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Integrating 21st Century Skills in Curriculum and Material Development Course

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Abstract

The Curriculum and Material Development (CMD) course content is contextualized in accordance with technological advancements in the era of the Fourth Industrial Revolution and the community's need for educators who possess 21st-century skills. This revision involves integrating 21st-century skill values into curriculum development, syllabi, teaching materials, media, methods, and learning evaluation. Therefore, this study focuses on integrating 21st-century skills and 21st-century digital skills, including critical thinking, creative thinking, collaboration, communication, information literacy, media literacy, technology literacy, flexibility, initiative, social skills, productivity, and leadership, into the CMD course. This study employs the Research and Development method, which involves identifying the problem, describing existing issues, creating a design, validating the design with experts, revising the design of the English learning model, conducting trials, and making revisions. The study's outcomes include three areas of integrating 21st-century skills into the CMD course. The first area involves integrating 21st-century skills into the preliminary activity of designing lesson plans. Secondly, in the process, 21st-century skills should be integrated into the design of learning materials and tasks. Finally, after the activity, 21st-century skills should be integrated into the evaluation and reflection process. The CMD course aims to integrate 21st-century skills throughout the language curriculum. It covers Communicative Syllabus Design, Text-Based Syllabus Design, Product-Oriented Syllabus Design, Process-Oriented Syllabus Design, Content-Based Curriculum, Integrated Curriculum, EFL Curriculum, and EFL Syllabuses and Lesson Plans for Indonesian Students.

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INTRODUCTION

The development of technology in the 21ˢᵗ century does not automatically change teachers' technological literacy competence. The implementation of technology in teaching-learning practices requires the special skills of teachers. Improving teachers' competencies covers both core academic aspects: subject mastery and 21ˢᵗ-century skills development. The 21ˢᵗ-century skills and 21ˢᵗ-century digital skills can start to develop properly by preparing students and teachers with competencies that are beneficial in their next career life (Mohr & Welker, 2017). There are various strategies for students to achieve success in these areas, some of which are by integrating 21ˢᵗ-century curriculum and instruction, integrating multimedia tools, preparing students who can solve complex problems, and using the power of technology to change the world for the better (Alismail & McGuire, 2015). The 21ˢᵗ-century skills and 21ˢᵗ-century digital skills, which cover technical, information, communication, collaboration, critical thinking, creativity, and problem-solving skills, are certainly needed in career life which are dominantly influenced by personality and psychological determinants (van Laar et al., 2020; Mohr & Welker, 2017). Digital skills in the current era are a major part of supporting learning, especially to improve problem-solving skills, project skills, or project work skills, and to support the teaching and learning process (Jung & Oxford, 2006; Rahimi & Yadollahi, 2011; Review, 2003). Many schools, in developed as well as developing countries, have started implementing the use of ICT in various aspects of learning in the classroom. The integration of technology in learning, which acts as a supporting tool, is very important in learning English as a foreign language (Komis et al., 2013; Alismail & McGuire, 2015). Thus, the need to revise teaching materials for Curriculum and Material Development (CMD) courses in accordance with the development of the 21ˢᵗ-century technology that is implemented in coursebooks emerges (Hismano, 2011; Partnership for 21st Century Learning, 2015). Therefore, this study was conducted, focusing on developing 21ˢᵗ-century value-based curriculum and development materials.

Curriculum design is a kind of writing activity and a process that includes processes (gathering ideas, ordering ideas, formulating ideas to text, reviewing, and editing) and involves practical and theoretical considerations that will have a major effect in guiding the actual process of course production. There is a wide range of factors to consider when designing a course. These include the learners' present knowledge and lacks, the resources available including time, the skills of the teachers, the curriculum designer's strengths and limitations, and principles of teaching and learning. (Sigler, 2013; Lunenberg, 2002; Nunan, 1988; Jenkins, 2015; Nikoopour & Farsani, 2011).

The word "curriculum" is defined in various ways by experts but they have the same meaning. The term curriculum includes all the arrangements that schools make for student learning and development. This includes course content, student activities, teaching approaches, and ways of organizing teachers and classes. This also includes decisions about the need to use the facilities. Curriculum development is like curriculum construction, referring to the process. Curriculum development is the process that determines how curriculum construction will proceed and how it is implemented. To be precise, curriculum development is the way in which the system is improved and enhanced according to the curriculum. The idea of curriculum development is to show how the curriculum is developed or planned, implemented, and evaluated. This means curriculum development is the process of the entire curriculum building and becoming general education (Mohr

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& Welker, 2017; Nunan, 1988; Alismail & McGuire, 2015).

The term curriculum can refer to a variety of things, including courses taught in schools, or programs, documents that contain a list of courses taught, a set of instructional materials arranged in a sequence of frameworks, or a framework for selecting and organizing learning experiences. The term curriculum can refer to a variety of things, including courses taught in schools, or programs, documents that contain a list of courses taught, and a set of teaching materials arranged in several sequences of frameworks, or frameworks. to select and organize learning experiences. The curriculum is an educational program in which it is: (a) the program's educational goals (objectives); (b) the content, teaching procedures, and learning experiences that will be required to achieve this goal (means); (c) several ways to assess whether educational goals have been achieved or not.

Curriculum design refers to the way we conceptualize the curriculum and organize its main components (materials or content, teaching methods and materials, student experiences or activities to provide and guide as we develop the curriculum. (Lunenberg, 2002). Curriculum design is to develop priorities to guide the selection. In other words, we can conclude that curriculum design is how to frame and organize the curriculum in a single department of components, such as subject matter, teaching methods, materials, and experiences or activities of students. Curriculum design and curriculum development do not share an identical definition. Curriculum development is an object for planning and building the curriculum in general while curriculum design is more specific to making curriculum concepts used in schools, defining curriculum as a series of activities that contribute to the growth of consensus among staff, faculty, administration, and students (Brown, 1995). This set of curriculum activities will provide a framework that helps teachers to achieve whatever combination of teaching activities is most suitable in their professional assessment for a given situation, that is a framework that helps students learn as efficiently and effectively as possible in school in a given situation. The National Education System Law (No 20/2003) provides the legal framework for the curriculum applied in Indonesia. The law defines the curriculum as a set of plans relating to the objectives, content, and learning materials as well as the methods used as guidelines in carrying out learning activities to achieve certain educational goals (Nunan, 1988). Language curriculum development is an aspect of the broader field of educational activities known as curriculum development or curriculum studies. Language curriculum development refers to the field of applied linguistics that addresses problems and describes a series of interrelated processes that focus on designing, revising, and implementing educational programs aimed at developing language proficiency in learners. This involves the systematic planning, organization, and evaluation of instructional materials, activities, and assessments to enhance language learning outcomes. The overarching goal of language curriculum development is to create a structured and effective framework that aligns with educational objectives, learner needs, and societal requirements, fostering a comprehensive and meaningful language learning experience.

Based on the definition of the curriculum above, it can be stated that the curriculum is a guideline for teachers in determining the way or strategy to carry out the teaching and learning process and is also a guide for students in achieving what they expect in their school. The skills needed for education and the workplace have been labeled 21st-century skills which lists three types of skills: learning skills (creativity and innovation; critical thinking and problem-solving; communication and collaboration), literacy skills (information literacy; media literacy; ICT

literacy), and life skills (flexibility and adaptability; initiative and self-direction; social and cross-cultural skills; productivity and accountability; leadership and responsibility) (van Laar et al., 2020).

RESEARCH METHOD

The research design, described by Borg and Gall (1989, in Creswell, 2015) as Research and Development (R&D), is a systematic approach used in educational research to develop and improve educational materials or programs. The first stage is needs analysis, which involves identifying the students in the learning Curriculum and Materials Development (CMD) course. This includes understanding the students, their learning objectives, and any existing gaps in their knowledge or skills. The second is the evaluation of existing learning materials. During this stage, the existing curriculum and materials development materials are evaluated to the identified needs. This evaluation helps to understand what already exists, what works well, and what needs improvement. Based on the needs assessment and evaluation, the design of the new educational material or program is developed. This stage involves outlining the content, structure, and format of the materials or program. Fourth is expert validation. Once the design has been created, subject matter experts or professionals in the field review it to refine and improve it. Then, the draft is tested. The design is then revised based on their feedback to address any issues or areas for improvement identified, ensuring that the materials for the CMD course meet the intended objectives and audience needs. The revised design is tested in a real-world setting to assess its effectiveness and gather feedback from users or learners. Finally, the final version of the educational materials or program is written based on the feedback from the trial. This stage involves documenting the design, including all revisions and improvements made throughout the process.

RESULTS AND DISCUSSION

The results of this study showed that the CMD teaching materials contain skills that are able to use various ways to convey ideas both in writing and oral; either by using conventional text, innovative text, symbols, or multimedia tools that can enhance higher-order thinking and creative thinking skills, including learning skills (creativity and innovation; critical thinking and problem-solving; communication and collaboration), literacy skills (information literacy; media literacy; ICT literacy), and life skills (flexibility and adaptability; initiative and self-direction; social and cross-cultural skills; productivity and accountability; leadership and responsibility). Those skills are integrated into designing planning (pre-activity), learning materials (process), and evaluation (post-activity).

Important components have been discovered to improve teaching proficiency in the Curriculum and Material construction (CMD) course's construction of an integrated 21st-century Skills framework for effective teaching. Comprehending the educational context is crucial, accounting for 37.5% of the integrated skills. This requires a deep understanding of the learning environment and the ability to modify teaching methods to meet the unique demands and difficulties of the classroom. In addition, it is emphasized that teachers' and students' needs be met; this accounts for 79.2% of the skills framework. This entails acknowledging the various needs and learning preferences of both

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teachers and students in order to provide individualized teaching strategies. The thoughtful design of courses and materials, which account for 75% of the integrated skills, emphasizes how important it is to prepare ahead in order to successfully accomplish learning objectives. Last but not least, 29.2% of teaching and learning monitoring places a strong emphasis on ongoing evaluation and feedback systems to improve the quality of education as a whole. By providing educators in the CMD course with a broad range of skills, this integrated approach hopes to promote flexibility and responsiveness to the ever-changing nature of the educational context. See Figure 1 as an illustration of the findings.
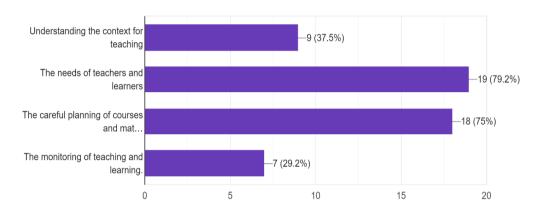

Figure 1. The integrated 21st-century Skills for Effective Teaching in CMD Course
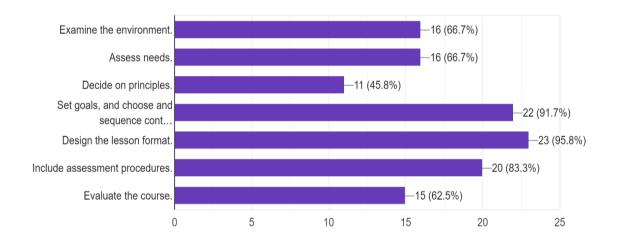

Figure 2. The 21st-century Skills Integrated in the Planning Stage

The findings showed that the planning stage took place to enable teachers to successfully navigate the challenges of contemporary education (See Figure 2). First off, the necessity of analyzing the environment—which makes up 66.7% of the skills framework—highlights how crucial it is to comprehend the educational setting. To do this, the learning environment must be thoroughly analyzed in order to adjust the instructional tactics. Concurrently, the ability to assess needs, which is likewise weighted at 66.7%, highlights the need to identify and attend to the particular needs of both educators and students. Principles account for 45.8% of the total, which enhances the decision-

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making process and encourages a values-based approach to curriculum creation. With a significant weight of 91.7%, setting objectives and making wise decisions while organizing content shows dedication to intentional planning. The talent of designing the lesson format, which has a weight of 95.8%, guarantees a framework that is pedagogically sound and in line with the learning objectives. The inclusion of assessment techniques, with an 83.3% weight, highlights the significance of continuous assessment in order to accurately gauge the progress of students. Last but not least, the ability to evaluate the course, which makes up 62.5% of the total, promotes reflective practice to improve and increase the CMD Course's overall efficacy. With the help of this thorough skill integration, educators may successfully and adaptably educate in the twenty-first century.

The material for the CMD course is carefully interwoven with essential components that explore the theoretical underpinnings and real-world applications of language curriculum creation. 20.8% of the total is devoted to investigating the creation of a curriculum in the field of language teaching to enable students to gain a contextual understanding of the ideas and approaches used over time by studying the topic from this historical viewpoint, which offers insights into its evolution and significant events that have shaped it. The syllabus design is crucial, carrying 66.7% of the weight. This focal point explores the complex process of creating a syllabus and highlights how important it is for directing teaching methods. The more general idea of curriculum creation, which makes up 45.8%, elaborates on syllabus design and clarifies the methodical preparation and structuring required in the thorough creation of a curriculum. Additionally, a significant portion of the course (75%) focuses emphasis on considering a syllabus as a dynamic course of teaching rather than merely a paper. This emphasizes how the teaching and learning process is shaped by the practical application of syllabus content. The CMD course provides an all-encompassing investigation of language curriculum development, tracing its historical origins, complex design procedures, and the useful function of syllabi as efficient teaching aids. See Figure 3 below.
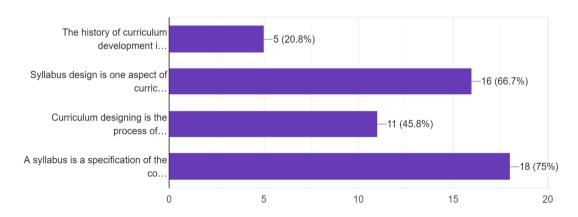

Figure 3. General Learning Materials

In addition to exploring the fundamentals of language curriculum, the CMD course has a strong emphasis on 21st-century abilities in a number of ways. Giving pupils a thorough introduction to the language, which is worth 20.8% of the total, is the first step toward making sure they understand the larger picture of language study. The curriculum is taken into account at 20.8%, which is equally important because it provides information on the organized framework that directs educational aims

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and material. With a weight of 29.2%, Text-Based Syllabus Design is a critical component that highlights the significance of designing syllabi that are based on textual materials and are in line with contemporary teaching practices. A significant emphasis of 45.8% is on developing syllabuses with a focus on products, indicating a forward-thinking strategy that connects curriculum design to observable results. With a weighted 54.2%, EFL syllabuses and lesson plans offer a focused examination of EFL contexts, acknowledging the subtleties required in creating successful lessons within this framework.

Additionally, Materials Development is covered in the CMD course with a weight of 91.7%, emphasizing how crucial it is to provide instructive materials that are both current and interesting. This is supported by Materials Evaluation, which stands at 54.2% and emphasizes the necessity of using discernment when evaluating the effectiveness of educational resources. Last but not least, lesson planning, which scored a strong 95.8%, is a fundamental component of the course and emphasizes the real-world application of knowledge in planning and arranging productive courses. Through the integration of these 21st-century competencies, the CMD course not only provides students with a solid grounding in language curriculum but also equips them with the necessary skills to navigate the constantly changing educational landscape. This fosters the adaptability, creativity, and critical thinking that are vital for successful teaching in the contemporary era. Figure 4 below illustrates the findings.
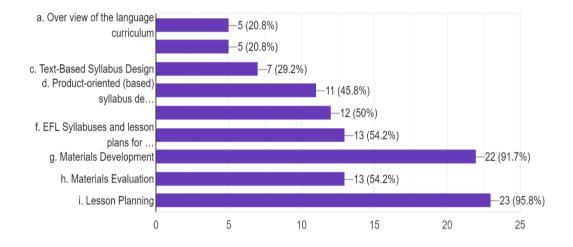

Figure 4. The Portion of 21st-Century Skills in the Topic or Learning Material

The course materials for CMD are carefully organized to give students a thorough understanding of curriculum design and language instruction. As can be observed from Figure 5, starting at 33.3% with a comprehensive Overview of the Language, the course covers the essential elements of linguistic study to guarantee a strong foundation. In addition, a parallel emphasis of equal weight on the Curriculum Overview guarantees a comprehensive understanding of the organized framework that directs instructional material and objectives. At 44.4% of the course, the discussion shifts to the complexities of Text-Based Syllabus Design, with a focus on creating curricula that are built on textual materials and are in line with contemporary teaching practices. Product-oriented and

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Process-oriented syllabus designs, at 22.2% and 55.6%, respectively, take a more nuanced approach, recognizing the significance of both concrete results and dynamic, ever-evolving processes in curriculum creation. With a weight of 55.6%, syllabus development emphasizes the careful structure and planning required to create successful instructional frameworks. At 66.7%, special attention is paid to EFL syllabuses and lesson plans, acknowledging the particular difficulties and factors that arise in situations where English is being used as a foreign language. At 55.6%, Communicative Syllabus Design emphasizes the course's dedication to helping students develop excellent communication skills.
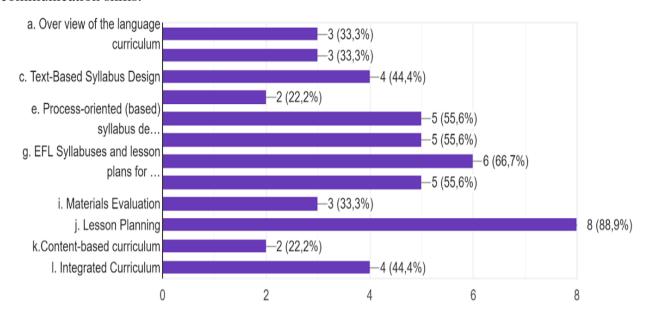

Figure 5. The Material in the CMD Course

Figure 5 also illustrates that Materials Evaluation (33.3%) guarantees a perceptive method of evaluating the effectiveness of learning materials, in line with the course's dedication to high-quality learning materials. Lesson planning is given a lot of weight (88.9%), indicating that it is crucial to converting theoretical knowledge into useful, efficient teaching techniques. At 22.2%, the course delves deeper into Content-based Curriculum, recognizing the incorporation of topic content within language instruction. Last but not least, the course's 44.4% consideration of an integrated curriculum demonstrates its dedication to a comprehensive strategy that incorporates numerous facets of curriculum design and language. The rich and complex content covered in the CMD course gives students the abilities and know-how needed to implement efficient and flexible teaching strategies in a variety of learning environments.

CONCLUSION AND RECOMMENDATION

The aforementioned findings highlight the depth and variety of the content taught in the Curriculum and Material Development (CMD) Course, in conclusion. The course ensures that students have a thorough understanding of the linguistic study and the structured frameworks that

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guide instructional content by carefully going over the fundamentals of language education and curriculum design. The CMD Course lays the groundwork for an all-encompassing investigation of fundamental concepts and techniques with a balanced emphasis on language and curriculum overviews. The course's emphasis on text-based syllabus design, process- and product-oriented syllabus development, and the nuances of syllabus preparation speak to its dedication to providing students with adaptable skills for use in a variety of modern teaching contexts. The course's comprehensive approach is further reinforced by the careful consideration given to Communicative Syllabus Design, Materials Evaluation, EFL Syllabuses, and Lesson Planning. The integration of both content-based and integrated curriculum elements shows how flexible and sensitive the CMD Course is to the changing demands of language instruction. Collectively, these results support the efficacy of the CMD Course in equipping teachers with a broad range of competencies, guaranteeing their ability to create and implement relevant and captivating language curricula in a variety of learning environments.

A comprehensive recommendation is provided for educators and professionals looking to advance their knowledge of language curriculum design and teaching approaches based on the thorough results of the CMD Course. The strong focus of the course on the fundamentals of language as well as the organized frameworks of curricular development results in a comprehensive and in-depth comprehension of the subject. Therefore, enrolling in the CMD Course would be highly beneficial for anyone looking to advance their proficiency in curriculum development and language instruction. It is a dynamic and comprehensive program that meets the changing requirements of teaching in the twenty-first century.

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