



Development of Multiliteracy Integrative Learning (MULGRANING) Model in Language Learning

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Abstract

Currently, the world is facing the phenomenon of disruption in all fields that encourage digitalization, including the education system. Humans are required to be able to excel in competition and comparison in order to survive in competition. This causes complex problems in life that can no longer be solved with a monodisciplinary approach. So that in education it is necessary to integrate various fields of science so that students have useful knowledge and skills to face the era of disruption. Disruption encourages the digitalization of the education system. This can be seen from the shift in print literacy to multiliteracy. One of the consequences of these changes in relation to the education system is that students are required to be able to read and produce multimedia texts. It is not to be avoided but used for the advancement of education. The purpose of this study was to develop a model of Multiliteracy Integrative Learning (MULGRANING) in language learning. This type of research is development research using the Plomp (1997) Model which consists of three phases, namely the preliminary research phase; design phase; and assessment phase. This article will discuss the model design stage. The results of the study precised that the Multiliteracy Integrative Learning (MULGRANING) model consists of eight steps, namely experiencing, conceptualizing, analyzing, producing & creating, networking, applying, comparing, synthesizing.

Keywords

Multiliteracy
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Introduction

Literacy is a fundamental human right. It can improve one's education and life. The formation of a literate society is a measure of the progress or failure of a nation. This is one of the reasons for integrating literacy in every educational process in schools. However, the size of the literate will each time have a different standard of assessment. This relates to how literacy is assessed in general. Being able to read and write for the 21st century does not necessarily mean that students are literate. In language skills, initially literacy can be interpreted as being able to read and write. What is meant by skilled students in reading for now is not only limited to the ability to understand reading in printed texts, and writing is the ability to put ink on paper, but the content has a broader meaning. This is also related to the survey showing that the literacy level of Indonesian students still needs to be improved. Results from PISA show that Indonesian students' reading interest and writing skills are still far behind compared to other countries. Indonesia's reading score is ranked 72 out of 77 countries (OECD, 2019).

Technology and communication is one of the factors that affect the meaning of literacy. These changes are caused by changes in the learning process (Boche, 2014; Swenson, Young, McGrail, Rozema, & Whitin, 2006), so that today's literacy becomes complex, adaptive, and interconnected (Honan, 2012). With the advent of various media, educators have begun to rethink what constitutes literacy beyond the ability to read and write (Cope & Kalantzis, 2009). Even so, this literacy should not be considered as a new thing from the school curriculum but rather a refinement of current learning (Jenkins, Clinton, Purushotma, Robinson, & Weigel, 2006).

The major shift from print-based literacy to 21st century multiliteracy reflects the impact of communication and multimedia technologies on the development of texts, as well as the skills and dispositions associated with the consumption, production, evaluation, and distribution of those texts (Borsheim, Meritt, & Reed, 2008). One of the consequences of these changes in relation to the education system is that students are required to be able to read and produce multimedia texts. Students are expected to have multiliteracy and educators are expected to teach students to become multiliterate people (Schlindwein, 2013). Therefore, multimodal, multimedia, multiliteracy that define contemporary literacy must include technology and digital media because reading and writing, even in a broader sense, are tied to the technology by which texts are constructed and disseminated (Sarsar, 2008).

Recognition of the dramatically changing nature of what it means to be literate in the so-called "information age" has seen the emergence of discussion in educational research about the importance of students developing "multiliteracy" skills (Brown, Lockyer, & Caputi, 2010; Cope & Kalantzis, 2000; Haythornthwaite & Andrews, 2011). If teachers and students are to participate critically and equally in 21st century democracies, an increasing emphasis on multiliteracy is essential (Kress, 2010; Luke, 2013; New London Group, 2000). Multiliteracy pedagogy facilitates students to use a variety of multimodal resources and enables them (visual, aural, gestural, spatial and linguistic) to communicate their experiences and to share new understandings (Loveless, DeVoogd, & Bohlin, 2001; New London Group, 2000). In addition, multiliteracy pedagogy describes a curriculum that is socially and culturally responsive (Jewitt, 2008; Kress, 2010).

Several recent studies have positively suggested a multiliteracy approach as a perspective in language teaching (Crowder, Choi, & Yi, 2013; Drajadi, Tan, Haryati, Rochsantiningsih, & Zainnuri, 2018; Ganapathy & Seetharam, 2016; Navehebrahim, 2011; Wang, 2015). Through engaging with multiliteracy in language classes, students can broaden their understanding of the "culturally and linguistically diverse and increasingly globalized" world and the growing variety of text forms related to information technology and multimedia (Cope & Kalantzis, 2000). The multiliteracy approach enables students not only to learn to succeed in an increasingly globalized society by making connections with other cultures through language, but also to gain competence in expressing their thoughts with new technologies, which emphasizes the existence of a learning community that takes

place outside the classroom walls (Castañeda, 2013). Understanding multiliteracy helps to understand the various ways people communicate and make meaning, as well as the resulting implications for language and literacy teaching (Perry, 2012). This stems from the perceived relationship between basic literacy skills and future economic prospects (Dawson & Siemens, 2014). Even in the industrial era, the cultivation of multiliteracy is seen as an important element to achieve democracy, economic growth, and social stability (Kalman, 2008).

There is a tendency for teachers to package student learning experiences that are fragmented among other subjects, learning that separates subjects strictly will make learning difficult for students because such separation provides an artificial learning experience (Fazriyah, Supriyati, & Rahayu, 2017). One approach that can be used is integrative learning, "the ability to coherently relate, apply, and/or synthesize information from different contexts and perspectives, and utilize these new insights in a variety of contexts" (Barber, 2012). This gives students the opportunity to fulfill the objectives of two or more subject matters (Elliot, 2010). Teachers who use this approach ensure that specific knowledge and skills for various subjects are incorporated into lesson plans that link the objectives of the various subjects (Gxekwa & Satyo, 2017).

The theoretical view notes that the intellectual skills needed to integrate diverse perspectives are needed in the 21st century and must be developed intentionally (Leonard, 2012). In recent decades, a number of scholars have written about integrated learning (Bunduki & Higgs, 2016). Integrative learning is widely recognized as an important component of education (Higgs, Kilcommins, & Ryan, 2010; Huber & Hutchings, 2004). Educators advised that instead of artificially dividing the world into subjects, integrative education immerses students in an environment that is enriched and reflects the complexities of life with the aim of providing a holistic context for learning. This is what leads to a greater ability to make and remember connections and to solve problems (Klein, 2005; Mpaata & Mpaata, 2019). This provides students with concepts and frameworks that deepen their learning and assist in the development of key skills (Sweeney, O'Sullivan, & McCarthy, 2015).

A key factor in integrative learning is encouraging students to make meaningful connections in their learning experiences (Lewis, 2017). It combines what is learned in class, whether it is theory or engineering, with solutions to real-world problems. This integrated learning experience provides students with various opportunities to strengthen and demonstrate their knowledge and skills in a variety of contexts (Gxekwa & Satyo, 2017). The integrative approach is not only the integration of scientific disciplines, but also the methods, forms, and organization of the educational process. Integration makes the pedagogical system more integral and leads to an increase in the level of the educational process, resulting in the formation of the competencies that students need (Vedishenkova & Mironina, 2016).

Integrative learning is noted as an important skill for student success (Rust & Korstange, 2018) and is a characteristic of high impact educational practice (Kuh, O'Donnell, & Reed, 2013). Integrative learning experiences are positively correlated with the same holistic outcomes as the need for cognition, positive attitudes towards literacy, and lifelong learning such as openness to diversity, socially responsible leadership, and moral development (Seifert et al., 2008). Through this learning, students can facilitate cognitive growth, maturation, and identity formation (Huber & Hutchings, 2004). In addition, it also helps students to recall and apply the information obtained longer than in other traditional learning situations (Abraham & Shih, 2015). Furthermore, it can help all teachers motivate students to participate in comprehensive discussions (Bruce, 2012). With the application of integrative teaching in teaching, it can create a livelier and more interesting classroom atmosphere so that students are interested and motivated to receive lessons (Litually, 2016).

Rivers stated that, "As language teachers, we are the luckiest ones, all subjects are ours. Whatever our students want to communicate, whatever they want to read, is our subject" (Rivers, 1976). Therefore, it can be said that language learning is the foundation for building other academic skills (Hassen, 2016). Making multiliteracy activities in language learning and focusing the language skills process can directly make students gain any knowledge. Based on this explanation, this study will develop a learning model, namely the development of a Multiliteracy Integrative Learning (MULGRANING) model in language learning for high school students.

Method

The type of research used is development research with the Plomp (1997) model which consists of three stages, namely the preliminary research stage; design stage; and assessment phase. This research was conducted to develop the product and test its effectiveness. This research was also conducted to develop a product in the form of a Multiliteracy Integrative Learning (MULGRANING) model in Indonesian language learning. The stages, criteria, and activities carried out in this study can be seen in the following table.

Table 1. Criteria, Description of Activities, and Research Activities

Stages	Activity Description	Activity
Preliminary Research	Analyze various student problems or needs. The results of this phase are used as the basis for making the initial design of the learning model prototype.	Collect various information including: student condition, curriculum and learning tools that are being used.
Prototype Phase	Development of a learning model prototype that will be tested in stages and revised based on the formative evaluation stage.	Designing fashion with product descriptions in the form of learning model books and other supporting devices. The product is then tested for validity.
Assessment Phase	Assessing whether users can use this product (learning model) in a practical way (practical) and the model is effective in achieving learning objectives and then willing to apply it.	Trial in the field to get the value of practicality (implementation, presentation, ease of use, and time) and effectiveness (learning activities and learning outcomes).

* This phase indicates the results of the research in question.

The learning model was developed based on the results of the preliminary analysis by conducting a qualitative study with the help of interview sheet instruments. Preliminary analysis is done by interviewing. Interviews were conducted with one Indonesian teacher for one interview. Interviews were conducted by researchers directly with the help of an interview guide. The interview data were obtained from the recording results using the help of a mobile device, after which they were transcribed after conducting the interviews. In addition, the researcher also made notes during the interviews. Based on the explanation in table 1. This article will discuss the design of the developed learning model. In the table 1 stage, this stage is the prototyping phase.

Findings

A. Preliminary Research

This analysis was carried out by conducting interviews with Indonesian language teachers in one of the secondary schools in the city of Padang. The results of the interviews are concluded as follows. First one is related to the learning situation. The learning situation is uncertain because the learning process has continued to change since the COVID-19 pandemic. At the start of COVID-19, learning was carried out with School From Home or Online Learning, for more than one semester (July-December 2020). At the beginning of 2021 (January-June 2021), learning would be carried out using Blended Learning (online learning and face-to-face learning are carried out alternately every week by dividing students into two parts to avoid a large number of students in class). Since COVID-19 increased again (July--December 2021), learning was done with Online Learning. After one semester period, learning was again carried out with Blended Learning. Because the learning situation is constantly changing, many obstacles arise. Teachers must continue to adapt the learning process to changing situations. Online learning and mixed learning (study independently at home using online applications) are different. For example, during Blended Learning, students who study at home cannot be controlled. Learning cannot be done twice, so the teacher repeats the material when learning is done face-to-face. This is due to insufficient study time.

Secondly, the learning approach used by the teacher is based on the guidelines for preparing the lesson plan. The lesson plans were developed based on the established approach, namely the scientific approach. The learning process is carried out by following the learning procedure through the *Package* book published by the Ministry of Education and Culture. Relying on this, the teacher does not use certain learning models in the learning process. Based on the developed lesson plans, the learning process is not effective enough due to changing learning situations. Learning that is carried out online or blended must of course use a certain model so that the learning model is in accordance with the learning situation. Learning is currently less interactive and students are less active when learning is done online. This is because the teacher prioritizes the task. Meanwhile, when it comes to face-to-face learning, teachers can be more interactive because they can discuss and conduct a question and answer process with students.

Thirdly, the teaching materials used are printed teaching materials published by the revised edition of the Ministry of Education and Culture. Teaching materials are sufficient to achieve learning objectives. However, if learning is done online, printed teaching materials are less effective. Apart from that, it is also necessary to add material from various other references, such as through internet sources. In addition, during the COVID-19 pandemic, many media were used to support learning. The media I use are Whatsapp, Google Classroom, Google Form for tests, and Google Meet for video conferencing (this was found when I conducted research related to learning media in language classes, especially in high schools). These media are quite helpful for the online learning process. But there are still problems, for example, when using WhatsApp to collect assignments, a lot of data or files are buried. When directed to use Google Classroom, assignments are often submitted late because they are not limited by time. When using Google Meet for video conferencing, students experienced signaling difficulties, so some students were unable to join. Furthermore, the assessment is carried out with objective tests, essays, and performance tests.

Fourth, during online learning, the School Literacy Movement (SLM) was not implemented, because it was not in the schedule. If learning is done face-to-face, SLM can be implemented. Thus, when learning is carried out using Blended Learning, the SLM is only applied to students who study face-to-face. At the time of online learning, the SLM does not function. The face-to-face learning of the SLM is carried out by reading books, reading the Koran, reading prayers from 6:45-7.15. In learning Indonesian there is an activity of reading text, so literacy has been applied. Literacy is carried out in learning by reading material and text in books, after that the teacher asks questions about the material and text.

Fifth, the integration of education outside of learning Indonesian has not been carried out or implemented by teachers. This is because the material in the book is sufficient and the themes are varied. If there is a theme that is interesting enough, the teacher discusses it and relates it to everyday life. Sixth, based on an analysis of student needs, it was found that students had good skills in using digital media, so that online learning could be carried out in current and future conditions. In addition, based on student analysis it was found that students had an interest in integrating other knowledge into the Indonesian language learning process, especially environmental education and cultural education. Seventh, this model was developed by following the school curriculum in Indonesia, namely Curriculum-13, that is, the text-based learning.

Based on the needs analysis, it is concluded that it is necessary to develop a learning model that can be used for online or blended learning so that the learning process can achieve the expected goals. Therefore, the Multiliteracy Integrative Learning (MULGRANING) model was developed to increase the competitive and comparative value of students in the era of disruption.

B. Prototyping Phase

Based on the preliminary analysis, a language learning model was designed. This learning model was designed based on a literature review and the results of previous research regarding literacy in language learning and the integration of other learning sciences in language learning. The components of the Multiliteracy Integrative Learning (MULGRANING) model for learning Indonesian for high school students consist of syntax, reaction principle, social system, support system, social impact and accompaniment impact. These components are briefly shown in Figure 1 below.

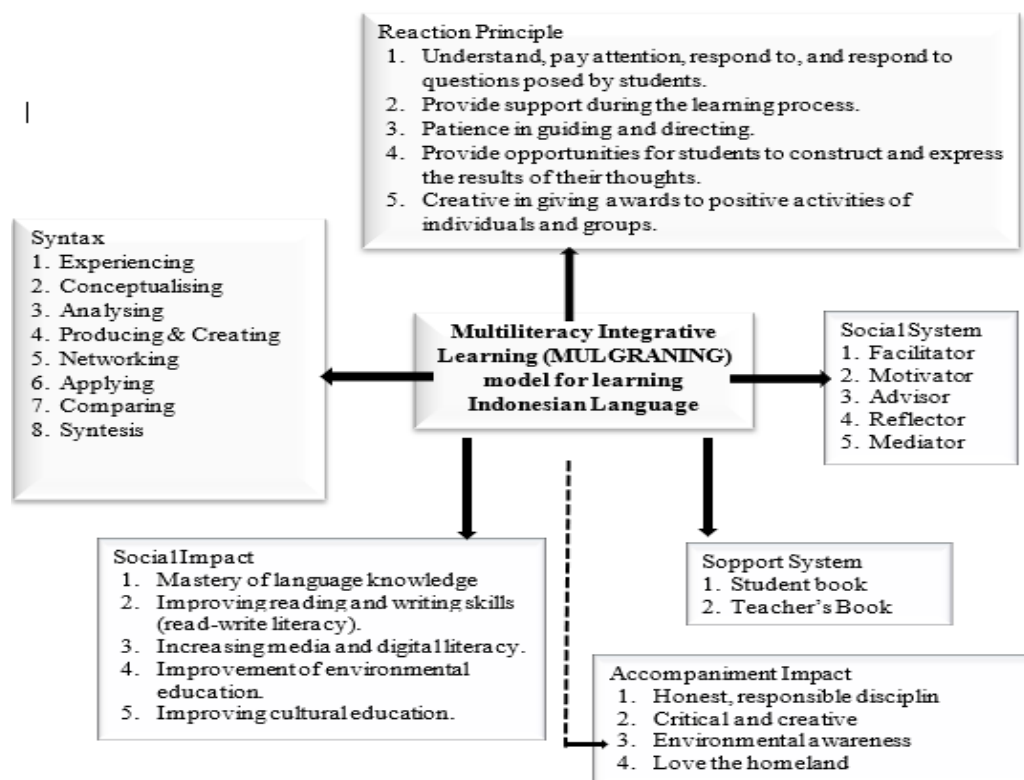


Figure 1. Components of the Multiliteracy Integrative Learning (MULGRANING) Model for Indonesian Language Learning for Middle School Students (Adopted from Joyce, Weil, & Calhoun, 2009)

1. Integrative Learning Multiliteration Model Syntax (MULGRANING)

The design phase (Prototyping Phase) is the stage carried out to prepare a product prototype for the development of the Multiliteracy Integrative Learning (MULGRANING) model in language learning. The design of the developed model is in the form of a learning syntax. Joyce et al. (2009) suggest that the syntax is called the phases that describe the sequence of learning activities. The syntax is used as a guide for teachers in implementing a learning model and a guide for students in participating in learning. Based on this explanation, the syntax of the Multiliteracy Integrative Learning (MULGRANING) Model for Indonesian Language Learning for Middle School Students that was developed is shown below in the Figure 2.

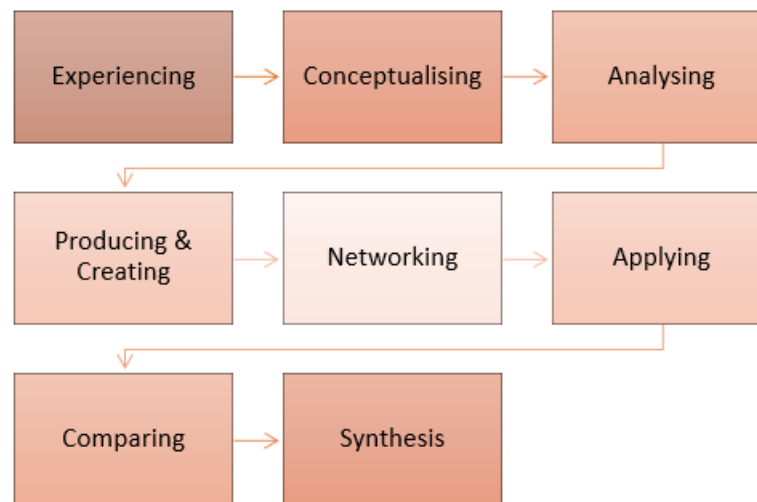


Figure 2. Multiliteracy Integrative Learning (MULGRANING) Model Syntax for Language Learning

a) *Experiencing*

In this activity, the knowledge process is involved in learning through immersion in the real world in relation to personal experience, concrete involvement and exposure to evidence, facts and data. In this activity, techniques and applications that can be applied can be in the form of modeling and mapping of dominant knowledge. This is related to the learning process by associating what they know with new things. In multiliterate learning, this can be determined through the diversity of user interactions in a particular technology. Because learning with this model is devoted to online learning or learning using technology, these interactions occur in virtual situations. In this context, the use of cyberspace provides opportunities for learners to experiment in immersive environments (De Freitas, Rebolledo-Mendez, Liarokapis, Magoulas, & Poulouvassilis, 2010). Examples of activities that can be applied by teachers are using online games, role playing, simulations involving interaction between students through their involvement and can provide insight into student competencies to improve performance.

This Multiliteracy Integrative Learning (MULGRANING) model will be innovated in Indonesian language learning for high school students. The application that can be done is to develop digital teaching materials, online learning media to apply this model. Teachers can display current phenomena in the form of facts to be introduced to students about things that are important for them to know. Through this activity, the teacher needs to stimulate students to convey their ideas in order to know students' prior knowledge about these phenomena. Although learning is done virtually or online, interaction can occur with the help of media developed by the teacher.

b) *Conceptualising*

This is a knowledge process that involves the development of abstract concepts, generalization and theoretical synthesis of these concepts. It is supposed to be moving from life-world experience along a depth axis examining the underlying structures, causes, and relationships. In this lesson, it has been

planned to introduce the concepts that were shown in the previous stage. Then, the teacher can convey the theories that support the learning process. These theories are useful for equating perceptions between students' prior knowledge about it with actual theories and facts.

The application of the Multiliteracy Integrative Learning (MULGRANING) Model at this stage can be done by displaying evidence, theories, concepts, and others by relating the evidence, theories, and concepts to relevant and authentic sources. These sources can be videos on YouTube, articles, and others. These sources are authentic and validated so that the concepts and theories that students learn are correct. Continuing the process of learning Indonesian, this stage can be exemplified by presenting theories and facts about the phenomena discussed in the previous stage. For example, the teacher displays the phenomenon of the COVID-19 pandemic, then at this stage the facts and theories related to COVID-19 are displayed. This is done so that students can gain knowledge and are not easily deceived by hoaxes and can place themselves in society with the right provisions. In addition to knowing the concept of text content, students also check what type of text is being studied by reading supporting theories delivered by the teacher or broadcasting through digital teaching materials and interactive media used.

c) Analyzing

This is a knowledge process that involves examining the constituent and functional elements of a material. It involves the interpretation of the underlying reasons for a particular piece of knowledge, action, object or meaning being represented. In learning Indonesian based on the 2013 Curriculum, at this stage, students analyze the text they read after recognizing the type of text. To support students' knowledge of the text, students analyze the function, structure, and linguistic features of the text to strengthen students' perceptions of the type of text. In addition to relating to the text, students also analyze the content of the text and provide responses about the function of the knowledge read and can criticize the content for the usefulness or correctness of the content of the text or information read or heard.

d) Producing and Creating

Products/creations can be observed directly through the generation of certain artifacts such as multimedia. In the terms of Bruns (2008), the product user concept defines the shift from a production model to a more collaborative and user-led creation model. This concept reinforces the idea that any digital product can be remixed and reused, and is thus a state of constant change and evolution. The feedback link from producer to consumer back to producer can be collaborative and completed in a very short period of time. Wikipedia describes this dynamic and evolving collaborative system. Basically, the flow and utilization of products that develop in social and cultural interests can act as indicators of appropriation and simulation.

In learning Indonesian based on Curriculum 2013, at this stage students can develop products to demonstrate their language skills. Such as writing text, making videos, and others. In the MULGRANING learning model, this model prioritizes the process occurring online, so that text, video, or audio can be accessed virtually or online. Teachers and students can use various media to support the process. Media such as social media or SNS (Social Networking Sites) or SLN (Social Networking Learning).

e) Networking

This cluster relates to the role, position, and contribution of the learner to the learning network. This can be easily measured through social network analysis (SNA). SNA integration provides not only insight into the strength and diversity of relationships formed but also the types of information or resources shared in social systems (Haythornthwaite, 2002). By leveraging networks, these individuals are able to see ahead, see more broadly, and translate information across groups. This 'translating' function as creativity adds value (Burt, 2004), as well as their capacity to build, maintain and expand their network within and outside the existing environment. The skills shown by these "border crossers" (McWilliam & Dawson, 2008) to build these diverse networks reflect a high level of competence with

digital literacy and also demonstrate good participatory practice. An understanding can therefore be gained of how social network analysis can assess and provide early indicators of participatory culture.

In the MULGRANING learning model, students' digital media literacy skills are prioritized at this stage. Students who are more skilled at using digital media will make it easier for students to form wider networks. Students can share their knowledge and can collaborate with many people to support their learning. Students can share their knowledge and get feedback from anywhere with the help of media and wider networks.

f) Applying

This activity is the act of tackling an idea, usually studied in an academic context, and relating it to another field, usually to a personally relevant area. Applications are the basic form of integration. A knowledge process that involves active intervention in the human and natural world, learning by applying experiential, conceptual or critical knowledge by acting in the world on the basis of knowing something from the world and learning something new from experience. In the MULGRANING learning model, students' knowledge about education that is integrated into learning, for example environmental and cultural education is applied to the real world. This activity is rather directed to real activities that can be shared through the results of observations, analysis, and work that has been done. For example, students learn about the waste management process. In this activity, students can apply their knowledge to real activities.

g) Comparing

Comparing is the act of finding similarities and differences between two or more ideas or things. This is done by researching and rethinking the similarities and differences of various ideas, theories and experiences. In the MULGRANING learning model, the knowledge that students get and the knowledge they share can be compared with the feedback they get. In this activity, students can rethink, compare and combine different perspectives from the feedback they get. It can be in the form of facts or opinions supported by facts. It is intended that students can gain broader knowledge and broader thinking by knowing the perspectives of many people on something discussed.

h) Synthesis

Synthesis is a combination of perspectives leading to a whole that is greater than the sum of its parts. This is done by combining different perspectives to increase understanding. In the MULGRANING learning model, students conclude knowledge based on what they find, what they feel, with the perspective they get to reach a conclusion. At this stage, students also reflect on their learning.

2. Implementation of the MULGRANING Model in Language Learning

Based on the explanation in the needs analysis section, the curriculum used in Indonesia is Curriculum-13 with reference to four main competencies. Curriculum 13 is the learning curriculum in Indonesia at the school level which was implemented in 2013, so the curriculum is called K-13 (Curriculum in Indonesia Language is "Kurikulum"). This curriculum is used in Indonesia based on the decision of the Ministry of Education and Culture. This curriculum divides the Core competencies into four sections (KI-1, KI-2, KI-3, KI-4). Competency 2 relates to divinity, Core Competency 2 relates to character and social attitudes. For the learning process it is related to Core Competencies 3 and 4. Core Competence 3 is related to knowledge and Competency 4 is related to skills. Core Competency 3 reads "Understanding, applying, and analyzing factual, conceptual, procedural, and metacognitive knowledge based on their curiosity about science, technology, art, culture, and humanities with related insights into humanity, nationality, state, and civilization. causes of phenomena and events, as well as applying procedural knowledge in specific fields of study according to their talents and interests to solve problems. Core Competency 4, namely "Processing, reasoning, and presenting in the concrete and abstract realms related to the development of what they learn in school independently, acting effectively and creatively, and being able to use methods according to scientific rules."

The implementation of this learning model will be exemplified in one of the learning topics, namely learning procedure text. This text is studied in class XI. The competence that will be the goal is Basic Competencies 3.1 which reads, "Constructing information in the form of general statements and stages in the procedure text", Basic Competencies 4.1 which reads, "Designing general statements and stages in the procedure text with the right organization orally and write", Basic Competencies 3.2 which reads, "Analyzing the structure and language of procedure texts", and Basic Competencies 4.2 which reads "Developing procedure texts by paying attention to the results of the analysis of content, structure, and language." The formulation of learning objectives regarding further procedure text can be seen in the Table 2.

Table 2. Formulation of Learning Objectives for Writing Procedure Text

Basic competencies	Indicator	Learning objectives
3.2 Analyzing the structure and language of procedure text	<ol style="list-style-type: none"> 1. Reveal the meaning and structure of the procedure text. 2. Reveal the linguistic aspects of the procedure text. 	<ol style="list-style-type: none"> 1. Able to re-express the meaning, structure, and language of procedure text.
4.2 Develop procedure text by taking into account the results of the analysis of the content, structure and language.	<ol style="list-style-type: none"> 1. Drafting an outline of a procedure. 2. Develop procedure texts by paying attention to content, structure, and linguistic aspects. 	<ol style="list-style-type: none"> 1. Able to draft an outline of a procedure. 2. Able to develop procedural texts by paying attention to the content, structure, and linguistic aspects.

After determining the learning objectives, then the next step is to integrate the Multiliteration Integrative Learning (MULGRANING) model in language learning. The process of integrating the model in learning can be seen in the Table 3.

Table 3. Application of Integrative Learning Multiliteration Model in Indonesian Language Learning

Syntax	Learning Implementation
Experiencing	The teacher displays environmental phenomena. These phenomena are in the form of phenomena that often occur in the lives of students, such as environmental damage caused by humans by littering, cutting down trees, or polluting rivers by waste. The display can be in the form of videos or images presented through media such as YouTube or displayed on e-learning.
Conceptualizing	At this stage, the teacher explains theories, facts, or concepts related to the text being studied. For example, in procedural text learning, the teacher connects theories, facts, or concepts with the explanations that have been delivered at the experiencing stage, so that students can understand that the texts being studied at that time are closely related to their lives. At this stage, students must understand, by studying the procedure text, students can have knowledge other than the text material. Especially in this material is environmental education.
Analysing	At this stage, students can do two things. First, analyze the text being studied. The analysis can be in the form of an analysis of the structure of the text and the linguistic aspects of the text. With students being able to analyze this text, students will have knowledge about the text. Second, analysis of the content of the text. The content of the text is not only in the form of information, but the content of the text contains knowledge that is useful for life. For example, using this model, one of the sciences that can be integrated is environmental education. By studying the text, students will get information about the content of the text, one of which is information about the environment.

Table 3. Continued

Syntax	Learning Implementation
Producing & Cleating	At this stage, students apply or apply Basic Competencies-4 in the learning process. In Basic Competencies -4 which has been described in table 2, in this activity students produce text. In addition to the text delivered in writing, it can also be presented orally. The format of the assignment can be in the form of written text or made in the form of video. For example, in a procedure text, students can write a procedure text about managing organic waste. An explanation of that can be made in image and video format equipped with written text or delivered orally.
Networking	At this stage, students focus on forming a network. At this time, networks are very easy to form because of advances in science and technology. The network can be created through the use of digital media in the learning process. In learning procedure text. Texts that have been made or videos that have been created can be widely disseminated through the media and many people can see the information that we convey through these media. The use of online media in the learning process can increase student networks and communication can be established through this activity.
Applying	At this stage, students apply the information obtained through studying the text. In learning procedure texts related to environmental education, students can apply knowledge about the contents of the text in their lives. For example, regarding the process of managing organic waste, students after studying the procedure text can apply organic waste management procedures in their lives.
Comparing	At this stage, learning can occur in two ways. First, comparing various theories of concepts and theories regarding the text being studied. Second, compare various theories of concepts and theories regarding the content of the text being studied. In the first concept, in learning procedure text, students can compare this procedure text with other texts, such as explanatory texts. Students can compare the differences in the text in terms of the structure and linguistic features of the text. In the second concept, in learning environmental waste management, students can compare the process of managing organic waste and inorganic waste.
Synthesis	At this stage, students conclude the information and knowledge they get during the learning process. In this context, students are expected to understand procedure text and be able to write procedure text. In addition, students also have other knowledge that is useful in their lives and applied to everyday life.

Discussion

Based on the literature review, research related to multiliteracy in language learning has been carried out by several previous researchers. Nabhan and Hidayat (2018) investigated the literacy practice of EFL learning at the higher education level from a multiliterate and multimodal perspective. The results of this study indicate that students have used technology and digital texts in reading and writing activities although they still maintain the use of printed texts. Therefore, with the potential of students in utilizing multimodal texts, teachers can rearrange their pedagogy in multiliterate English education. The multiliteracy and multimodal pedagogy are fuelling a shift in EFL learning (reading and writing) towards 21st century environmental literacy skills that enrich and contextualize target language into real-world experiences. However, some of the difficulties faced by some lecturers, in terms of the objectives of the courses and the qualifications of students are still found in the implementation of the learning.

Boche (2014) presents research findings on the understanding and experience of five first-year teachers with multiliteracy. The results show that for these teachers the definition of literacy is meant to be able to adapt to different situations. Some of these situations may require new technologies and it is important to prepare students to use and understand how multiliteracy requires preparing students to use different literacy strategies in different contexts. Although these teachers come from diverse contexts, multiliteracy is a universal concept that can adapt to any given situation. Teachers' concern for their students and how to use tools to interact with students on a daily basis can effectively increase student engagement and promote a multiliterate perspective. All teachers are well aware of the importance of helping students realize that literacy is more than just print-based text. This emphasis is seen in the way teachers structure the learning process.

Dawson and Siemens (2014) developed a tool to assess individual and community achievement in measuring multiliteracy attainment and how this evaluative process could be improved. The results of this study propose a conceptual framework on how learning analysis can assist in measuring individual multiliteracy attainment and this evaluative process can be scaled to provide an institutional perspective of educational progress in developing basic skills.

Kitson, Fletcher, and Kearney (2005) present findings from an empirical study investigating how a teacher integrates technology, particularly Interactive Whiteboards (IWB), to teach multiliteracy practices when reading multimodal texts. The results show a lack of congruence between the beliefs held and enforced by teachers, given that the practice is focused mainly on traditional print-based modes of communication. These findings inform teacher action in the next phase of the ethnographic action research method will guide teacher planning in a way that will align espoused and enforced beliefs about multiliteracy, multimodal texts and the use of IWB in their classrooms.

Pishol and Kaur (2015) analyzed the perceptions of one ESL teacher and student in reading graphic novels using a multiliteracy approach in the classroom. The results showed that students positively perceive the use of graphic novels and multiliteracy approaches in reading classes because they find learning fun and interesting. This supports the view of ESL teachers who advocate the inclusion of multimodal pedagogical practices in the learning context.

Elsner (2011) describes the theoretical framework and main objectives of the MuViT project - Virtual Multiliteracy. In this study the authors describe the need for multiliteracy pedagogy in the classroom, detail the objectives and tools developed in the Mu-ViT project and describe the research questions and activities connected to the project. The results show that MuViT can be an innovative tool for language and media education at the elementary level. MuViT contributes to modern language learning approaches as it supports autonomous, inductive, and process- and product-oriented learning.

Conclusion

Based on the results of research and discussion, it is concluded that it is necessary to develop a Multiliteracy Integrative Learning (MUGRANING) model to be used in language learning, either via online learning or blended learning. In addition, the learning model needs to be innovative in accordance with the development of science and technology. It is hoped that this learning model can be used in the online distance learning process due to the COVID-19 pandemic or can be used in the future because learning will always involve technology.

References

- Abraham, S., & Shih, L. (2015). Instructional perspective: Towards an integrative learning approach in cybersecurity education. *Information Security Education Journal*, 2(2), 84-90.
- Barber, J. (2012). Integration of learning: A grounded theory analysis of college students' learning. *American Educational Research Journal*, 49(3), 590-617.
- Boche, B. (2014). Multiliteracies in the classroom: Emerging conceptions of firstyear teachers. *Journal of Language & Literacy Education*, 10(1), 114-135.
- Borsheim, C., Merritt, K., & Reed, D. (2008). Beyond technology for technology's sake: Advancing multiliteracies in the twenty-first century. *Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 82(2), 87-90.
- Brown, I., Lockyer, L., & Caputi, P. (2010). Multiliteracies and assessment practice. In D. R. Cole & D. R. Pullen (Eds.), *Multiliteracies in motion: Current theory and practice* (pp. 191-206). New York: Routledge.
- Bruce, T. D. (2012). *Theories of language learning in second language*. London: C. Hurst & Company.
- Bruns, A. (2008). The future is user-led: The path towards widespread produsage. *Fibreculture Journal*, 11.
- Bunduki, K. H., & Higgs, L. G. (2016). Defining integrated learning: Perspectives from alumni of the christian university in the democratic republic of the congo (DRC). *KOERS - Bulletin for Christian Scholarship*, 81(2), 1-9.
- Burt, R. (2004). Structural holes and good ideas. *The American Journal of Sociology*, 110(2), 349-399.
- Castañeda, M. (2013). "I am proud that I did it and it's a piece of me": Digital storytelling in the foreign language classroom. *CALICO Journal*, 30(1), 44-62.
- Cope, B., & Kalantzis, M. (2000). *Multiliteracies: Designing social futures*. London: Routledge.
- Cope, B., & Kalantzis, M. (2009). Multiliteracies': New literacies, new learning. *Pedagogies*, 4(3), 164-194.
- Crowder, T. A., Choi, J., & Yi, Y. (2013). Putting multiliteracies into practices: Digital storytelling for multilingual adolescents in a summer program. *TESL Canada Journal*, 30(2), 36-45.
- Dawson, S., & Siemens, G. (2014). Analytics to literacies: The development of a learning analytics framework for multiliteracies assessment. *The International Review of Research in Open and Distance Learning*, 15(4), 284-305.
- De Freitas, S., Rebolledo-Mendez, G., Liarokapis, F., Magoulas, G., & Poulouvasilis, A. (2010). Learning as immersive experiences: Using the four-dimensional framework for designing and evaluating immersive learning experiences in a virtual world. *British Journal of Educational Technology*, 41(1), 69-85.
- Drajati, N. A., Tan, L., Haryati, S., Rochsantiningsih, D., & Zainnuri, H. (2018). Investigating English language teachers in developing TPACK and multimodal literacy. *Indonesian Journal of Applied Linguistics*, 7(3), 575-582.
- Elliot, P. (2010). Science and literacy in the elementary classroom. Retrieved from http://www.edugains.ca/resourcesLIT/ResourceCollection/What%20Works/WW_science_literacy.pdf
- Elsner, D. (2011). Developing multiliteracies, plurilingual awareness & critical thinking in the primary language classroom with multilingual virtual talkingbooks. *Encuentro*, 20, 27-38.
- Fazriyah, N., Supriyati, Y., & Rahayu, W. (2017). The effect of integrated learning model and critical thinking skill of science learning outcomes. *Journal of Physics: Conference Series*, 812, 1-5.
- Ganapathy, M., & Seetharam, S. A. (2016). The effects of using multimodal approaches in meaning-making of 21st century literacy texts among ESL students in a private school in Malaysia. *Advances in Language and Literary Studies*, 7(2), 143-155.

- Gxekwa, N., & Satyo, N. (2017). The use of isiXhosa children's poetry as a tool to integrate literacy, mathematics and life skills in Foundation Phase: Grade R-3. *South African Journal of Childhood Education*, 7(1), 1-7.
- Hassen, R. (2016). Reading habits of secondary school teacher: A study of selected secondary school in Addis Ababa and Dessie. *Journal of Educational Practice*, 7(22), 59-67.
- Haythornthwaite, C. (2002). Strong, weak, and latent ties and the impact of new media. *The Information Society*, 18(5), 385-401.
- Haythornthwaite, C., & Andrews, R. (2011). *E-Learning theory and practice*. London, UK: Sage Publications.
- Higgs, B., Kilcommins, S., & Ryan, T. (2010). *Making connections: Intentional teaching for integrative learning*. Cork: NAIRTL.
- Honan, E. (2012). Literacy and pedagogical routines in the 21st century digital classroom. Digital literacy in the early years: Old questions, new tools, shifting spatialised practices. *Symposium organized by the Centre for Research in Educational Future and Innovation (CREFI)*, Deakin University, Melbourne, Australia.
- Huber, M. T., & Hutchings, P. (2004). *Integrative learning: Mapping the terrain. The academy in transition*. Washington, DC: Association of American Colleges and Universities.
- Jenkins, H., Clinton, K., Purushotma, R., Robison, A. J., & Weigel, M. (2006). *Confronting the challenges of participatory culture: Media education for the 21 century*. Chicago, IL: MacArthur Foundation.
- Jewitt, C. (2008). Multimodality and literacy in school classrooms. *Review of Research in Education*, 32(1), 241-267.
- Joyce, B. C., Weil, M., & Calhoun, E. (2009). *Models of teaching*. Boston, USA: Pearson.
- Kalman, J. (2008). Beyond definition: Central concepts for understanding literacy. *International Review of Education*, 54(5/6), 532-538.
- Kitson, L., Kearney, J., & Fletcher, M. (2005). *Transversing the digital divide using interactive whiteboards*. Paper presented at the Australian Teacher Education Association's 33rd Annual Conference, Gold Coast, Queensland, Australia.
- Klein, J. T. (2005). Integrative learning and interdisciplinary studies. *Peer Review*, 8-10.
- Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. New York, NY: Routledge.
- Kuh, G. D., O'Donnell, K., & Reed, S. D. (2013). *Ensuring quality & taking high-impact practices to scale*. Washington, D.C.: Association of American Colleges and Universities.
- Leonard, J. B. (2012). Integrative learning: A ground theory. *Issue in Integrative Learning*, 30, 47-74.
- Lewis, E. C. (2017). Promoting undergraduate research through integrative learning. *International Journal of Teaching and Learning in Higher Education*, 29(3), 545-550.
- Lituly, S. J. (2016). Integrative teaching techniques and improvement of German speaking learning skills. *Journal of Education and Practice*, 7(9), 56-61.
- Loveless, A., DeVoogd, G., & Bohlin, R. (2001). Something old, something new...is pedagogy affected by ICT?. In A. Loveless & V. Ellis (Eds.), *ICT, pedagogy and the curriculum: Subject to change* (pp. 63-83). London: Routledge Falmer.
- Luke, A. (2013). The practical problem of curriculum making. In A. Luke, A. Woods, & K. Weir (Eds.), *Curriculum, syllabus design and equity: A primer and model* (pp. 1-5). New York, NY: Routledge.
- McWilliam, E., & Dawson, S. (2008). Pedagogical practice after the information age. In S. Inayatullah, I. Milojevic, & S. Bussey (Eds.), *Alternative educational futures: Pedagogies for emergent worlds* (pp. 130-144). The Netherlands: Sense Publishers.

- Mpaata, K. A., & Mpaata, Z. (2019). The leadership role of secondary school head teachers in delivering integrative quality education in Uganda. *International Journal of Educational Leadership and Management*, 7(2), 203-230.
- Nabhan, S., & Hidayat, R. (2018). Investigating literacy practices in a university EFL context from multiliteracies and multimodal perspective: A case study. *Advances in Language and Literary Studies*, 9(6), 192-199.
- Navehebrahim, M. (2011). Multiliteracies approach to empower learning and teaching engagement. *Procedia - Social and Behavioral Sciences*, 29, 863-868.
- New London Group. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Learning and the design of social futures* (pp. 9-37). London, UK: Routledge.
- OECD. (2019). *PISA 2018 assessment and analytical framework PISA*. Paris: OECD Publishing.
- Perry, K. H. (2012). What is literacy? A critical overview of sociocultural perspectives. *Journal of Language & Literacy Education*, 8(1), 50-71.
- Pishol, S., & Kaur, S. (2015). Teacher and students' perceptions of reading a graphic novel using the multiliteracies approach in an ESL classroom. *Malaysian Journal of Learning and Instruction*, 12, 21-47.
- Plomp, T. (1997). Educational design: Introduction. In T. Plomp (Ed.), *Educational & training system design: Introduction. Design of education and training (in Dutch)*. Utrecht (the Netherlands): Lemma. Netherland. Faculty of Educational Science and Technology, University of Twente.
- Rivers, W. (1976) *Speaking in many tongues: Essay in foreign language teaching* (2nd ed.). Rowley: MA Newbury House.
- Rust, D. Z., & Kostange, R. (2018). Prioritizing reflection and integrative learning in first-year seminar courses. *The Journal of College Orientation and Transition*, 25(2), 76-92.
- Sarsar, N. (2008). Adopting a multimodal approach to address the multiliteracy needs of my students. Retrieved from <https://files.eric.ed.gov/fulltext/ED501748.pdf>
- Schindwein, A. F. (2013). Facing the challenge-developing an instructional plan for portuguese as foreign language in brazil based on multiliteracy. *IADIS International Conference on Cognition and Exploratory Learning in Digital Age (CELDA 2013)*, 377-380.
- Seifert, T., Goodman, K., Lindsay, N., Jorgensen, J., Wolniak, G., Pascarella, E., & Blach, C. (2008). The effects of liberal arts experiences on liberal arts outcomes. *Research in Higher Education*, 49, 107-125.
- Sweeney, C., O'Sullivan, E., & McCaerthy, M. (2015). Keeping it real: Exploring an interdisciplinary breaking bad news role-play as an integrative learning opportunity. *Journal of the Scholarship of Teaching and Learning*, 15(2), 14-32.
- Swenson, J., Young, C. A., McGrail, E., Rozema, R., & Whitin, P. (2006). Extending the conversation: New technologies, new literacies, and English education. *English Education*, 38(4), 351-369.
- Vedishenkova, M. V., & Mironia, A. Y. (2016). The methodology of foreign language integrative teaching at the initial stage of interpreter training. *International Journal of Environmental & Science Education*, 11(8), 1975-1988.
- Wang, Q. (2015). Study on the new model of college english teaching under the setting of multimodality. *Universal Journal of Education Research*, 3(8), 473-477.