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Developing 4C English Instructional Materials for EFL Students at Higher Education

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Abstract

Background/purpose. 21st-century learning is an education reform that aims to equip every student with the essential skills to face global challenges. One of the strategies to tackle global challenges is teaching English as a Foreign Language (EFL) students the four key elements of 4Cs: creativity, critical thinking, communication, and collaboration. However, the availability of English instructional materials is limited. Therefore, the present study aims to develop student and teacher model books that integrate 4C skills. Hence, teachers can design and develop English instructional materials.

Materials/methods. Research and development (R&D) was conducted in four steps: need analysis and problem identification, model development, model implementation, and model evaluation. The research involved three types of research participants: one class of university students consisting of 20 students, five experts, and 2 teachers. The research applied semi-structured interviews, a questionnaire, and a test.

Results. The findings reveal that the participants need students' and teachers' model books that integrate 4C skills. Furthermore, the proposed model books were proven to be very valid, very practical, and effective. The findings also mentioned that the model books very much include 4C skills.

Conclusion. Designing and developing model books can further improve not only students' academic achievement but also their skills. It is recommended that teachers design and build their own model book for their own courses. Thus, preparing and training teachers on material development is of paramount significance.

1. Introduction

In the 21st century, the world today is featured by tight global competition and full automation in almost any aspect of life. In the educational field, especially in English classrooms, learning the 4Cs, namely communication, collaboration, creativity, and critical thinking, is paramount as the basic life skills to tackle global competition. In English learning, students need to go through several insights to attain certain creative development; therefore, they can make several innovations (Nakano & Wechsler, 2018). While critical thinking skills certainly help students to think critically and improve their knowledge, they also assist them in determining where their stance is and how to deal with some matters (Tuzlukova et al., 2017). In addition, students are highly expected to possess communication skills; therefore, they can effectively communicate and convey their ideas (Sipayung & Bunawan, 2018). Lucia (2019) highlighted the importance of collaboration skills as crucial classroom activities, particularly in developing students' knowledge to achieve the learning goal.

To face global competition successfully, nurturing the students' life skills for the future is crucial. One of the ways is to provide the students with the textbook instructional materials for learning. However, the availability of English instructional materials is limited. In addition, teachers encounter difficulties in designing and developing their instructional materials that can enhance students' 4C skills (Erdogan,2019). Another concern is on the integration of 4C skills not only in their material development but also in implementation. In this instance, teachers as material developers need to develop the materials. Therefore, the students can communicate clearly and effectively, both verbally and non-verbally. In addition to effective and clear communication, teachers should develop materials that encourage students to collaborate with others. They need to be equipped with creativity skills; therefore, they can find various solutions to a problem, dare to take risks and be critical of their surroundings.

Similar research studies have been conducted related to the 4Cs. Most of the research studies only focused on implementing 4C skills in the classroom teaching practice (Astuti et al., 2019; McGrath & Fischetti, 2019; Mottalebzadeh et al., 2018; Tican & Deniz, 2018). Another study conducted by Rakhmawati and Priyana (2019) examined the integration of 21st-century skills in English textbooks and how they were integrated. The study results indicated that the 4C skills were already integrated but were not represented equally. It is suggested then that teachers find additional materials to represent them equally. A research study investigated the integration of 4Cs using an R&D approach, but it was targeted at the elementary school context. Hamdu et al. (2020) conducted R&D to develop a rubric to assess students' 4C skills using elementary school STEM analysis. Furthermore, Rahmi and Suparman (2019) developed a learning module for mathematics to promote the 4Cs skills among students. However, the findings from the previous study were not in an EFL context, which creates a research gap.

From the existing previous studies, no previous researcher designed instructional materials by integrating 4C skills for English learning at the Higher education level. The development of 4C skill-integrated instructional materials is of significant importance for all teachers in higher education. Therefore, the need to develop English instructional materials by integrating the 4Cs skills becomes urgent. Finally, the research aims to develop English instructional material using the 4Cs skill-based model and to measure the effectiveness of the English instructional material.

2. Literature Review

4C skills belong to learning and innovation skills, and the integration of these 4Cs into English language learning is considered a priority. Integrating 4Cs into English language teaching and learning makes students more involved and engaged, eventually increasing learning outcomes. Various studies show that the 4Cs can help students communicate better, collaborate, and think creatively (Selman, 2020). These, then, in turn, enhance the learning outcome. The sections provide the analysis

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of theoretical underpinnings related to integrating 4Cs into English Instructional material for teaching and learning.

The 4Cs skills are creativity, critical thinking, communication, and collaboration. Creativity involves conveying new ideas, making new discoveries in domains, and being flexible and responsive to new perspectives. In English instructional materials, there are several instructions to help students develop more creative thinking skills. The teachers ask the students questions and encourage them to actively get involved in learning (Nakano & Wechsler, 2018). Furthermore, Ye & Xu (2023) proposed some instructions to enhance creativity. Those instructions are related to the ability to solve daily life problems, be open to anything new and curious, utilize all potentials to analyze, elaborate, evaluate, and create, and use a variety of creative thinking strategies.

Critical thinking is a process of obtaining knowledge and making it evidence-based for one's reasons. According to Brown and Boylan (2021), there are five phases of critical thinking models in English learning: suggestions, problem identification, reasoning, hypothesis formulation, and testing the hypothesis. In English classroom activities, the students can develop critical thinking skills through reflection, argument-making, interpretation, and conclusion. A research study by Samani et al. (2019) identified the four phases taken by the students to boost critical thinking in the context of solving problems. Problem identification means exploring, drawing conclusions, and identifying strategies to deal with the problem (Daniswara & Cahyono, 2023). In English learning, students can implement the phases of critical thinking to understand texts and pictures, analyze them, evaluate, discuss, and make decisions.

Communication refers to the skill of conveying ideas, information, or messages to be received and understood by listeners and readers. To achieve communication skills, EFL students can implement several communication strategies (Triana et al., 2020). They include the idea that communication should be pronounced clearly and firmly, speakers are aware of the person they are talking to, and the ideas are conveyed using the recipient's language and are adjusted to be suitable to the capability and ability of the recipients of the information. Erdogan (2019) proposed communication strategies that teachers can use in English classrooms. Those communication strategies include teaching students to pronounce and articulate messages and ideas verbally and non-verbally in various contexts, listening actively and effectively, and communicating in various contexts and environments using various media and other means necessary for effective communication.

Collaboration simply refers to people working together to achieve shared goals (Weng et al., 2022). In the teaching-learning process, collaboration occurs between or among students by which they help, complement each other, and do certain tasks together to achieve learning objectives. Students can implement several strategies in EFL classroom settings. They establish the responsibility to work collaboratively, respect various opinions and perspectives among participants, train them to effectively and flexibly work in different teams, and train them to be able to compromise different ideas to achieve common goals (Hamdu, 2020). Many opportunities were given to students to exchange ideas and views with others. It is through this idea sharing students can develop and gain inspiration, and hence develop their metacognition.

3. Methodology

3.1. Research Design

This research aims to develop English instructional material with 4C, and therefore the design is Research & Development (R&D). There are four main steps of R&D, namely need analysis and problem identification, model design, model implementation, and model evaluation. These are all to produce valid, reliable, and practical 4C-based model books.

3.2. Participants

This research was conducted at the State Islamic Institute (IAIN) of Kediri, East Java, Indonesia. This institute is at the level of Higher education and becomes the user of the developed product. A research methodology class consisting of 20 students participated in this research, which was used to try out the product, conduct observations, and implement through teaching practice. In addition, six students and two English teachers participated in the study as interviewees. Finally, five experts assess the product.

3.3. Instruments

3.3.1. Types of Instruments

The researchers applied four types of instruments, namely, a class observation, an interview, a test, and a questionnaire. The research applied two types of observations. The first observation was conducted in the classroom to get the preliminary data on students' needs in English materials for learning. The second observation was completed when testing the English materials along with the implementation of the 4Cs model. Field notes from the observation were taken. The field notes were related to anything occurring during the implementation of the 4Cs model. Furthermore, it is intended to measure how the students interact in the classroom activities, including their communication and collaboration. Finally, the researchers observed how students develop critical thinking and creativity skills.

A semi-structured interview was conducted in two ways. First, it was to investigate the students' needs analysis on the instructional media and teaching implementation in the class. The second was to explore teachers' views about the existing instructional materials used in the research methodology class and their integration into the 4Cs skills towards the existing teaching model. The semi-structured interview was chosen since it can explore perspectives and other aspects from the participants. A questionnaire was distributed to examine two aspects. First is the validity, practicality, and effectiveness of the developed models. The aspects include layout, material presentation, language use, practicality in use, appropriateness, and students' interests. Second, it measured the 4Cs: creativity, critical thinking, communication, and collaboration. Finally, the test was administered to the students to measure the effectiveness of the proposed models. The test is categorized into two types: pretest and posttest.

3.3.2. Validity of the Instruments

To ensure the construct validity, the instrument underwent some steps. For the questionnaire, interview, and test, the researcher implemented some steps of validation. First, a blueprint is made, drawing from the variable being assessed. The blueprint was then developed into items related to the integration of 4C in English language teaching and learning. To enhance the content validity, three experts assessed the content of the interview and questionnaire items: an expert in English teaching and learning media, one from the ELT area, and an expert in research methodology of material development, an expert in assessment, and another expert in curriculum. An observation protocol was administered to ensure consistency. It was conducted to observe and analyze the interactions and implementations during the teaching practice.

3.4. Data Collection

The study employed two data collection methods: qualitative, through observation and interview, and quantitative data collection through a test and a questionnaire. The researchers collected the data through several steps. First, the researchers made preliminary observations and interviews to determine the students' needs related to the English materials they used in the classroom and to investigate the implementation of teaching English in a research methodology class. Second, the research designed two English instruction materials (for students and teachers) validated by five experts. The third was testing the materials in a class. Third, a test was administered to determine the effectiveness of the English material. Last, the researchers interviewed two teachers to explore their perspectives about the existing instructional materials used in the class.

3.5. Data analysis

The qualitative data were analyzed typologically and inductively. The researchers analyze the interview results through thematic analysis by coding and classifying into codes. The next step is interpretation and conclusion. The analysis of observations and teaching media implementation results was organized in sentences with holistic meaning. Through this data analysis, prominent and common themes, as uttered by research participants, could be identified. In addition, the quantitative data from the test were analyzed statistically to determine the developed models' validity, practicality, and effectiveness.

The questionnaire results were quantitatively analyzed by determining the average score. This average score is then compared with a category ranging from invalid/impractical to very valid/very practical. This process results in knowing the validity and practicality levels of the proposed model books. The score ranges and categories of the practicality and validity level are shown in Table 1.

Table 1. Scoring Category of Validity and Practicality

No.	Score Range	Category
1.	$3.6 \leq M \leq 4.0$	Very Practical / Very Valid
2.	$2.6 \leq M \leq 3.5$	Practical / Valid
3.	$1.6 \leq M \leq 2.5$	Less Practical / Less Valid
4.	< 1.5	Impractical / Invalid

Furthermore, the incorporation of 4C skills was determined by using the following criteria.

Table 2. Scoring Category of 4C Skills Integration

No.	Score Range	Category
1.	$3.6 \leq M \leq 4.0$	Very much
2.	$2.6 \leq M \leq 3.5$	Much
3.	$1.6 \leq M \leq 2.5$	Little
4.	< 1.5	Very little

In addition, the last data analyzed in this study concerns the effectiveness of the proposed model. Here, the data were collected through an achievement test and analyzed statistically using N-Gain by comparing the deficiency among scores of the pretest and the posttest. This statistical test determined whether the models were effective. It is measured by counting the difference between the pretest and the posttest. This is computed through SPSS 26. The effectiveness category of N-Gain is in Table 3.

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Table 3. Scoring Category of Model Book Effectiveness

Percentage (%)	Category
< 40	Not effective
40 – 55	Less effective
56 – 75	Effective enough
>76	Effective

4. Results

4.1. Need analysis and problem identification

In this phase, the researchers explored teachers' views and perspectives through semi-structured interviews about the existing instructional materials used in the research methodology class and their integration into 4C skills. The results of this exploration mentioned that students encounter challenges and difficulties in understanding some concepts in a research methodology class. In addition, the materials given in the research methodology class are all from reputable books, but students still have problems understanding the concepts. The reasons for this can be of two sorts: the books are too difficult for students, or students' English reading ability is still too low. Most students stated that the research methodology class was a challenging and uninteresting lesson. The following is an interview excerpt from a student:

The class [research methodology class] is stressful. The references recommended are too difficult to understand. They contain so many unfamiliar words. The concepts are also too difficult. We need to have more explanations and share more among ourselves.

The interview also indicates that the teaching of research methodology does not integrate 4C skills explicitly since the materials are given in one-way communication, teacher-student communication. The teaching of the research methodology class deals solely with cognitive matters. It implies that learning research methodology does not encourage the development of other skills as the output of their learning, despite the importance of those skills.

Hence, as teachers suggest, it is necessary to design and develop more contemporary student and teacher model books, by which learning research methodology could be much easier and more interesting. Moreover, teachers highlighted that learning research methodology must also be linked to life skills or 21st-century skills, in which students could also develop their critical thinking, creativity, collaboration, and communication skills. The following is an interview excerpt from a teacher:

In research methodology class, students cannot only develop their understanding of the concepts found in the subject but also other life skills necessary in the 21st century. They can develop their critical thinking, creativity, collaboration, and communication skills.

Similar to the results obtained from the interview, observations indicate that most students in the research methodology class are passive students. They just listen to the teacher's explanation. They are not motivated to raise questions, even though they do not understand; even when the teacher initiated questions, they just keep silent. They do not have the initiative to make the class more interesting by, say, discussion, knowledge sharing, collaboration, and working together to solve problems they encounter in the class. The class was just a "spoon-feeding class" in which students took anything the teacher provided.

Furthermore, the teacher did not take the initiative to simplify the textbooks to meet students' reading ability. Using the existing available English textbooks related to research methodology is not wrong, but when the textbooks are too difficult to understand, learning may not take place as proposed by Krashen's Input Hypothesis and Comprehensible Input (i +1) (Mason & Krashen, 2019). In this instance, it is of paramount importance for teachers to design and develop their own materials in the form of students' model books as well as teacher model books. It is time for teachers to also be material developers and produce instructional materials that fit most students' needs.

4.2. Model Design

This model design consists of two proposed model designs: the students' model book and the teacher's model book. The first model design deals with how instructional materials were developed and sequenced. In this phase, two volunteer designers identified instructional goals from the available curriculum. Then, they selected and developed instructional materials that best fit the instructional goals. They were taken from various reputable resources, mainly from textbooks and research reports. Regarding the instructional content, some research methodology topics were developed and sequenced by researchers based on the available curriculum, KKNI (National Curriculum). The instructional materials were developed specifically for the third-semester English students taking the Research Methodology subject. The researchers designed the learning materials into six meetings with different materials each. They are (1) research inquiry, (2) identifying a research problem, (3) literature review, (4) research design, (5) research participant, and (6) research instrument. This developmental stage was based on 4C skills. The final product of the stage is the students' model book.

The second model design deals with how instructional contents were delivered and presented. This teacher's model book is adapted from various reputable resources that best fit the 21st-century skills model of learning. This model book was adapted and developed from available commonly used teaching models: discovery, problem-based, and project-based learning. The syntax or stages of classroom procedures were then developed from these three teaching models by integrating 4C skills. Thus, this 4C-based teaching model consists of five steps: (1) orientation, (2) problem and/or project identification, (3) exploration, (4) problem-solving, and (5) presentation and feedback. The product of the stage is the teacher model handbook.

4.3. Model Implementation

The implementation process is intended to attain empirical evidence of the proposed models, both the students' model book and the teacher's model book. The former was given to the students as a handbook, while the latter was for the teachers as a teacher's guide. The students learned the materials as in the model book, while the teachers presented the materials based on the teacher's model book. Given that there were six teaching materials and six meetings, it implies that one instructional material was delivered in one meeting. All of the materials were delivered and presented as suggested by the developed teacher's book.

4.4. Model Evaluation

The evaluation process intends to measure the models' validity, practicality, and effectiveness and to what extent the model designs incorporate the 4C skills. The validity measure was done and judged by five experts in education. These experts were tasked to rate and judge the two model books that researchers have developed. This expert assessment found that the students' model book is very valid, with an expert score of 3.8, while the teacher's model book was declared to be valid, with an expert average score of 3.4. Overall, the two model books are very valid, with a grand average of 3.6. The results of this expert validation are presented in Table 4.

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Table 4. Validity of the Model Books

No	Model Books	Mean Scores	Category
1.	Students' Model Book	3.8	Very valid
2.	Teacher's Model Book	3.4	Valid
	Grand Mean	**3.6**	**Very Valid**

Furthermore, the two proposed model products that have been developed were also assessed for their practicality. Teachers and students were tasked to fill in a questionnaire, and the results of the teachers' and students' responses in the questionnaire were used after they had used the products to determine the practicality of the two model books. The aspects of practicality include layout, material presentation, language use, practicality in use, appropriateness, and interest. The overall results of the practicality questionnaire are presented in Table 5. All aspects of this practicality measure range from 3.3 to 3.85. This means that the practicality of the model books is practical to very practical. Overall, the two model books could be declared to be very practical, with a grand average of 3.54.

Table 5. Practicality of the Model Books

No	Assessment Aspects	Mean Scores	Category
1.	Layout	3.4	Practical
2.	Presentation	3.7	Very Practical
3.	Language use	3.7	Very Practical
4.	Practicality in use	3.85	Very Practical
5.	Appropriateness to student development	3.3	Practical
6.	Interest	3.3	Practical
	Grand Mean	**3.54**	**Very Practical**

The next measure is the integration of 4C skills in the two model books. The results of the measure can be seen in Table 6. It shows that the two model books encourage creativity very much, with the respondent's average score of 3.8. However, critical thinking receives a lower score, with an average score of 3.4, meaning that critical thinking is not included much in the model books. On the other hand, communication and collaboration receive perfect scores (4.0), implying that the model books really encourage communication and collaboration. Overall, the proposed models could be declared to integrate 4C skills very well.

Table 6. 4C Skill Integration

No.	4C components	Mean Score	Category
1.	Creativity	3.8	Very much
2.	Critical Thinking	3.4	Much
3.	Communication	4.0	Very much
4.	Collaboration	4.0	Very much
	Grand Mean	**3.8**	**Very much**

Finally, a statistical analysis of N-Gain was employed to measure the effectiveness of the proposed models. Having run SPSS 26 to calculate N-Gain, the data as in Table 7 were obtained.

Table 7. Statistical Analysis of N-Gain

No. of Students	Pretest	Posttest	N-Gain Percentages
1	40	70	50
2	50	80	60
3	30	85	78,57
4	60	75	37,5
5	50	65	30
6	50	80	60
7	40	85	75
8	45	85	72,73
9	55	75	44,44
10	35	80	69,23
11	40	80	66,67
12	40	85	75
13	30	80	71,43
14	30	75	64,29
15	30	60	42,86
16	40	60	33,33
17	40	75	58,33
18	45	85	72,73
19	45	80	63,64
20	55	85	66,67
Grand Mean			**59,621**

The result of the N-Gain computation in Table 7 indicates that the average score is 59.621 or 59.6%, and this finding can be classified as effective, as per the criteria of effectiveness in Table 3. It suggests that the proposed models are effective enough to increase students' achievement. Eventually, the results of the analysis suggest that the 4C integrated model books are very valid and practical, include the 4C skills very much, and are effective enough to improve students' achievement. Therefore, it is feasible to use them widely.

5. Discussion

Previously available research findings have indicated that educational practices have been evolving because of the rapid increase in digital technology (Malik, 2019). Commonly, such changes require critical thinking and creativity. A research study conducted by Samani et al. (2019) indicates that problem-solving plays a key role encountered by the young generation. This implies that the young and future generations need to have skills in problem-solving and creativity, and hence, education needs to be designed in such a way that it could develop those necessary skills. Thus, there should be a shift from traditional education practices to up-to-date and futuristic goals.

To respond to the shift, instructional materials must be designed and developed to enable students to develop the soft skills required in the 21st century. Those skills are critical thinking, creativity, communication, and collaboration. For this underlying reason, the integration of 4C skills in material development is of paramount importance (Motallebzadeh, 2018). The development of the model books begins with needs analysis and problem identification. This phase is intended to find empirical evidence and any necessary information from participants, and the results of this phase become the starting point for developing the model books. The study used a semi-structured interview with students and teachers to elicit problems and needs in the research methodology class. This method reveals actual conditions and various information that are necessary to develop the proposed model books. This is corroborated by previously available research studies that used interviews and questionnaires to identify needs and problems (Ariyana, 2020).

The results of the needs analysis and problem identification imply that the research methodology class is very challenging for students. The concepts of research methodology require a lot of effort to understand. It requires critical thinking, creativity, and problem-solving ability. Therefore, it is obvious that these 4Cs skills play a key role in preparing and forming competent students, and in making them survive in this information revolution. A similar argument is pointed out by Cottrell (2023), arguing that 4C skills are significant skills for all students at all levels of education. In addition, some other researchers in this field also highlighted the importance of 4C skills. They stated that 4C skills should become a top priority in any education program (Dhakal et al., 2023).

It has been argued elsewhere that 4C skills have been taken for granted and that they have become key to success in the 21st century. Based on data and information from the research participants, the research methodology class was not tempting since, by nature, the topics were not interesting, the instructional materials were attractive, and the presentations of the materials were not contextual and monotonous. Therefore, teachers as material developers need to design and develop their instructional materials in the form of a teacher model book and a student's model book to meet the students' needs and provide various interesting learning activities (Espey, 2018).

Having finished analyzing students and identifying problems, the next step is to design and develop instructional materials. They should be well-planned based on the needs analysis. It is the process of authoring and producing materials. It starts with material selection and adaptation. This process of instructional material development results in the listing of materials to be developed. This process ensures that the best materials are identified (Mustami et al., 2019). Having selected and developed a model of instructional materials that are adapted from several reputable sources, the draft is evaluated by experts to gain theoretical validation. Experts can rate several elements. They can be classified into three: validity, practicality, and integration of 4C skills in the draft of instructional materials. This is in line with what was suggested by Supena et al. (2021). Furthermore, criteria for good material development are also made in order to evaluate the model of instructional materials being developed.

After the model books have been designed, the next step is to use or implement them in the tried-out sample to obtain empirical evidence of validity, practicality, effectiveness, and the integration of 4C skills. This implementation process of using the materials involves processing the instructional materials in the real world (Selman, 2020). In this implementation phase, the researchers play an active key role, which is crucial in the implementation of the developed models. In this stage, the two model books were implemented. The researchers consistently analyze, redesign, and enhance the models to ensure effective model delivery. Monitoring was done regularly to ensure that everything was going as planned. The classroom situation was recorded, and the teacher's and students' classroom activities were monitored. Filed notes taken in this stage were used to revise and modify the models so that the two proposed model books become more effective and successful (Huang & Guoyuan, 2023).

After the proposed model books have been implemented, the next step is to measure the quality of the two products. There are three criteria in determining the quality of the products. The validity, practicality, and effectiveness (Creswell & Creswell, 2023). Based on the expert evaluation, the proposed student model book is very valid, while the teacher model book is valid. Nasibulloh and Abdulkhay (2023) stated that expert validation is intended to measure theoretical validity, in this case, the validity of the two model books. Feedback and comments from experts are valuable in improving the quality of material development (Wyatt, 2011; Helaluddin et al., 2020).

In addition, the two proposed model books are also evaluated for their practicality. The data on practicality was elicited from the teachers and students. They were tasked to assess the two model books by giving their viewpoints, comments, and perceptions. There are several measures in this respect. They are layout, presentation, language use, appropriateness, and interest (Mustami et al., 2019). From this, it is found that users of the two models respond positively and say that the products are practical and easy to understand and follow.

Moreover, the integration of 4C skills in the developed model books is judged to be very important. It means that the two model books include and encourage students to attain 4C skills. They facilitate students to be creative, to communicate, to collaborate, and to think critically. Furthermore, the 4C in integrated model books are considered to be very suitable and appropriate for students' academic development since they were developed from constructivism (Supena et al., 2021). In addition, it was stated that the 4C integrated instructional materials encourage creativity, critical thinking, and collaboration. Hence, these skills, in turn, foster intellectual skills, problem-solving skills, and life skills (Demiral & Cepni, 2018). Thus, it implies that 4C skill integration into material development provides students with the skills necessary to succeed in the 21st century.

Furthermore, the quality of the two proposed model books is also viewed from their effectiveness. The result of the N-Gain computation suggests that the proposed model books are effective in increasing students' achievement. This means that the model is proven to improve students' achievement. This is consistent with Richards (2022), who argues that the effectiveness of materials is only intended to attain instructional objectives but also to arouse the learners' interest, explain new learning content to them, and provide opportunities for meaningful practice.

Eventually, based on the results of the analysis, it suggests that the 4C integrated model books are very valid and practical, include the 4Cs skills very much, and are effective enough to improve students' achievement. Therefore, it is feasible to use them widely. This is corroborated by Gulnaz (2020), who states that good instructional materials are well-designed and well-developed, and they become resourceful students' books by which students can search for new knowledge and understanding easily. Even though the best teachers who are already trained with the latest sophisticated teaching methods, know much about the teaching materials at hand, and are aware of educational goals, could still possibly fail in their teaching if they lack the ability to determine suitable instructional materials.

6. Conclusion

Students would not be ready for the future challenges of the world and underprepared for the workforce if they are unaware of any ability that the world today looks for. The 21st century looks for those who possess communication skills, collaboration skill, creativity, and critical thinking since these four skills are the main skills that everybody must have to survive. They are essential and fundamental skills in any aspect of life: college, university, educational institution, career, and so forth.

Integration of 4C skills in the teaching of content courses is vital for students since citizens must be active, critical thinkers if they are going to compete in this fully automated world. Communication and collaboration skills are closely related since when they work collaboratively, at the same time they have to communicate. To collaborate successfully, they have to be able to communicate effectively. That is to say, collaboration and communication have become vital in this global society. Then, to prepare students to have 4C skills, instructional materials should be designed and developed to integrate 4C skills. The study then designed and developed a model book for the students and a teacher's model book that included 4C skills. They are found to be very valid, practical, effective, and include 4C skills.

7. Suggestion

Students need these four 21st-century skills to be able to compete in this century. Furthermore, the proposed developed model books were proven valid, practical, and effective. With this rich-4C skill English instructional materials, it is expected that it can be a reference for teachers to design and develop their own instructional materials. Furthermore, it is suggested that teachers design and develop their own instructional materials that integrate these four 21st-century skills. This eventually enhances the achievement of instructional goals, produces learning models to suit the needs of each student, and develops the skills necessary to survive in this century.

Declarations

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