning, implementation, monitoring, and evaluation). This process defines the structure of the developed curriculum and guides participants in its design, implementation, and evaluation to achieve its objectives and ensure its continuity in school education.

4. GENERAL EDUCATION

General education is defined as education programmes that are designed to develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare participants for more advanced education programmes at the same and to lay the foundation for lifelong learning [25].

IV. MATERIAL AND METHOD

The research employed a descriptive-analytical methodology for several reasons. First, it aligns with the approaches used in all prior studies reviewed for this research. Second, it treats curriculum and its developmental processes as an objective, well-defined phenomenon that can be systematically analyzed and interpreted to construct an integrated, inferential framework. Accordingly, a set of procedural policies and tasks for curriculum development—grounded in Beauchamp's model was proposed for collective agreement through a two-phase process. In the first phase, the theoretical literature pertaining to the research's key variables was reviewed, leading to the identification of the stages of the proposed curriculum-development model and the construction of a corresponding list of policies and procedural tasks. In the second phase, the Delphi technique was employed: this model and its accompanying policies and tasks were presented to five curriculum and instruction experts (all Professors) over two rounds, during which they reviewed, refined, and reached consensus on the proposed items.

1. RESEARCH SAMPLE

A purposive sample of five experts was selected to review the model's stages along with their corresponding policies and procedural tasks. These experts, drawn from different cities and universities, all consented to participate after being briefed by the researcher on the research's objectives and the procedures required for evaluating the model. Each panelist holds a full professorship in curriculum studies and possesses both extensive theoretical knowledge and practical experience—demonstrated by their research activity and involvement in curriculum-development projects and committees across various institutions. Their combined expertise ensures access to deep insights and substantive data, thereby enhancing the research's validity.

Table 1. Provides a description of the expert sample.

Expert	Specialty	Academic Rank	Affiliation	Professional (Years)
1	Curriculum & Instruction	Professor	Qassim University	25
2	Curriculum & Instruction	Professor	Islamic University (Madina)	25
3	Curriculum & Instruction	Professor	Imam Muhammad ibn Saud Islamic University	20
4	Curriculum & Instruction	Professor	Princess Nourah bint Abdulrahman University	20
5	Curriculum & Education Development	Professor	Qassim University	20

2. RESEARCH TOOL

The principal data-collection instrument comprised a closed–open questionnaire detailing procedural policies for each phase of curriculum development, supplemented by individual discussion sessions. This

instrument was developed through an analytical and inferential review of diverse theoretical literature on curriculum design and development. The initial version featured 23 procedural policies encompassing 76 associated tasks, systematically distributed across the model's four phases. In addition, the questionnaire specified a proposed timeframe for each phase and identified the responsible authority for every task.

The initial list of procedural policies and tasks was subjected to a two-round Delphi process, during which each expert received the instrument individually and had two weeks per round to provide feedback. After each round, the researcher systematically reviewed and compared the experts' comments to forge a shared perspective. In the first round, experts offered substantive observations on the model's phases and the associated policies and tasks suggesting rewording of items, the removal of redundancies, and the inclusion of additional policies or tasks resulting in a revised list. In the second round, only minor phrasing adjustments were proposed, indicating a high level of consensus. Throughout both rounds, the researcher conducted brief (15–20 minute) remote, one-on-one discussion sessions with each expert to clarify issues, deepen mutual understanding, and incorporate expert insights directly. The final instrument comprised 24 procedural policies and 66 tasks, as summarized in Table 2.

Table 2. Description of the components of the policies and procedural tasks list for the proposed model in its initial and final versions.

Phase	Round 1		Round 2	
	Policies	Tasks	Policies	Tasks
Planning	1	9	2	15
Implementation	11	33	11	17
Monitoring	8	24	8	20
Evaluation	3	10	3	14
Total	23	76	24	66

Appendix (1) provides a detailed final list of these policies and tasks for each stage, the proposed timeframe for each stage, and the responsible authority.

The researcher adhered to rigorous ethical standards in selecting a purposive sample of experts specializing in curriculum development, each with demonstrable theoretical and practical contributions to the field, to ensure the reliability of the data and findings. Voluntary informed consent was obtained from all participants after the research's objectives, procedures, and anticipated timeframes were fully explained. Participants' anonymity was maintained by withholding personal identifiers, although their institutional affiliations and years of professional experience were recorded with permission. Prior consent was secured before each discussion session, and experts were given the flexibility to choose convenient times following each Delphi round. It was explicitly clarified that participation carried no legal obligations or liabilities and that the research was undertaken as an independent scholarly endeavor by the researcher, unaffiliated with any external organization.

V. RESULTS AND DISCUSSION

1. THE FIRST RESEARCH QUESTION

For answering the first research question quoting "What are the stages of the curriculum development process according to Beauchamp's model of curriculum engineering?", the theoretical framework, through a review of Beauchamp's curriculum development model and his view on curriculum engineering, addressed all target components. Details of the model and its major procedures were presented and discussed.

2. THE SECOND RESEARCH QUESTION

For answering the second research question enunciating "What are the stages of the proposed model for curriculum development?", the researcher reviewed sources and studies on curriculum development and referred to Beauchamp's curriculum engineering model and its procedures. This resulted in the proposed model (Figure 4), which includes four main stages, each encompassing sub-processes requiring guiding policies and procedural tasks. The primary objective of the proposed model is to enhance the existing curriculum-development mechanism in Saudi Arabia by defining and specifying clear procedural policies and tasks for each phase of the development process, thereby strengthening its governance and ensuring its long-term sustainability. These stages are described as follows:

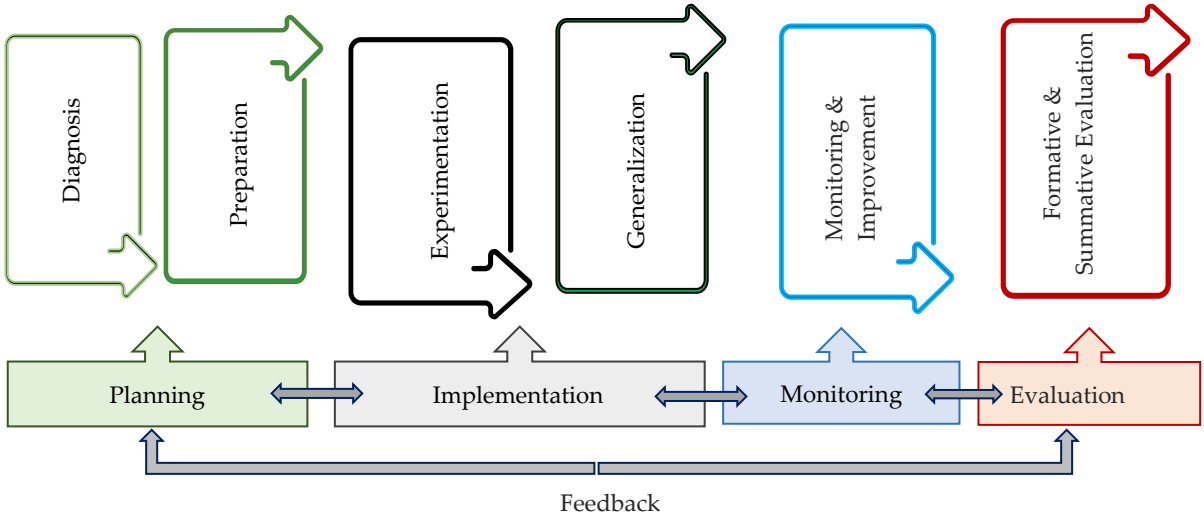

FIGURE 4. Phases of the proposed curriculum development model.

2.1 First: Planning Stage

This stage involves diagnosing and analyzing the current state to develop visions, sub-plans, and decisions about how to proceed with curriculum development in a way that ensures the achievement of predetermined goals and the efficiency of the adopted procedures within a defined timeline [27].

Curriculum planning includes all necessary processes and procedures for planning and writing a curriculum, which involves identifying the scope of development, selecting participants, and organizing decision-making mechanisms. Beauchamp emphasizes two essential considerations during curriculum planning: the number of participants and the complexity of tasks. The greater these factors, the more complex the planning process becomes. This stage aligns with Beauchamp's initial steps in his curriculum engineering model, which he considered the first task in curriculum engineering [3]. It comprises two processes within the proposed model: diagnosis and preparation.

2.1.1 Diagnosis

Diagnosis in this stage refers to a deep pre-review of the current curriculum to collect data and evaluate its implementation, leading to decisions aligned with the diagnosis results. This step provides logical justifications for curriculum development and serves as compelling evidence for the educational community regarding the need for change [28]. Tasks associated with this process include:

- Forming a specialized committee to diagnose and research the existing curriculum.
- Assessing the current state and identifying issues within the existing curriculum.
- Reviewing results from comprehensive evaluations of the existing curriculum.
- Collecting, organizing, and analysing data from diverse sources about the existing curriculum.

- Reviewing the philosophy and components of the existing curriculum.
- Planning and organizing resources needed for curriculum development.
- Analyzing the educational, psychological, and social needs in the curriculum.
- Deciding whether to continue, revise, or discontinue the current curriculum.

2.1.2 Preparation

It is an administrative process related to decision-making concerning the tasks required for preparing the curriculum development by the relevant committees and setting the appropriate procedures for each task. The required tasks in this process can be identified as follows [3, 4, 27- 32]:

- Identifying participants, their roles, and levels of involvement.
- Conducting briefing sessions about the curricula targeted for development.
- Establishing timelines for implementation by schools and authorities.
- Providing professional learning resources and support materials for teachers to aid in implementation.
- Preparing the educational environment psychologically (to mitigate resistance) and materially (ensuring all required human, material, and educational resources are available).
- Forming central and subcommittees.
- Writing the actual revised curriculum.
- Establishing effective communication systems between participants, utilizing advanced technology.
- Preparing procedural plans for implementing the revised curriculum.
- Developing suitable evaluation tools and methods.
- Providing an effective feedback system.
- Establishing a monitoring and follow-up system for all stages of implementation.

2.2 Second: Implementation Stage

Beauchamp defines curriculum implementation as the processes necessary to ensure the curriculum is applied and used by teachers, forming a critical point for improving teaching strategies. This stage emphasizes the link between the curriculum and teaching practices, helping to predict the educational outcomes of proper implementation. Involving teachers in planning strengthens their commitment during implementation [3]. In the proposed model, the implementation stage is defined as the practical stage where the planned visions and ideas for the revised curriculum are transformed into measurable, observable, and adjustable realities. It includes two processes: experimentation and generalization.

2.2.1 Experimentation

Experimentation can be defined as the trial implementation of curricula in a limited number of schools and classrooms before their generalization. The aim is to ensure the validity of the developed curriculum and to make the necessary adjustments based on practical field observations. This process involves experts, teachers, and students to arrive at the most suitable version of the curriculum [34].

The objectives of experimenting with the curriculum under development include identifying its strengths and weaknesses across various dimensions, making necessary modifications before full implementation, and uncovering potential challenges in the curriculum's application and execution. Additionally, it verifies that participants in the experimentation process (teachers, educational supervisors) possess the required academic and pedagogical competencies. It also ensures that the elements of the developed curriculum meet predetermined standards and align with the strategy and philosophy of the development process [27, 30, 33).

The curriculum experimentation process is conducted at three levels, beginning with preliminary (laboratory) experimentation. This involves testing the developed curriculum on a small sample of the target audience over a specified period, with initial observations recorded and a report prepared accordingly. This is followed by secondary (limited) experimentation, during which the curriculum revised based on the results of the preliminary experimentation—is tested on a broader scale, such as one or more schools, with observations documented and a corresponding report prepared. Finally, comprehensive (field) experimentation is undertaken, where the developed curriculum—further refined based on the outcomes of

the secondary experimentation is implemented on a wider scale encompassing diverse regions, with observations systematically recorded and a detailed report produced [31, 34]. Tasks required for experimentation include:

- Forming a committee with high scientific and technical capabilities to supervise the experimentation process.
- Preparing public opinion for the new curricula and their experimentation mechanisms.
- Selecting and preparing schools for curriculum experimentation.
- Preparing the individuals involved in the curriculum's implementation (students, teachers, school leaders, parents, and educational supervisors).
- Providing and preparing the resources and educational materials for the curriculum under experimentation.
- Developing a training plan for the experimental curricula and training participants involved in the process.
- Establishing a timeline for the experimentation process.
- Gradually implementing experimental curricula on small samples, followed by larger ones, and monitoring and following up on these experiments.
- Collecting data on the quality of the curriculum under experimentation and the extent to which academic standards are achieved among students using tools like (observations, interviews, listening sessions, teacher reports, supervisor reports, and tests).
- Submitting a comprehensive report with recommendations and proposals by the supervising authorities to the entities responsible for curriculum development.

2.2.2 Generalization

The generalization process of the curriculum refers to the decisions and procedures related to the final (unlimited) application of the curriculum after completing the experimentation steps. The importance of this process is evident in its ability to minimize risks and resistance to the curriculum, as follows the experimentation phase, which has significantly addressed potential deficiencies or shortcomings in the developed curriculum [35].

The key tasks involved in the process of generalizing the developed curriculum include [27, 28, 33, 35]:

- Preparing public opinion and raising awareness about the nature of the phase of generalizing the newly developed curricula.
- Training those responsible for implementing the newly developed curricula, including teachers, educational supervisors, and school leaders.
- Preparing and equipping the educational environment (e.g., educational materials, laboratories, and technological resources).
- Developing the necessary assessment and monitoring tools to ensure effective progress during the implementation phase.
- Gradual application of the developed curricula across different grade levels.
- Collecting data on the extent to which students achieve the established academic standards.
- Collecting data on the extent to which the curriculum meets quality standards.
- Submitting periodic reports on the progress of the curriculum dissemination process.

The time frame required for the generalization of the curriculum (referred to as the "curriculum cycle") may extend over 5 to 6 years. This duration is justified by several factors, including the necessity of measuring the curriculum's impact and its ability to effect change within the target group—a process that requires a relatively extended period. Additionally, providing sufficient time for the implemented curriculum allows for more accurate evaluation, engagement with stakeholders, development of new materials and resources, piloting the curriculum in schools, and collecting feedback for review and refinement [32].

2.3 Third: Follow-Up Stage

This stage is defined as the process of ensuring that the application of the developed curriculum is conducted within the correct framework, according to the established timeline, and in compliance with the specified procedures and standards. Monitoring and improvement processes are integral components of the follow-up stage.

2.3.1 Monitoring

Monitoring is defined as the systematic efforts to observe both the strengths and weaknesses of an ongoing program and ensure that performance aligns with established standards. The aim is to assist decision-makers in adjusting their activities and taking necessary corrective actions [36]. It is a crucial task as it provides timely support for identifying issues and deficiencies, enabling the resolution of problems that may arise during the pilot and generalization phases of the curriculum.

The execution of monitoring involves a range of procedures, tools, and methods, including [4, 31, 32, 36, 37]:

- Formation of monitoring committees to oversee the pilot implementation of the curriculum.
- Defining goals and tasks to be achieved.
- Developing monitoring tools based on the specified tasks and timeline.
- Identifying relevant standards and indicators in line with the tasks.
- Issuing periodic reports and submitting them to the relevant committees.
- Surveying the opinions of participants in the pilot process (supervisors, teachers, students).
- Holding regular listening sessions and discussions.
- Observations.
- Reports and records.
- Analyzing test results.
- Discussing periodic reports with entities involved in the curriculum pilot.
- Media surveys.
- Benchmarking against successful international experiences.

The monitoring process differs from evaluation in that its goal is to track any emergent issues during the curriculum experimentation, analyses these observations, and provide immediate feedback. This feedback facilitates the correction of faults and addresses gaps that may arise around the experimented curriculum, providing necessary support when needed. While monitoring shares similar tools and methods with evaluation, Beauchamp asserts that successful curriculum implementation requires clear guidance for teachers and supervisors, which can only be achieved through active leadership from curriculum developers and administrative leaders overseeing implementation [3].

2.3.2 Improvement

Improvement acts as a complementary process to monitoring, particularly during curriculum trailing. Its goal is to provide practical (quick) solutions that help those responsible for the experimentation to address issues related to curriculum components (objectives, content, teaching strategies, educational activities, assessment activities) or factors influencing the curriculum, such as the teacher, teaching procedures, and administrative and technical support. Feedback in this process, according to Beauchamp's model, provides data that contribute to the necessary correction and modification of the curriculum and its teaching process [9].

Tasks for implementing the curriculum improvement process include [27, 29]:

- Identifying areas for improvement (curriculum type, grade level, learning outcomes, objectives, participants).
- Developing a detailed roadmap for the curriculum to be improved.
- Setting a timeline.
- Creating assessment tools to measure aspects of improvement.
- Developing the teaching staff.

- Establishing committees to oversee curriculum improvement during the experimentation phase.
- Creating an improvement plan that includes all curriculum components (objectives, content, etc.) and factors influencing the curriculum (teacher, school administration, learning environment, community).
- Reviewing experimentation results and identifying weaknesses, making necessary adjustments by the curriculum development committees.
- Designing training programs and workshops for participants in the experimentation process based on improvement results.
- Providing immediate consultative services to experimentation participants to assist them in overcoming obstacles.
- Communicating with relevant committees and submitting reports to make final decisions regarding the experimentation phase results.
- Improvements may occur quickly or take several months to a year to complete, and they may involve changes in specific subject areas of the curriculum or the introduction of new areas [32].

2.4 Fourth: Evaluation Stage

This stage is designed to issue judgments regarding the success of the previous stages and determine whether revision or modification is needed, as well as to make appropriate decisions. It also aims to assess the curriculum's viability for continued use [34]. Beauchamp argues that curriculum evaluation includes assessing teacher use of the curriculum, evaluating the curriculum design, measuring student learning outcomes, and evaluating the curriculum system as a whole—ultimately all being part of the curriculum engineering process [3].

This stage involves a variety of methods and tools and is an ongoing process, occurring throughout each stage (formative evaluation), as well as at the end of each stage (summative evaluation). Formative evaluation plays an important role in monitoring each process, helping to gather continuous data for further improvements, adjustments, and refinements [33]. Meanwhile, summative evaluation helps determine the effectiveness of the developed curriculum when implemented in real-world settings. The primary responsibility for this evaluation lies with the entity executing the developed curriculum [34].

Feedback also plays a significant role in the development process by identifying gaps between the actual implementation of the curriculum and the desired outcomes, as well as highlighting strengths and weaknesses in both the curriculum itself and the influencing factors. This process also provides the necessary data for continuous improvement and revision of the developed curriculum [38]. The evaluation process in this stage is carried out through a series of procedures, which include [3, 32, 34, 35]:

- Defining the goals of the evaluation process at this stage and describing the required tasks.
- Developing a procedural timeline for evaluating the curriculum during its application phases.
- Involving specialists in evaluation as part of the main and sub-committees of the curriculum application.
- Designing and selecting appropriate evaluation methods and tools based on the defined objectives and tasks.
- Measuring the impact of the developed curriculum on participants and their engagement with it, using data collection tools such as surveys and interviews.
- Reviewing reports from field visits by educational supervisors and school administrators.
- Holding discussion sessions with participating and affected parties, characterized by transparency and openness.
- Monitoring student performance outcomes and analyzing test results following the curriculum implementation.
- Tracking results from research studies conducted on the developed curriculum.
- Analyzing the costs, returns, and economic feasibility of the curriculum based on its outcomes.

Upon reflecting on the stages and steps of the proposed model, it is evident that it closely aligns with the stages of curriculum development in Beauchamp's model (Table 3). Moreover, the proposed model is consistent with the curriculum development and enhancement mechanism in Saudi Arabia, which follows six stages: diagnosis of the status-quo, preparation, implementation, piloting, evaluation, and continuous feedback [19]. Additionally, the proposed model shares commonalities with the curriculum planning model

[10], which includes six stages: design, construction, piloting, implementation, evaluation, and development, finding that it corresponds with the current decision-making process for curriculum development in Saudi Arabia. Furthermore, the model aligns with the key processes of curriculum development discussed in the Regional Centre for Quality and Excellence in Education's research, which emphasizes the stages of planning, design, implementation, and evaluation. Lastly, when examining Beauchamp's curriculum engineering philosophy, the four stages of the proposed model align with his framework, emphasizing the importance of planning, implementation, and evaluation as essential processes for effective curriculum development [13]. There is a strong convergence between the stages of the proposed model and those identified in prior studies—particularly the planning, implementation, and evaluation phases—yet the current model distinguishes itself by offering a detailed specification of procedural tasks and policies for each stage. This emphasis on explicit step-by-step procedures reflects Beauchamp's (1975) call for clearly defined operational elements, which he argued are essential to achieving maximum efficiency and effectiveness in curriculum engineering.

Table 3: Phases of curriculum development in beauchamp's model and the proposed model**.**

The Stages of Beauchamp's Model	**Phases of the Proposed Model**	
– Identifying the Area of Development – Selecting Participants – Defining Procedures and Policies	Planning	Diagnosis Preparation
Implementing the Curriculum	Implementation	Experimentation Generalization
	Monitoring	Monitoring Improvement
Evaluating the Curriculum	Evaluation	Formative Evaluation Summative Evaluation

For answering the third question citing "What are the appropriate policies and procedural tasks for the stages of curriculum development according to the proposed model?", the average percentage of expert agreement on the list of policies and procedural tasks was calculated. This was conducted over two rounds by adopting the evaluative criterion shown in Table (4) to judge the degree of agreement among the experts.

Table 4. Rating criterion for evaluating the degree of consensus in experts' responses on the list of policies and procedural tasks**.**

Average Percentage Range	**Degree of Consensus**	**Decision**
%100 - % 80	High	Retain
%80 < - % 60	Medium	Modify
%60<	Low	Remove

Table 5. Average percentage of experts' agreement on the list of procedural policies for the proposed curriculum development model.

Phase		Policies	The Experts' Agreement Percentage in the Two Rounds		The Average Agreement Percentage
			The First	The Second	
Planning	Diagnosis	- The status-quo of the implementation of the curriculum to be developed is diagnosed based on evaluative data and information.	-	%100	%100
	Preparation	- The process of curriculum development begins with the preparation and planning phase.	%60	%100	%80
Implementation	Experimentation	- The curriculum experimentation represents an initial sub-phase of the curriculum implementation process and is considered a crucial scientific step.	%100	%100	%100
		- The curriculum experimentation process occurs after completing and approving the previous phases of curriculum planning.	%60	%100	%80
		- Specialized committees are formed to supervise, implement, and monitor the curriculum experimentation process.	%100	%100	%80
		- A detailed plan is developed for the curriculum experimentation process.	%100	%100	%90
		- The experimentation of the developed curriculum is conducted gradually.	%100	%100	%100
		- A sample for the experimentation is selected to be representative of the overall community.	%100	%100	%100
		- The tools and methods for monitoring, collecting, and analysing data related to the curriculum experimentation process are identified.	%100	%100	%80
		- A comprehensive report is issued containing details of the curriculum experimentation process, including problems, adjustments, and recommendations.	%80	%100	%90
		- The experimented curriculum is reviewed based on reports and monitoring results, and adjustments are completed by the committees responsible for curriculum development and design.	%100	%100	%100
		- The experimentation process may be repeated if necessary.	%100	%100	%100
		- The developed curriculum is approved after completing the experimentation procedures and moving to the next phase.	%100	%100	%100

	Generalization	- The curriculum generalization process is a sub-phase applied after completing the experimentation phase of the developed curriculum. - A detailed plan is developed for the curriculum generalization process. - The generalization of the developed curriculum is carried out in a phased manner (gradually), following a chronological order that aligns with the nature of the educational levels and stages.			
	Monitoring	- The stages of implementing the developed curriculum are monitored during the experimentation and generalization phases. - A set of methods and tools is applied to monitor and collect data regarding the implementation process. - Periodic reports are issued on the results of monitoring the implementation stages of the developed curriculum and are submitted to the relevant committees.	%80 %80 %100	%100 %100 %100	%90 %90 %100
Monitoring	Improvement	- Improvement procedures are applied during the implementation stages of the curriculum. - Feedback is activated during the curriculum experimentation and generalization phases.	%100 %80	%100 %100	%100 %90
Evaluation	Formative Evaluation	- The developed curriculum is evaluated during each phase of the development process for the purpose of modification.	%80	%100	%90
	Summative	- The evaluation of the developed curriculum is conducted using diverse and appropriate evaluation methods and tools.	%80	%100	%90
	Evaluation	- A comprehensive evaluation of the final version of the curriculum is carried out to assess its effectiveness.	%80	%100	%90
		Overall Mean	%90.4	%100	%92.9

Table 4 illustrates the coding scheme applied to experts' responses: items receiving unanimous agreement without any change in wording were classified as "retain" and assigned a 100 percent agreement score; those approved with only minor editorial adjustments were also retained but scored at 80 percent agreement; items for which experts concurred on their inclusion but proposed substantial rewording were designated for "modification"; and items deemed entirely unsuitable by consensus were marked for "deletion." The researcher employed the percentage of agreement as the primary metric for evaluating each expert's stance, both between the first and second Delphi rounds and across the entire panel. This statistical approach was deemed most appropriate given the large volume of content 24 procedural policies encompassing 66 discrete tasks distributed over five model phases and the need to systematically compare and synthesize expert judgments into a mutually acceptable final framework.

Initially, the average degree of agreement on the list of policies was presented across the two rounds. In the first round, there were 23 policies, and in the second round, the number increased to 24 policies distributed across the four phases of the proposed model. Table 5 illustrates the results.

As shown in Table 5, the overall average agreement among the experts on the list of policies across both rounds was 92.9%, indicating a high degree of agreement on the proposed policies for curriculum development according to the phases of the proposed model. In the first round, the overall average agreement was 90.4%, reflecting a high level of approval of the proposed policies for the curriculum development phases. The initial instrument comprised 23 procedural policies covering the model's four phases. After the first Delphi round, individual follow-up discussions with the experts produced consensus on adding a diagnostic policy within the planning phase—raising that phase's total to two policies and the overall count to 24 and led to the refinement of several policy and task formulations. In the second round, the revised list was re-submitted and achieved a unanimous overall agreement of 100%. The final set of 24 policies is presented in Appendix 1, and Table 6 summarizes the experts' evaluations of the procedural tasks linked to these policies across all four phases over both rounds.

Table 6. Average percentage of experts' agreement on the list of procedural tasks for the proposed curriculum development model.

Phase		Tasks	The Experts' Agreement Percentage in the Two Rounds		The Average Agreement Percentage
			The First	The Second	
Planning	Diagnosis	4	%60	%100	%80
	Preparation	11			
Implementation	Experimentation	9	%95	%100	%97.5
	Generalization	8			
Monitoring	Monitoring	10	%92	%100	%96
	Improvement	10			
Evaluation	Formative Evaluation Summative Evaluation	14	%80	%%90	%85
Total		66	%82	%97.5	%90

The data in Table 6 show that the overall average agreement among experts on the list of procedural tasks across both rounds was 90%, reflecting a high degree of agreement on the proposed tasks. In the first round, the overall average agreement was 82%, indicating a high level of approval. In the second round, the overall average agreement was 97.5%, showing consensus on the proposed tasks based on the modifications made in the first round.

VI. CONCLUSIONS

The high degree of agreement among experts on the list of policies and procedural tasks for the phases of the proposed curriculum development model can be explained by several justifications. These policies and tasks are directly linked to the specific phases defined in the model, which aligns with the curriculum engineering model upon which the current research is based. Beauchamp emphasizes the importance of clear procedures and accurate observation to ensure the proper implementation of these processes. Additionally, the precise formulation of the policies, along with the clarity of their terms and the ability to observe and measure their implications, likely contributed to this high level of agreement. This positive outcome also

extended to the formulation of the procedural tasks, which were linked to the policies. The researcher also believes that the policies and tasks were structured in a manner consistent with the nature of curriculum development and enhancement in the Kingdom of Saudi Arabia, where decision-making is typically centralized. Furthermore, the definition of a specific time frame for each phase and the proposed implementation authority contributed to the clarity of the model's features and its operational approach. This is in alignment with the recommendation of the Regional Centre for Quality and Excellence in Education [13], which emphasized the necessity of setting a clear time frame for the development process. The current model also aligns with the findings of studies [5, 12], both of which stressed the importance of defining procedures in curriculum design and development, as well as reviewing various curriculum models to select the best policies and procedures. The researcher also argues that providing policies and tasks in a detailed procedural form is a crucial step in establishing legislative frameworks for curriculum development, as recommended by the Regional Centre for Quality and Excellence in Education, a goal which this research sought to achieve [14, 12, 5]. The final list of procedural tasks is presented in Appendix 1. In light of the findings of this research, the research recommended adopting the proposed model in this study for curriculum development in the general education stages, as it aligns with the nature of decision-making in curriculum development within Arab education systems. It is recommended adopting the curriculum development policies as per the proposed model in this study and applying them in curriculum development processes. The research also recommended implementing the procedural tasks for the phases of the proposed model and activate their application in curriculum development efforts and establish specific legislative frameworks for curriculum development that include clear policies and procedural tasks to assist those involved in the development process. The proposed model can serve as a valuable reference for this purpose. The research also recommended reevaluating the proposed model provided in this study comprehensively, and having it reviewed and refined by specialized authorities and conducting further research on the curriculum engineering model and its processes, exploring how it can be utilized in the design, planning, implementation, and evaluation of curricula.

These findings align and harmonize with the governance and sustainability procedures adopted by the Ministry of Education, which is the authority responsible for curriculum development in the Kingdom of Saudi Arabia. These efforts have been operationalized through the establishment of a national center specialized in curriculum development. This center aims to construct, prepare, plan, design, review, and develop curricula by formulating policies and establishing standards that ensure quality, sustainability, and impact for future curricula (National Curriculum Center, 2025).

1. RECOMMENDATIONS

In light of the findings of the current research, the following recommendations are proposed:

1. Adopt the model proposed in this research for developing curricula at the general education stages, as it aligns with the nature of curriculum development decision-making in the Saudi educational system.
2. Adopt and apply curriculum development policies based on the proposed model in the research.
3. Implement the procedural tasks associated with the stages of the proposed model during the process of curriculum development.
4. Establish specific legislative frameworks for curriculum development that include clear policies and procedural tasks to assist those involved in curriculum design and implementation. The current research's proposed model can serve as a beneficial reference in this regard.
5. Conduct a comprehensive re-evaluation of the proposed model presented by this research, with review and further development by specialized bodies such as the National Curriculum Development Center.

2. SUGGESTIONS FOR FUTURE RESEARCH

Based on the study's results, recommendations, and limitations, the following research directions are suggested:

1. Conduct a study to measure the level of educators' knowledge regarding the curriculum engineering model and how it can be employed in curriculum planning and development.

2. Undertake a comparative evaluative study between current curriculum development policies and procedures and those proposed in the model.
3. Conduct a qualitative study in parallel, utilizing the proposed model and the list of related policies and tasks.

3. *RESEARCH LIMITATIONS*

The findings of this research remain bounded by the theoretical framework on which it was based and the researcher's perspective, which assumes compatibility between the proposed policies and procedures and the curriculum engineering model. It also assumes alignment with the stages of curriculum development outlined in the model. These results are open to revision and development from various perspectives and may suit specific educational contexts while being less applicable to others. Therefore, the conclusions of this research are limited to its foundational assumptions and to the current state of curriculum development in the Kingdom of Saudi Arabia.

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Author Contributions

The author conducted all aspects of the research, including conceptualization, methodology, investigation, data curation, formal analysis, and writing-original draft preparation, as well as review and editing.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data supporting the reported results is available from the author upon request.

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Appendix (1)

List of Proposed Stages, Policies, and Procedural Tasks for the Curriculum Development Model in General Education Stages

Phase		Policies	Procedural Tasks	Timeframe (Months)	Executing Authority
Planning	Diagnosis	– The status-quo of the implemented curriculum to be developed is diagnosed based on evaluative data and information.	Establish a central committee responsible for diagnosing the current state of the applied curriculum. - Collect data and information regarding the implemented curriculum from all sources, organize it, and analyze it. – Identify the issues within the applied curriculum by comparing the existing state with the desired outcomes (gap analysis). – Make decisions based on the results of the status-quo diagnosis process.	14–20 months •	• Ministry of Education • Senior Administration (Curricula) Middle Administration (Local Education Administration)
	Preparation	The process of curriculum development begins with	Issue a decision to begin the preparation and planning phase for the curriculum's		

		the preparation and planning phase.	implementation by the authorized entity in charge of the project (Ministry of Education). Prepare and approve the appropriate budget for the curriculum implementation process, in coordination with relevant entities. Establish a communication system between all parties involved in the implementation process to ensure governance over the process and associated procedures. – Conduct a survey and analysis of the educational climate and trends towards the application of the developed curriculum. Develop an organizational structure outlining the stages of the implementation process and the relationships between the involved entities and committees. – Define the committees to participate and determine their objectives and tasks according to the nature of each stage. - Create a regulatory framework for selecting participants in the project, including incentives and rewards. – Develop a procedural plan for the implementation stages. – Develop a timeline for the implementation stages, ensuring accurate time allocation for each phase. – Prepare educational materials and ensure their readiness in coordination with relevant entities. - Develop a plan for training and workshops required for each stage.		
Implementation	Experimentation	– The curriculum experimentation represents an initial sub-phase of the curriculum implementation process and is considered a crucial scientific step. – The curriculum experimentation process occurs after completing and approving the previous phases of curriculum planning. Specialized committees are formed to supervise, implement, and monitor	Establish a central committee responsible for overseeing the curriculum experimentation phase. Form sub-committees in the areas where the curriculum will be experimented. – Create a special coordination committee to provide the necessary experimentation educational materials (experimental books, teacher guides, educational materials, etc.). – Ensure the availability of experimentation educational materials (books, teacher guides, software, educational technologies, etc.) from the responsible entities before beginning the experimentation process. Create a detailed schedule for the curriculum experimentation process, not shorter than one semester nor longer than one full academic	1. 6–12 months	• Senior Administration (Curricula) Middle Administration (Local Education Administration) ▪ Schools

	the curriculum experimentation process. – A detailed plan is developed for the curriculum experimentation process. - The experimentation of the developed curriculum is conducted gradually. – A sample for the experimentation is selected to be representative of the overall community. – The tools and methods for monitoring, collecting, and analyzing data related to the curriculum experimentation process are identified. A comprehensive report is issued containing details of the curriculum experimentation process, including problems, adjustments, and recommendations. – The experimented curriculum is reviewed based on reports and monitoring results, and adjustments are completed by the committees responsible for curriculum development and design. – The experimentation process may be repeated if necessary. – The developed curriculum is approved after completing the experimentation procedures and moving to the next phase.	year, with the possibility of extending the experimentation if necessary. Design and coordinate a media campaign via communication channels and social media networks to accompany the experimentation phase. – Hold introductory sessions to explain the curriculum experimentation process with stakeholders in the experimentation samples (school leaders, supervisors, teachers, students, parents, and others). Organize training sessions for participants in the curriculum experimentation process. – Determine mechanisms for monitoring the experimentation process.		
Generalization	– The curriculum generalization process is a sub-phase applied after completing the	Establish a central committee responsible for overseeing the curriculum dissemination phase.	36–60 months	Senior Administration (Curricula) Middle

		experimentation phase of the developed curriculum. – A detailed plan is developed for the curriculum generalization process. The generalization of the developed curriculum is carried out in a phased manner (gradually), following a chronological order that aligns with the nature of the educational levels and stages.	Form sub-committees in the areas where the curriculum will be disseminated. - Define the necessary requirements (human, administrative, and educational) for the curriculum dissemination process. Allocate the financial resources necessary for the dissemination of the developed curriculum according to the specified plan. – Ensure the availability of the developed curriculum materials (digital and printed) in coordination with relevant entities. Develop a broad preparation plan before the dissemination process begins, in coordination with other bodies, and utilize all media channels to inform the public and stakeholders about the nature, importance, and procedures of the dissemination process. Organize training sessions for participants in the curriculum dissemination process. – Establish mechanisms to monitor the dissemination process.		
Monitoring	Monitoring	– The stages of implementing the developed curriculum are monitored during the experimentation and generalization phases. – A set of methods and tools is applied to monitor and collect data regarding the implementation process. – Periodic reports are issued on the results of monitoring the implementation stages of the developed curriculum and are submitted to the relevant committees.	Establish a central committee responsible for overseeing the monitoring of the curriculum's application. Develop a procedural timeline for monitoring the implementation processes involving experts, educational supervisors, school leaders, teachers, and other stakeholders. - Define the objectives and tasks required for monitoring each process of the developed curriculum's application. Develop monitoring tools based on the tasks defined for the curriculum application processes. Define the standards and indicators associated with the tools in line with the tasks. – Select experienced participants for the monitoring process from relevant stakeholders. Organize training sessions for the monitoring participants. Collect data on the progress of the curriculum implementation processes using appropriate methods and tools. – Analyze and interpret the data collected. Prepare reports and submit them to relevant authorities.	3. Ongoing throughout the experimentation and dissemination phases	• Senior Administration (Curricula) • Middle Administration (Local Education Administration) • Schools

Improvement	Improvement procedures are applied during the implementation stages of the curriculum. – Feedback is activated during the curriculum experimentation and generalization phases.	Develop an improvement plan that includes objectives and procedures for the improvement process. Organize introductory and training sessions on the improvement procedures. - Identify the elements and aspects related to the developed curriculum that need to be improved. – Review feedback data regarding the developed curriculum's areas. Review the reports related to the curriculum's implementation processes. – Accurately diagnose the gaps. – Identify suitable improvement activities. – Define the performance standards to be achieved. Monitor and review the actual improvement. Submit reports on improvement procedures to relevant authorities.	Ongoing throughout the experimentation and dissemination phases	
Evaluation - Formative Evaluation | - Summative Evaluation	– The developed curriculum is evaluated during each phase of the development process for the purpose of modification. – The evaluation of the developed curriculum is conducted using diverse and appropriate evaluation methods and tools. – A comprehensive evaluation of the final version of the curriculum is carried out to assess its effectiveness.	Define the objectives of the evaluation process for curriculum implementation and describe the required tasks. Develop a procedural timeline for evaluating the developed curriculum during its implementation. Involve evaluation specialists in the main and sub-committees for curriculum implementation. – Involve stakeholders in the main and sub-committees for curriculum implementation. – Design and select appropriate evaluation methods and tools for the implementation processes. – Analyze field reports regarding the implementation processes of the developed curriculum. – Analyze evaluation reports concerning the curriculum components – student results. – Conduct evaluation studies on the achievement of learning outcomes from the developed curriculum. – Conduct evaluation studies on teacher performance and their attitudes towards the developed curriculum. – Conduct evaluation studies on the effectiveness of the developed curriculum's elements. – Conduct evaluation studies on the relationship between the developed	5. Final evaluation every 5 years	• Senior Administration (Curricula) • Middle Administration (Local Education Administration) ○ Schools ○ Saudi Commission for Accreditation and Evaluation (Evaluation and Training Authority)

	curriculum and the context in which it is applied. – Conduct benchmarking studies based on (global experiences – national tests – international tests). – Submit periodic (annual) reports on the results of the curriculum evaluation process to the relevant authorities. Submit a comprehensive report on the results of the curriculum evaluation process during the implementation phase to the relevant authorities.