Knowledge and Thinking Skills in Li-Pro-GP Model of Instruction

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A B S T R A K

Survei dari beberapa penelitian tentang kemampuan literasi siswa Indonesia menunjukkan ketidaksesuaian dengan angka literasi Indonesia. Oleh karena itu, dapat dikatakan bahwa sebagian besar masyarakat Indonesia sudah melek huruf dalam hal pendidikan. Meskipun demikian, kemampuan literasi mereka secara umum masih lemah. Selain itu, kemampuan literasi siswa yang rendah dianggap sebagai akibat rendahnya minat membaca. Sejumlah masalah dalam keterampilan membaca terkait erat dengan pengalaman dan praktik membaca yang terbatas. Penelitian ini bertujuan untuk mendeskripsikan pengetahuan dan keterampilan berpikir siswa dalam pembelajaran model Li-Pro-GP. Sintaks model pembelajaran ini adalah pembelajaran berbasis proyek yang terintegrasi dengan program Gerakan Literasi Sekolah (GLS) dan Penguatan Pendidikan Karakter (PPK). Penelitian ini termasuk dalam model penelitian deskriptif. Subyek penelitian, siswa kelas tujuh mengikuti pembelajaran IPA. Data penelitian dianalisis secara deskriptif yang menunjukkan adanya peningkatan pengetahuan dan keterampilan berpikir di kalangan siswa. Selain itu, tingkat penggunaan bahasa tertinggi ditemukan pada tes untuk Aspek C2, C4, C5, dan C6, sedangkan tingkat kebenaran konseptual tertinggi ditunjukkan pada Aspek C3. Sebaliknya, tingkat pemberian argumentasi yang paling rendah tampak pada semua aspek. Singkatnya, tingkat keterampilan tertinggi ditunjukkan oleh penggunaan bahasa, sedangkan yang terendah pada kepercayaan diri siswa dalam memberikan argumentasi.

A B S T R A C T

Surveys from some research on Indonesian student's literacy skills showed irregularity with Indonesia's literacy rate. Therefore, it can be said that most of Indonesians have already been literate, in terms of education. Nonetheless, their literacy skills in common still remains weak. Moreover, student's low literacy skills are deemed as the result of low interest at reading. A number of problems in reading skill is closely associated with limited reading experiences and practices. The current research aims to describe student's knowledge and thinking skills in a Li-Pro-GP model of instruction. The syntax of this learning model is project-based learning that is integrated with the School Literacy Movement (SLM) and Character Education Reinforcement (CER) programs. The research fell into a descriptive research model. Research subjects, seventh graders attending IPA instructions. Data of the research were analyzed descriptively, which indicated improvement in terms of knowledge and thinking skills amidst students. In addition, the highest level of language use was found at the test for Aspect C2, C4, C5, and C6, whilst the highest level of conceptual truth was indicated at Aspect C3. On the other hand, the lowest level of giving argumentation appeared at all aspects. In sum, the highest level of skills was indicated by the language use, while the lowest at the student's confidence in giving argumentation.

1. INTRODUCTION

Massive changes and transformation have remarked life in the 21st Century, going from agrarian to industrial societies. It, furthermore, continues and drives the societies well-knowledgeable, with high

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demands of good and outstanding skills in some crucial life aspects, i.e., problem-solving, critical-thinking, teamworking, and adaptability to new things (Pantiwati et al., 2020; Tuan Soh et al., 2010). One of key successes to facing challenges in the current century is science literacy. Those equipped with science literacy are able to use any scientific information they obtain in order to solve problems of life and to create a number of meaningful scientific products (Junika et al., 2020; Nofiana & Julianto, 2017). According to a study from *Program for International Student Assessment* (PISA) 2018 released on Tuesday, December 3 2019, it was shown that Indonesia's position downgraded in comparison to that of in 2015. The country was ranked 74 in terms of literacy, and 71 for science category out of 79 countries involved (Chamisah, 2017; Hewi & Shaleh, 2020). It is certain that education of a nation cannot be fully determined by an international test only. In fact, reality shows different cases in which many of students still cannot adequately meet the international criteria (Hartini et al., 2018; Mevarech & Fan, 2018). This fact corresponds to a notion declared by the Minister of Education, Nadiem Anwar Makarim, who considers PISA's assessment results as meaningful inputs to evaluate and improve the education quality in Indonesia, which actually becomes one of the National Plans for the five coming years, with strong emphasis on improving the quality in response to any challenges in the 21st Century.

Literacy is not only all about reading and writing, but also about how to obtain information from what is being read and how it ends up as a good summary. This kind of literacy applies to schools whose priority is to make students well-knowledgeable. Moreover, science literacy requires students to make use of scientific information, to identify questions, and to provide scientific evidences based upon conclusion so that the information remains understandable and can help formulate good summary about the nature and its changes due to human activities (Nofiana & Julianto, 2017; Wibayanti et al., 2020). According to previous study there are some factors causing low student's science mastery as a way of investigating, namely that: students rarely do experimental activities; students cannot understand specific terms when investigating things (i.e., independent and dependent variables); and students tend to spend more times to study science by repetitive method (Suryani et al., 2016). Surveys from some research on Indonesian student's literacy skills showed irregularity with Indonesia's literacy rate (Megawati & Sutarto, 2021; Samrin, 2016). Therefore, it can be said that most of Indonesians have already been literate, in terms of education. Nonetheless, their literacy skills in common still remains weak. Talking about solutions for reading ability problems, the Ministry of Education and Culture of Indonesia designs a School Literacy program (SLM) in order to improve student's literacy level (Munawaroh et al., 2018; Srirahayu et al., 2021). In addition to possessing literacy skills, one of several curriculum demands is designing the 21st Century model of instructions with the core on knowledge skill. In general, knowledge is referred to information owned by one in specific areas. Meanwhile, knowledge skill is commonly associated with cognition, which is mostly intertwined with ways how one is thinking when dealing with problems or trying to find solutions for them. In fact, cognitive skill is also set as a parameter to identify student's learning outcomes, especially by means of tests (Nabilah et al., 2020; E. Y. Wijaya et al., 2016). Basically, ones will be considered genius once they are able to perceive particular phenomena from different perspectives. Not only does knowledge define the individuals' cognitive skill, but their ways of communicating their opinions also matter. One of the most common obstacles that frequently appears in the 2013 Curriculum instructions is that students are less active at expressing their ideas (Khalamah, 2017; Maunah, 2016; Rohendi, 2010). Some factors are assumed to be causes of this occurrence, such as shyness, anxiety when interacting with other people, low confidence level, low degree of understandability about materials, and low student's participation during the instructions (Idrus, 2009; Syarifudin & Sulistyaningrum, 2015).

One of possible solutions in response to the abovementioned issue is to find out and implement a suitable model of instruction. An eloquent model of instruction will not only be useful for students, but also teachers in the creation of class culture that leads to tendency, sensitivity, and capability to take further and more flexible actions (Agustin & Cahyono, 2017; M. H. Hidayat et al., 2018; Insyasiska et al., 2015). Li-Pro-GP learning model stands for project-based model integrated with SLM and CER. In other words, such a model adopts the core syntax of project-based learning (Pantiwati et al., 2020; T. N. I. Sari et al., 2021). The model Li-Pro-GP, moreover, is also designed based upon project-based learning method through an integration with SLM activities in three main sections, i.e., habituation, development, and learning. The integration is carried out based on the key components of CER, manifested as the character reinforcement on five-character values, including nationalism, independency, collaboration, integrity, and religiousness. Meanwhile, topics to discuss can cover health, natural resources, environmental quality, natural disasters, and technological science. Referring to the policy that applies today, teachers are strongly required to be beyond creative. Thus, schools are prepared with the policy to rule this kind of model, and are set to form a Literacy Task-Force Furthermore, some studies have demonstrated that one of several models of instructions considered effective to meet the 21st Century instructional requirements

is Project-Based Learning (PjBL). Using the model, students are allowed to have more chances to express their creativities in making use of existing sources and revising how they are supposed to work, which is so uncommonly found in models other than this (Batubara & Ariani, 2018; Mutakinati et al., 2018). Project-Based Learning model constitutes one of numerous approaches that provide students with supportive learning atmosphere that can help them acquire knowledge and other personal skills (Redhana, 2019; Wahyuni, 2021). Two of several must-have skills for humans were integrity and communication Use of project-based learning in Li-Pro-GP model is expected to improve instructional quality that leads to student's further cognitive development through student's involvement at complex problems (Hartono & Asiyah, 2018; Insyasiska et al., 2015). In addition to cognitive area, this kind of model is also expected to be able to enhance student's communicative competence, especially in a way of expressing ideas. Meanwhile, character education is set to be a basis to actualize quality future generation, not only intelligent and literate but also focused on moral building of the nation (Dalyono & Lestariningsih, 2020; Hartono & Asiyah, 2018; Insyasiska et al., 2015). After all, this Li-Pro-GP model is deemed to be effective in making students excellent in knowledge and enhancing their skills of expressing ideas and cherishing moral values.

CER designed by the Ministry of Education and Culture of the Republic of Indonesia in 2017 attempted to identify five core values that were integrated one with another in the construction of value networks, with some priorities in need of development, including: religiousness, independency, collaboration, and integrity (Khalamah, 2017; Komara, 2018). In addition, reinforcing character education becomes a basis to construct fundamental quality of a nation without neglecting any social values, like tolerance, collaboration, and respect. CER, furthermore, is an education movement to enhance personality through a series of processes, i.e., formation, transformation, transmission, and student's potential development by synchronized spirits (ethical and spiritual concerns), affection (aesthetics), thinking (literacy and numeracy), and physical education (kinesthetics) based upon the life philosophy of Pancasila. For those reasons, collaboration among schools, local communities, and families is highly needed as a fundamental basis to carry out National Mental Revolution Movement (NMRM). In respect to aforesaid points, this research aims needed to investigate knowledge and thinking skills in the Li-Pro-GP model of instruction (Project-Based Literacy Integrated with School Literacy Program).

2. METHOD

The current research was designed using descriptive-qualitative research model conducted in SMP Al Ma'arif Singosari, Malang Regency in academic year of 2020/2021. The instructions were focused on two basic competences on analyzing environmental pollution and its impacts to the ecosystem and the skill domain. Each of the competences was completed with indicators based on related aspects and levels, whilst the instructions were designed using a model of Li-Pro-GP syntax. Population of the research consisted of students in VII A class of SMP Al Ma'arif Singosari. Meanwhile, sample comprised 20 students who attended Scienceinstruction. Sampling technique purposive sampling was used to determine the research sample. Basically, the technique constitutes a specific technique with particular considerations. In this case, it was considered that students in VII A class were those who still needed literacy management following their thinking skill, academic achievements, and character considered low in level.

The data collection technique used to collect cognitive ability data uses essay questions according to Bloom's taxonomy starting from the ability to understand (C2), apply (C3), analyze (C4), evaluate (C5) and create (C6). Meanwhile, students' thinking skills are given through retelling tasks recorded on video. Furthermore, the video recordings were analyzed with reference to indicator, to name: giving response, accent, vocabulary, fluency, bravery, ethics, and linkage of ideas measured by means of rubrics once students were working on the pre- and post-tests. Object of the current research was set on the student's knowledge and thinking skills. In practice, pre-test was a procedure of assessment before implementing the Li-Pro-GP model, while the post-test after the model was applied in the instruction. Data of assessment results on the student's knowledge and thinking skills were analyzed using a descriptive method through interpretation and elaboration. Further, data analysis technique used for a qualitative analysis procedure included four main phases, i.e., data collection, data reduction, data display, and conclusion or verification.

3. RESULT AND DISCUSSION
Result

Sorted from the highest to lowest achievement indicators, students' answers were indicated by following aspects, i.e., language use skill, good flow of thinking, answer specification, conceptual truth, answer linkage, and argumentation skill Figure 1.
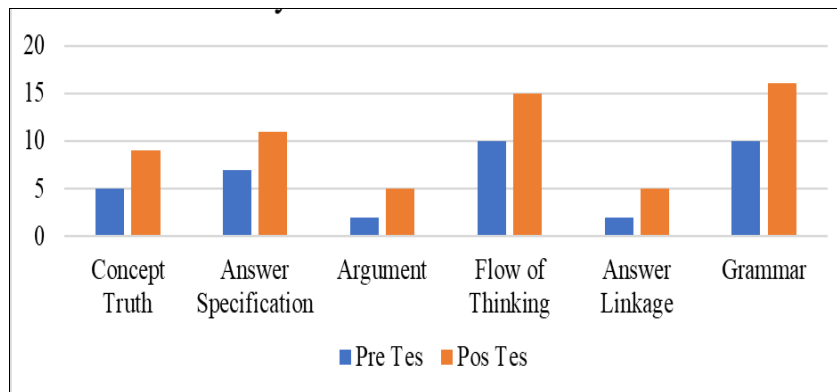
Figure 1. Graph of Matching Answers to Criterion One

Base on Figure 1, those indicators improved before and after the implementation of the Li-Pro-GP model. Criteria of thinking flow were associated with how students thinking process were, encompassing their intellectual skills that covered remembering, understanding, and processing information once they attended the instructions. In addition, student's thinking skill varied based on student's cognitive state. The results of the study on students' knowledge abilities were measured using essay questions at the cognitive level of C2 or understanding *as show in* Table 1.

Table 1. Results of Analysis of Answers to Characteristic One Questions

Aspect	Question Criteria	Answer Characteristics
C2. Understand	Requires students to understand concepts that are measured by providing explanations based on theories or concepts correctly about maintaining water quality	No. All concepts are correct, quite clear, but not yet specific, no. All descriptions of answers are correct, not yet supported by strong reasons so that the arguments have not been explained. The flow of thinking is good, not all concepts are related, not yet integrated, Grammar is quite good and correct, not all aspects are visible, the evidence is quite good and not balanced

As show in Table 1, it showed that the characteristics of students' answers were not all of the concepts written by students were correct but the concepts written were quite clear. However, the concepts written are not yet specific to the topic in question and the concepts written do not have any connection with other concepts. So that the written concepts do not yet have a coherence with other concepts. Figure 2 demonstrated the result of students' answers for the question of Aspect C3 (implementing).
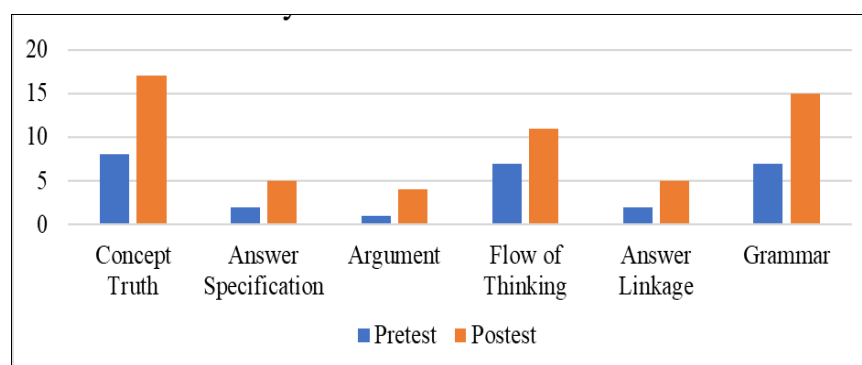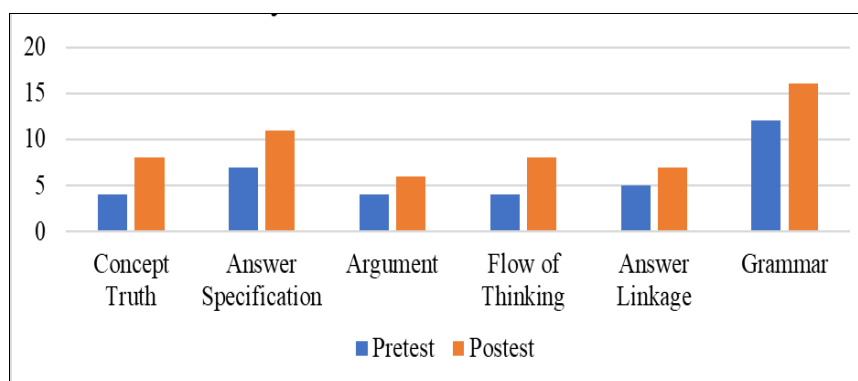

Figure 2. Graph of Matching Answers to Criterion Two

This sort of question also fell into a cognitive test, which involved use of procedural knowledge. Using this question, students would be more directed to their sensitivity in implementing or using a certain procedure for a certain situation. It was indicated by the question in which students were requiredto be able to find the best solution for environmental pollution issues in the real life. Students' answers for the question on Aspect C3 show in Table 2.

Table 2. Results of Analysis of Answers to Characteristic Two Questions

Aspect	Question Criteria	Answer Characteristics
C3. Applay	Requires students to understand the concept and be able to solve a pollution problem and be able to apply it in daily life	All concepts are correct, clear, but not yet specific. All descriptions of answers are correct, but have not been supported by strong reasons. The argument has not been explained, the flow of thinking is good, all concepts are interrelated, but not yet integrated. Grammar is quite good and correct, but not all aspects are visible, the evidence is quite good and not balanced

Based on Table 2, the order from highest to lowest, students' answers for the question on Aspect C3 encompassed conceptual truth, language use, thinking flow, answer specification, and argumentation. With reference to the scores, students appeared to improve, in terms of knowledge, before and after the Li-Pro-GP instruction was applied. To be more specific, conceptual truth referred to a state in which students had been able to communicate a concept based on the convention that applied, mainly about environmental pollution. In addition, the lowest criterion happened to the argumentation skill, which was closely interlinked to ways students were expressing opinions. Figure 3 indicated the students' answers on Question for Aspect C4.

Figure 3. Graph of Matching Answers to Criterion Three

Base on Figure 3, the highest score was found at the student's ability to use proper language, while the lowest at argumentation. This finding was relatively similar with those indicating Aspect C2, C3, C4, C5, and C6. Second rank was linked to answer specification, followed by conceptual truth at third, thinking flow at fourth, and answer linkage at fifth. Basically, student's skills for those six indicators improved after the Li-Pro-GP was applied. Question for Aspect C4 (analyzing) was categorized as a cognitive test as well, which included student's analysis skill as show in Table 3.

Table 1. Results of the Analysis of Answers to the Three Characteristics Questions

Aspect	Question Criteria	Answer Characteristics
C4 Analyze	Students are required to analyze waste management problems by providing descriptions and studies and solutions to waste problems	No. All concepts are correct, not yet clear, not yet specific. All descriptions of answers are correct, have not been supported by strong reasons, correct, the arguments have not been explained. The flow of thinking is good, all concepts are interrelated, not yet integrated, Grammar is quite good and correct, not all aspects are visible, the evidence is quite good and not balanced

Base on Table 3, this sort of question was associated with elaborating certain problems and interaction among their constructive and primary elements. In this case, students were required to analyze a specific problem in relation to waste while finding out the best solution for the problem. Ones with inability to analyze problems would not be able to solve the problems really well, let alone to find solutions for them. Figure 4 shows students' answers to the ability to analyze or C4.
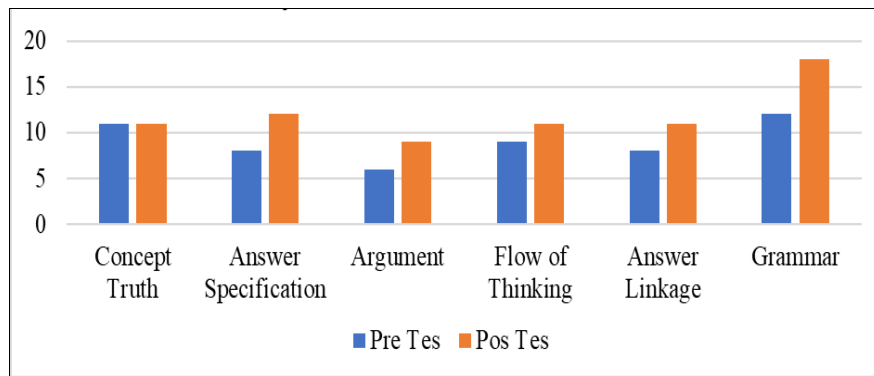
Figure 4. Graph of Matching Answers to Criterion Four

Base on Figure 4 show the results of the analysis showed that the highest score was found in students' ability to use appropriate language, while the lowest was in argumentation or students' ability to present their opinions on the answer sheet. The second rank is associated with the specification of answers, followed by conceptual correctness in the third place, the flow of thinking in the fourth, and the relevance of the answers in the fifth. The ability to assess the level of knowledge is also measured using essay questions at the cognitive level of C5 or assessing is show in Table 4.

Table 2. Results of Analysis of Answers to Characteristics Questions Four

Aspect	Question Criteria	Answer Characteristics
C5 Evaluation	Students are required to be able to make an assessment of the practicum that has been done about water pollution	All concepts are correct, clear, but not yet specific, All descriptions of answers are correct, not supported by strong reasons, correct, arguments have not been explained, The flow of thinking is quite good, not all concepts are interrelated, not integrated, Grammar is quite good and correct, not yet All aspects are visible, the evidence is quite good and not balanced

Base on Table 4, it was found that the concept written by the student was correct but the student had not written down the strong reasons for what was described on the answer sheet. Some students are able to write the relationship between concepts, but some students still write the relationship between concepts. However, the use of students' grammar in writing answers is quite good even though there are some concepts that have not been integrated. Then the analysis of student's answers shown in Figure 5.
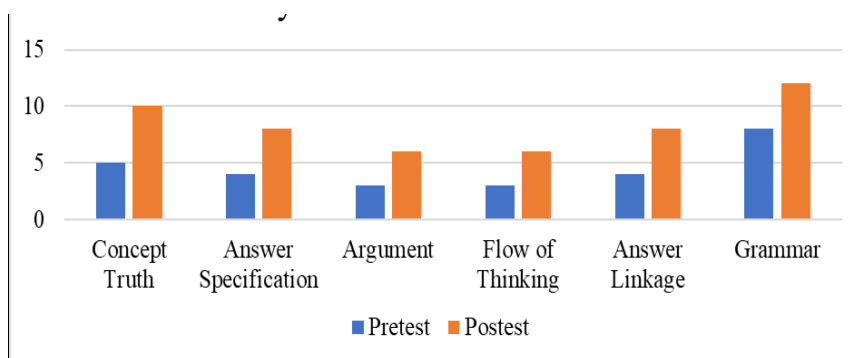

Figure 5. Graph of Matching Answers to Criterion Five

Base on Figure 5 show the highest score was found at language use skill, followed by conceptual truth at the second, answer specification third, answer linkage fourth, thinking flow fifth, and argumentation the lowest. In sum, after using the Li-pro-GP model, student's knowledge skill improved, especially in terms of creative skills. It was found that Question C6 constituted the highest type of cognitive test, which required students to have extra understanding when doing it. Cognitive ability to create (C6) is the highest level in the realm of knowledge as show in Table 5.

Table 3. The Results of the Analysis of Answers to the Five Characteristics Questions

Aspect	Question Criteria	Answer Characteristics
C6 Creative Skill	Students are required to be able to come up with ideas to help overcome environmental pollution problems based on the conditions of the environment around them	No. All concepts are correct, not yet clear, not yet specific, All descriptions of answers are not correct, not yet supported by strong reasons, correct, arguments have not been explained, Flow of thinking is quite good, not all concepts are interrelated, not yet integrated, Grammar is quite good and correct, Not all aspects are visible, the evidence is quite good and not balanced

Base on Table 5, in research students are required to be able to make ideas in overcoming problems of environmental pollution based on the conditions of the environment around them. The results show that students write for ideas in solving problems in the surrounding environment, but the opinions expressed by students are not yet all concepts are interrelated and integrated. Basically, thinking skill could be acquired by students through observation once they were involved at the Li-Pro-GP model of instruction. Further, there were a number of indicators in expressing ideas with reference, including (1) response selection, (2) accent, (3) vocabulary, (4) fluency, (5) bravery, (6) ethics in expressing ideas, and (7) linkage of ideas with the substances of discussion. Results of data processing and observation from the activities were presented in Figure 6.
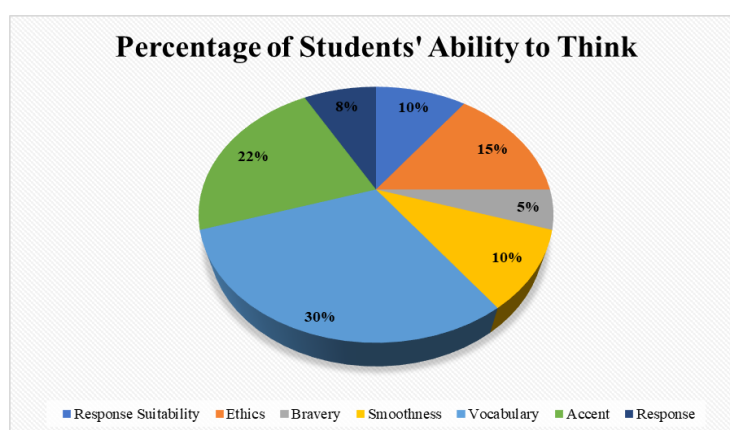
Figure 6. Student's Thinking Skill Diagram

Base on Figure 6 it know that when expressing argument, students critically evaluated, but were still less competent in selecting information. Students, further, were also not able yet to use information accurately, but still creative due to detailed elaboration they made based on their own thinking.

Discussion
CRH *Li-Pro-GP Model integrated*

Li-Pro-GP instructional model is a kind of project-based learning design that is associated with Science Literacy Movement (SLM) and Character Education Reinforcement (CER) Programs. This kind of model adopts the key syntax of Project-Based Learning Method (PjBL). Practically, the Li-Pro-GP model of instruction was integrated with character education and science literacy at schools (Pantiwati et al., 2020; T. N. I. Sari et al., 2021). Project-based learning is believed to be effective at provoking students to acquire new knowledge based on real and live experiences. By using this sort of model, students try to explore materials through various ways meaningful to them, and make some experimental activities collaboratively. Project-based learning model constitutes an in-depth investigation over a certain topic of real life, which is seen priceless for student's attention and attempts (Fatmah, 2021; Wahyuni, 2021). It is designed by following syntax of heterogeneous learning grouping and collaborative learning in the accomplishment of a project or discussion. One of the greatest expectations from such a model of learning is to make students excellent, not only in terms of cognition but also personal character. In addition to having good character, the model also pinpoints habituation upon literacy. It is because literacy has become one of a number of requirements students are supposed to possess in response to the 21st Century instructional model (Fajar et al., 2019; Suraya et al., 2019; Yusnaeni et al., 2016).

Student's Knowledge Skill

Question for Aspect C2 (understanding) was a cognitive test, which included student's understanding on conceptual context (Iskandar & Senam, 2015; Rosnawati, 2009). Question in this type was closely related to student's skill in constructing a concept of a certain topic, including spoken, written, and illustrated objects from teachers. In addition, the question also required students to understand a concept by giving explanation based on relevant theories about how to keep the water good in quality. Explanation should be consistent with the theories, which indicated that students, in this case, were strongly required to construct a new concept they had understood in advance. Moreover, students were supposed to be able to integrate new information into a scheme that existed in their mind (Effendi, 2017; Giani et al., 2015; Minarto, 2020). Without good understanding, one would be hard to construct a concept well The cognitive ability aspect of C3 in the research requires students to be able to understand the concept and be able to solve a pollution problem that is presented. Problem-solving, students were required to select which method or procedure was the most appropriate to be applied in solving environmental pollution issues. The issues were solved well only if the method or procedure applied was proper. In fact, most of students could not solve problems due to inappropriateness of method or procedure they chose (Barus & Hakim, 2020; D. W. Hidayat & Pujiastuti, 2019). This can be seen through argumentation skills in expressing ideas in essay tests on pollution problems. Argumentation basically comprises scientific foundation that serves to be an important evidence to communicate the information (Fatmawati et al., 2018; Ubaque Casallas & Pinilla Castellanos, 2016). Aspects of cognitive abilities C4 is the ability used to break down material into its constituent parts and determine the relationships between those parts and the relationship to the overall structure. The results showed that the student's C4 answer criteria, on the criteria for using language, got a high percentage. It focused on how Indonesian language was used correctly. Previous study state good language use made everything easy to be understood, especially in spoken and written forms (Faisal, 2008). In this research, student's language use was indicated based on how students could formulate their answers for the essay test, both before and after the Li-Pro-GP model was applied.

Next, Question for Aspect C5 was also a cognitive test as it involved skills of evaluating, assessing, giving argumentation, and recommending among students. The cognitive question C5 was associated with student's ability to make decision based on conventional criteria or standards (Erfan et al., 2020; P. A. Wijaya et al., 2019). In Question C5, students were required to give assessment on the practicum they had followed. In fact, student's assessment was in the form of responses to the practicum, either in terms of advantages or knowledge. In this case, students were fully allowed to assess the practicum based on their own perceptions. Previous study declared that Question C6 was a cognitive test that included creative skills (Himmah, 2019). In fact, Question C6 constituted the highest type of cognitive test, including three cognitive processes, i.e., formulating, planning, and producing. Formulating means making hypothesis. In the question, students were required to formulate an idea about how to solve environmental pollution, which was adapted from real life situation where they lived at. Question C6 was also closely associated with student's ability to integrate constructive elements and to create a new product (Giani et al., 2015; Yunita et al., 2017).

Holistically, the research indicated improvement in terms of knowledge, both before and after the implementation of Li-Pro-GP model. This was consistent with previous study, teaching upon this science literacy perspective, saying that the key component was seen relevant, and the relevant model for science teaching was based on relevance according to two perspectives (Holbrook & Rannikmae, 2009). Relevance from both perspectives was very much geared to the view that science literacy was best taught following a principle of 'education through science' instead of 'science through education. The average improvement was based on the five questions given, which was set to measure student's knowledge skill. Each of the questions was used to indicate conceptual truth, answer specification, argumentation, thinking flow, answer linkage, and language use. The Li-Pro-GP model of instruction was able to give different conceptual understanding of students before and after the instructions. It was because the model occupied the core syntax of project-based learning method (Pantiwati et al., 2022; T. N. I. Sari et al., 2021). Project-based learning, in essence, constitutes an instructional model that highlights autonomy, process as the key, and independent learning, and allows students to train their thinking skills (Jagantara et al., 2014; Rusminiati et al., 2015). Furthermore, according to previous study it is denoted that literacy can be seen as dependence on instruction so as to make the instructional quality a key to its success (Snow, 2006). This perception pinpoints developmental nature of literacy. A discussion on children with successive stages of literacy; at each of which reading and writing tasks are qualitatively changeable. Science literacy in student's knowledge skill contributed to student's ability to make use of scientific information, identify questions, and make conclusions based upon scientific evidences in the completion of questions given. Those series of stages were meant to measure student's conceptual understanding. In addition, the

concept of student's science literacy should be understandable, which allowed students to make decisions in relation to natural phenomena and changes based on real-life humans' activities (Nofiana & Julianto, 2017; Yuliati, 2017). In addition to science literacy, integration of SLM into this sort of instructional model appeared to influence student's knowledge skill. SLM had a set of regular activities, one of which was 15-minute reading session per day (Widayoko et al., 2018; Yunianika & Suratinah, 2019). Further, SLM also covered thinking skills based upon literacy stages and components, processing skills, and informational understanding during reading and writing.

Language use skill was shown to get the highest scores for Question C2, C4, C5, and C6. In fact, it became an elementary skill of communication and interaction that led to understanding on contents or materials students were learning. Previous study claims that constructing vocabulary mastery raises cognition and promotes knowledge of the world (Ipatenco, 2017). In contrast to it, argumentation got the lowest scores over all aspects. As a consequence, students were in need of intensive guidance to make them braver and more confident in giving argumentation. Finding on argumentation skill also confirmed that bravery became a problematic aspect. In addition, findings from other studies also revealed that argumentation outlining and peer assessment could promote learners' awareness and ability to engage in argumentation processes.

Student's Thinking Skill

Ones who could give opinion well were supposed to be able to give an impression that they knew much about what they were talking. In addition to giving opinion, they had to be able to speak clearly and accurately. The Li-Pro-GP model of instruction required students to always be active at every instructional session, while teachers were only to facilitate. This was in line with the core syntax of the model that pinpointed the spirit of project-based learning (Pantiwati et al., 2022, 2020; T. N. I. Sari et al., 2021). Project-based learning, in addition, influenced student's ability to speak up more. In such a mode, students were directly involved at a certain project more intensively so as to make them more informed and able to enhance their speaking skill, especially when giving opinions. Low student's ability to process effective words, develop and analyse certain problems, and logically and critically think could resist students to be active in sharing opinions at class (Regita et al., 2019; L. I. Sari et al., 2015). Previous study explained that low student's thinking skill could turn worse if it remained neglected and did not receive immediate responses (Syarifudin & Sulistyaningrum, 2015). It affected student's social interaction, at the end. For example, students could probably get hard in using good and well-structured language once they were to express their ideas in front of public. The implications of this study provide an overview related to the implementation of the Li-Pro-GP instruction model of Instruction Knowledge and Thinking Skills. The results of the research can at least be used as inspiration for similar research with a wider scope and more detail. However, this research has limitations, especially on research subjects which only involve students in class VII at one of the junior high schools, namely, SMP Al Ma'arif Singosari. Therefore, it is hoped that future research will be able to further deepen and broaden the scope of research related to the Li-Pro-GP instruction model.

4. CONCLUSION

The Li-Pro-GP model is basically a specific model of instruction that adopts the core of project-based learning through the integration of SLM, and encompassed three main stages, i.e., habituation, development, and learning. The integration was conducted based on the components of CER, including character reinforcement on five key characters, i.e., Nationalism, Independency, Collaboration, Integrity, and Religiousness; all of which were packed as CER movement. Further, existence of this Li-Pro-GP model of instruction indicated skill improvement at some extents, comprising conceptual truth, answer specification, argumentation, thinking flow, answer linkage, and language use. It was indicated that language use got the highest score based on Question C2, C4, C5, and C6. Meanwhile, for Question C3, the highest skill level fell on the conceptual truth. In addition, the lowest skill level among others was argumentation. Vocabulary mastery was found to be the highest skill achieved, while bravery still became the problematic one as it was the lowest.

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