Platinum Model in Indonesian Language Learning for Elementary Schools

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Abstract—**The purpose of this study was to develop an Indonesian language learning model in elementary schools. This model is named the Platinum Learning Model. This Model is to foster critical thinking skills through the use of Indonesian in elementary school. The Platinum model was developed based on the theory of brain based learning (BBL) and Problem Based Learning (PBL) by combining the principles of human resource management, namely VUCA. The model developed produces teaching strategies, namely strategies: Visualizing, Futuristic Thinking, Showing Foresight, Proactive Planning, Creative Thinking, Taking Risks, Process Alignment, Coalition building, Continuous Learning, and Embracing Change. The research method used in this study was R & D. The trial was conducted on fifth grade students in elementary school in Jakarta. The results of the trials to test the success of the model proved that the fifth grade students were able to think critically at the following levels: (a) mentioning the implicit meaning to give a decision in the form of judgment, (b) making a decision to mention the supporting facts described by the context text, (c) predict by reflecting on what happened to him, (d) providing anticipatory thinking, (e) analyzing facts to assess the object, (f) anticipating what will happen from an event, and (g) states the logical consequences of what must be done by giving the facts.**

Keywords—language learning; critical thinking; Platinum models

I. INTRODUCTION

This study implements neurological findings that form the basis of brain-based learning and cognitive science in general. Neuropsychology has examined its contribution to the learning process of normal people, especially students [1-6]. The results of the study are used to develop brain-based learning strategies. This brain-based learning strategy is applied to learning according to the way the brain works naturally designed to learn. Learning using brain-based strategies is learning that is in accordance with the workings of the brain that is designed naturally for learning [4,6-12]. A teacher who engages in learning with this principle will think about how to find natural difficulties and build student motivation so that desired behavior emerges as a natural consequence of learning [6]. Willis and Judy stated that BBL can improve memory and learning achievement [13]. The research findings of Salmiza show that BBL is an effective teaching approach, namely students who take part in the brain-based teaching approach

module have better learning motivation compared to students who receive conventional teaching methods [14]. Students who learn Indonesian are given an emphasis on language as a means of thinking. Language ability and its skills are closely related to the development of one's thinking skills [15].

Language and mind have relevance, that is, language influences the human perspective on the world, and influences the mind of individual language users [16]. The connection between language and mind is possible because thinking is an attempt to associate words or concepts to get a conclusion through language media.

Critical thinking is the ability to think clearly and rationally about what is done or what is believed. Bruer state that critical thinking includes the ability to think reflective and independent [7]. According to Alvino that critical thinking is the process of determining the truth, accuracy, or judgment of something that is marked by looking for reasons and alternatives and changing one's views based on evidence [17]. Scriven and Paul gives a limit to critical thinking as one model of thinking - about a subject, content, or problem - that is used by someone to improve the quality of thinking through the use of thoughtful structures and determine intellectual standards [17,18].

A child's cognitive abilities develop according to the stages of his age. According to Piaget, what stages of cognitive development in elementary school children at preoperational to concrete operational stages [19]. Piaget uses concrete operational terms to describe thinking skills at this stage called "can think" [19]. Characteristics of children's thinking at this stage of concrete thinking, among others: combinivity or classification, reversibility, associativeness, identity, one-on-one correspondence between objects of two classes, and awareness of the existence of conservation principles. In its development, thinking ability is influenced by three factors [20], namely: maturity, social transmission, and balance.

It is different from Vygotsky's opinion about the zone of proximal development (ZPD) which contains an understanding that children have the ability to solve problems assisted (by teachers, adults or more competent peers) [21], but the problem is still in the closest development zone of the child [22-24]. On that basis, this study developed a critical thinking learning model for grade 5 elementary school students through learning Indonesian.

II. THEORETICAL REVIEW

A. Critical Thinking

A critical thinker is a person who can deduce the consequences of what he knows, and he knows how to use information to solve problems, and to find relevant sources of information to support his information [25]. Critical thinking is to understand the meaning of the problem more deeply, maintain that the mind remains open to all different approaches and views, and think reflective and not only accept questions and carry out procedures without significant understanding and evaluation.

Critical thinking is an active, systematic and reasonable effort, considering various perspectives to understand and evaluate information with the aim of determining whether the information was received, rejected, or suspended [26-28].

According to Ennis, critical thinking skills are divided into five groups, namely (1) providing elementary clarification, (2) building basic skills (basic support), (3) concluding (inference), (4) making further clarification, (5) regulating strategies and tactics [29]. The component of critical thinking is observing, identifying patterns of causal relationships, assumptions, reasons, logic, and biases, constructing criteria and classifying, comparing and distinguishing, interpreting, summarizing, analyzing, synthesizing, generalizing, making hypotheses, distinguishing relevant and irrelevant data [30].

According to Vygotsky, elementary school students can think critically while learning provides scaffolding [21]. Students depend a lot on adult support for understanding outside the ZPD area, while students who are free or not dependent on adult support are in the ZPD area. According to Vygotsky, "students develop higher level thinking skills when they get guidance (scaffolding) from someone more expert or through colleagues who have higher abilities" [31].

Critical thinking is one of the high-level thinking processes that can be used in forming students' conceptual systems. In particular, Tran Vui defines high-level thinking skills as follows: "Higher order thinking occurs when a person takes information and information stored in memory and interrelations and / or rearranges and extends this information to achieve a purpose possible answers in perplexing situations" [32]. Thus, high-level thinking skills 37 will occur when someone associates new information with information that has been stored in his memory and connects it and / or rearranges and develops that information to achieve a goal or find a solution from a situation that is difficult to solve.

The basic concept of critical thinking is being able to understand or find out what the problem (or conflict, contradiction) is to direct thinking about the specific objectives of problem solving; understand the terms of reference or points of view involved; identify and understand the underlying assumptions; identify and understand the basic concepts and ideas that are being used; citing evidence, data, and their reasons and interpretations. In fact, this ability is given to the middle and upper class levels, even though such thinking abilities can be carried out by elementary school students [33-35].

Critical thinking ability can be developed in early childhood by using material and methods that are in accordance with the stages of children's thinking abilities that are still concrete. The way that can be done to foster students' critical thinking skills in learning is by confronting students on topics or themes that are controversial and close to their world, namely using themes that provide opportunities for students to think. This is similar to that expressed by Winn in Santrock that in addition to the theme to foster critical thinking skills in learning, teachers must use the method of discussion and debate and provide opportunities and stimulate students to ask questions [36]. Discussions and debates can motivate students to examine a particular theme that is being studied in depth and test problems and the teacher is expected to be able to hold himself back from expressing his own views so students feel free to explore diverse perspectives.

Primary school students can think critically if there is a buffer that is able to lead to concretize what should be considered in the abstract. This is presented in instruments that use smartphones. In this way students will get used to using critical thinking on everything, including themselves.

How can critical thinking assessments be effective and can foster student learning motivation? As is known that the assessment has four functions, namely: (1) Tracking (keeping track); to trace so that the learning process remains in accordance with the plan, (2) Checking (checking-up); to check whether there are weaknesses experienced by students during the learning process, (3) finding-out; find and find things that cause weaknesses and errors in the learning process, and (4) summing-up; to conclude whether students have mastered all the competencies set out in the curriculum or not [37]. Based on this, the researcher develops critical thinking assessments as part of learning.

B. Theoretical Basis of Platinum Learning Model

Platinum learning model is a learning model developed based on the theory of Brain Based Learning and Problem Based Learning. The BBL (Brain Based Learning) model aims to develop five natural brain learning systems that can maximize brain potential. The development of BBL is based on the principles of brain-based learning where the brain will understand and remember well when facts and skills are stored naturally [5].

Caine and Caine state that several principles must be remembered to realize brain-based and effective learning and have qualified students [5]. These principles are stated below

The brain is a parallel processor. Human brain carries out many activities simultaneously. In other words, a number of operations (feeling, thinking, imagination, disposition, etc.) go on at the same time in human brain. Educational methods and techniques that will create learning synergy by means of having right and left hemispheres interact with each other should be involved in order to reach the goals set in the teaching process, and to enrich the learnings of students that have different cognitive structures and whose different parts of intelligence are powerful.

Jensen states that teaching programs developed are in line with brain-based learning theories that must have social intelligence, individual development, scientific thinking, and information literacy [6]. The key concepts related to this are stated below:

- o Social fluency; emotional intelligence, appreciating differences, language skills, spiritual identity, suitable family manners, team works and conflict resolution.

- o Individual development; stress management, physical relaxation, cognitive awareness and reflection, sense and goal of understanding, nutrition, habits of health and eating, heading towards the goal and success, skills of learning how to learn, personal and moral responsibility.

- o Scientific research; environmental studies, future and global studies, studies on math's, physics, biology and chemistry.

- o Information literacy; skills of reading and writing, searching and looking for, cognitive processing, skills of speaking and presenting, skills of technology.

- o Artistic expression; music, story writing, dance, theatre, sports, hobbies and arts, design, visually.

The strong basis for why the Platinum Model uses the BBL approach is that without knowing the work system of the brain, it is not possible to understand the nature of learning. The art of teaching must be the art of changing the brain [38]. According to Kolb and Kolb, meaningful learning does not occur in one way, but in a unified circulation because the brain works in one unit while learning [39]. According to Caine and Caine, teaching should start with the exploration of the brain. While challenges may promote learning, hinder it threats [5].

This is reinforced by Janses assumption that brain-based learning accommodates the learning style of individual students. It is learning with the brain in mind [6]. Teaching with the Brain in Mind, Eric Jensen explains that "brain learning is a reality check" [6].

Therefore, the Platinum Model for learning in elementary school emphasizes that learning must be fun and students must be directly involved in learning. However, in this model also invites students to know problems and can solve problems that encourage students to think critically.

The basis for the use of the Problem Based Learning approach in the Platinum model is: First, the curriculum is organized around problems, rather than disciplines, and the emphasis is on integrated learning, instead of separation into basic and clinical science components. Second, it is dominated by conditions that simplify learning, such as small-group teaching, a student-centered approach, active study, and independent learning. Third, it is determined by outcomes, such as improved functional knowledge, development of skills and motivation needed for lifelong learning, and the development of self-assessment skills [40].

The main purpose of using the PBL approach is that students know that the subject matter must be real and practical so that it is easy to understand. This refers to the opinion of Loyens who was strengthened by Bridges who stated that PBL is constructed to promote numerous required learning outcomes and goals, including: (1) helping students build a wide and flexible knowledge base, (2) helping students become effective collaborators, (3) improving effective problem-solving skills, (4) motivating students to learn intrinsically, and (5) developing self-directed learning skills. PBL has been applied in many programs and fields across many levels of education worldwide; it can be considered to be ''one of the few curriculum-wide educational innovations surviving since the 1960s" [41,42].

In addition to the above theory, the Platinum Model was developed on the basis of research that has been done before, namely:

- In the study of the implementation of the 2002 curriculum [43], researcher has examined a number of learning models. Indicators or benchmarks of the learning model are based on dimensions: (1) critical and creative thinking, (2) life skills, and (3) pleasant learning: Based on these benchmarks (dimensions), a number of findings have been obtained, about feasibility learning models, namely: (1) models that are considered very feasible in the sense that they are very easy to implement by the teacher, namely speaking learning models, (2) models that are considered feasible in the sense of being easily implemented by teachers, namely listening, writing, reading, and appreciation literature, and (3) a model that is less feasible in the sense that it is difficult to apply in teaching and learning activities, namely the language learning model. This recommendation can be implemented and has even been implemented on Indonesian language subjects. The teaching and learning model developed in Indonesian language subjects which has recently been used is a holistic learning model. Holistic language learning that views the development of language as a holistic, rounded, indivisible and personal social achievement that is only realized through integrated learning. Integration can be manifested as an integration in language learning itself or integration in cross curriculum or integration with other subjects.

- The results of research on aspects of language learning that can integrate critical, creative, and communicative thinking skills in thematic-based learning models require teacher's skills that can be grown through learning strategies which include: (a) fishing in the form of questions, (b) giving opportunities, (c) teacher's ability to deliver material [44].

- The results of the study by Boeriswati revealed that the levels of critical and creative thinking skills of elementary school students have not been well patterned in Indonesian language learning material in elementary schools [45]. The results of this study recommend that in language learning, a teacher must combine several psychological approaches to learning in one aspect of language skills [46].

- The results of the study [47] the Higher Order Thinking Skills through Indonesian language learning in elementary schools revealed that elementary school students, especially third grade students, were unable to fully state the characteristics of objects, explaining the different objects in detail, analyze facts, and anticipate events. Meanwhile, grade V elementary school students had not been able to analyze facts and anticipate events well. Research on language learning development systems is used to produce language learning models with thematic approaches, which in turn can improve the quality of Indonesian language learning and the quality of Indonesian language human resources. The results of this study produced a profile system for developing language learning, namely a profile map for the development of language learning systems.

Based on the above theoretical analysis, the Platinum model is established which aims to develop the critical thinking skills of elementary school students as long as ZPD emerges in learning.

III. RESEARCH METHODOLOGY

This Platinum learning model is produced through a study using the following methodology.

A. Research Method

The research method used this year is the R & D method and the Focus Group Discussion (FGD) method with language learning experts, learning psychology, and assessment.

B. Research Design

This study refers to the research and development approach as stated by Borg and Gall, [48]. The steps and procedures in this research and development include the following.

- Conducting a preliminary study, namely the activity of gathering information which includes reviewing the literature with regard to efforts to understand the brain-based learning system, the problem of base learning and field observations to gather information on needs in the field;

- Compiling a preliminary draft learning model that can optimize brain performance in learning Indonesian in Elementary School by emphasizing the ability to think creatively and critically, communicatively and collaboratively. by considering the findings of the preliminary study. The draft initial design of this model was discussed with practitioners and relevant experts, to produce the initial product model and development guidelines, which were then carried out due to the readability test.

- Conducting trials, including limited trials and wider trials. Limited trials focused on process evaluation to obtain information related to the readability of the model. While the wider trial, in addition to focusing on process evaluation is also focused on evaluating results, namely evaluation directed at assessing the effectiveness of the model. From the results of this trial, it is expected that information will be useful for improving the model and its development guidelines.

- Performing model validation test. Validation tests were conducted to obtain empirical data about the reliability of the model through experiments by comparing two groups of subjects, namely between groups that were treated by using the model of development results with groups that did not get treatment or groups using conventional models. Extensive trials and publications, namely steps to report products at scientific meetings and published through journals, as well as disseminating products through seminars and trainings to teachers.

C. Research Setting

The research location was determined by purposive sampling method by considering the characteristics of education levels, representation according to geographical location and other considerations that could facilitate the excavation of data and information related to Indonesian language learning research at the elementary school level in DKI Jakarta, East Java and Lampung.

D. Population and Sample

The population and research sample were used when validating the learning model. The population was schools in DKI Jakarta, East Java and Lampung. Samples were taken using random sampling techniques. Participants in the Focus Group Discussion were; (a) experts in education, language, psychology, and educational technology (b) Indonesian language teachers, (c) lecturers in Indonesian language education departments / study programs.

IV. FINDINGS AND DISCUSSION

In this section there are two things presented, namely the design of the Platinum Model and the results of model testing in Indonesian language learning in fifth grade elementary school students.

A. Platinum Model Design

The Platinum model developed aims to improve the critical thinking skills of elementary school students through learning Indonesian in the form of dialectics. Dialectics invites students to think in the form of dialogue that emphasizes forms of asking and answering. To train students to make hypothetical questions and solve problems can be done in the following stages:

- *Visualizing*. Students are invited to have a clear picture of what will be achieved and have a clear picture of when it will be achieved, so that in the implementation of efforts to achieve the goal will be the right calculation.

- *Futuristic Thinking*. Students are invited not only to think about the extent of knowledge they have at the moment, but to think more about the extent of knowledge they want to achieve in the future.

- *Showing Foresight*. Students are accustomed to planning who can predict the future. In making plans not only consider what you want to do, but consider technology, knowledge and other factors that might influence the plan.

- *Proactive Planning*. Students are invited to set specific goals and strategies to achieve these goals. Thus students are able to anticipate or consider potential obstacles and develop contingency plans to overcome these obstacles so that he must always actively follow the extent to which the plan is carried out and know what obstacles are faced.

- *Creative Thinking*. In the face of challenges students must try to think creatively and innovatively in finding new solutions to the alternatives by paying attention to what is, opportunities and problems.

- *Taking Risks*. Students are trained to take risks and consider failure as an opportunity rather than a setback, so that when they fail to achieve their goals, they will become motivators for other friends to keep up the spirit.

- *Process alignment*. Students are asked to know how to connect their goals to the goals of the organization. He can immediately harmonize tasks in all learning.

- *Coalition building*. Students are trained to realize that in order to achieve learning goals, they must create a comfortable learning atmosphere both during self-study and learning in class.

- *Continuous Learning*. Students are accustomed to being able to regularly take part in learning both independently and while studying in class. Students are asked to be able to respond to any interaction, negative or positive, so they can learn about the situation. Students are trained to know the opportunities to collaborate and take part in projects that can expand knowledge, provide challenges to think and develop imagination.

- *Embracing Change*. It was adopted that active students were alternative solutions to problems that could provide benefits to these findings.

Based on the results of the research described above, it id concluded that students would succeed if actively involved and experienced themselves. When students make observations of problems, students actually carry out a visualization stage where students must be able to capture information that is inherent in the environment observed. This is where the brain works eating information and sending it to long-term memory systematically so that when recalled it can be carried out briefly and able to assimilate with new knowledge. The visualization stage can be optimized by implementing associative thinking that is able to connect one concept to another concept. This is a brain hemisphere activation that functions to think creatively. Forward thinking is the ability of students to make predictions based on experiences that have been known or experienced. This is where students apply insight and foresight abilities. This ability is formed through

creative thinking and critical thinking. The platinum learning model requires an assessment that is able to provide feedback to students and is prose, so that the assessment system used is authentic assessment.

B. Students' Critical Thinking Ability

The findings of critical thinking skills of fifth grade students in this study are in line with the opinion of Kataoka-Yahiro abd Saylor namely critical thinking is reflective, reasoning that makes sense without any solution and is focused on what decisions must be believed and carried out [49]. The following is a description of the six critical thinking skills that are in line with the results of research on developing critical thinking through Indonesian with the Platinum Model.

- Interpretation; is to understand and express the meaning of various kinds of experiences, situations, data, events, judgments, habits or customs, beliefs, rules, procedures or criteria.

- Analysis; is identifying the intended and actual inferential relationships between statements, questions, concepts, descriptions.

- Evaluation; is estimating the credibility of statements or representations which are reports or descriptions - descriptions of perceptions, experiences, judgments, opinions and estimating the logical strength of inferential relationships or between statements, descriptions, questions or other forms of representation.

- Inference; identifying and obtaining reasonable elements, making guesses and hypotheses, and summarizing the consequences of data.

- Explanation; able to express the results of a person's explanation, present one's reasoning in the form of strong arguments.

- Self-regulation; means self-consciously monitoring one's cognitive activities, the elements used in these activities and the results obtained, especially by applying skills in analysis and evaluation for inferential self-assessment by looking at questions, confirmation, validity or correct both the reasoning or the results.

- Based on these thoughts, the critical thinking test that the writer developed utilizes dialogical thinking abilities and packaged dialectics in an authentic case. Dialectical thinking method is a method or way of understanding a dialogue [16]. Dialogue means two-way communication, there is someone talking and someone else is listening. In a continuous and in-depth conversation, people are expected to be able to solve existing problems. There is a thought process of someone who has developed because it brings together one idea with another idea between people who have a dialogue. The goal is to develop a way of arguing that two-way positions can be known and expected from each other.

- Critical thinking begins with an observation to recognize the environment or problem. In the critical

thinking instrument (Platinum Model) in the example in this article, researchers provide an authentic situation.

- Building context, questions are asked that lead children to express what perceptions are seen. In expressing their perceptions, children use logic with the correct sentence and according to the stage of thinking. In this test, children are asked to choose answers.

The results of research on aspects of language learning that integrate critical thinking skills in the Platinum learning model are grown through learning strategies in the form of: (a) fishing in the form of questions, (b) giving opportunities, (c) teacher's ability to deliver material [44]. This is evident in the Indonesian language learning of elementary school students using the Platinum model.

Critical thinking skills in the form of questions and answers in the form of arguments can be explained below.

The stages of critical thinking are controlled by fifth grade students as follows:

- making a decision to mention the supporting facts described by the context of the text,

- predicting by reflecting on what happens when it happens to him, giving thought that anticipates,

- analyzing facts to assess objects,

- anticipating what will happen from an event, and

- e.stating the logical consequences of what must be done by giving the facts.

In the Platinum model language learning cannot be separated from the text.

Rani adalah seorang siswa yang kurang pandai. Ia sering mendapat nilai yang kurang bagus ketika mengerjakan tes, padahal Rani sering belajar. Rani pun selalu diejek teman-temannya karena nilainya jelek. Akan tetapi, hal ini tidak membuat Rani dendam kepada mereka. Akan tetapi, justru menjadi pemacunya dalam belajar. Apalagi setelah Ani selalu memberi semangat kepada Rani agar selalu belajar dan tidak mudah berputus asa. Rani tambah bersemangat.

[Rani is a less intelligent student. She often gets poor grades when doing tests, even though Rani often studies. Rani is always ridiculed by her friends because her grades are bad. However, this does not make Rani vengeful to them. However, it becomes the driver of learning. Especially after Ani always encouraging Rani to always learn and not easily despair. Rani gets excited.]

Based on the results of the study, students can make decisions by mentioning the supporting facts described by the text context.

Question:

- *Apa yang harus dilakukan oleh Rani bila selalu diejek oleh temannya?* [What should be done by Rani if her friends always teasing her?]

Answer:

- *tidak boleh dendam, tidak boleh putus asa dan harus rajin belajar supaya nilai-nilainya bagus dan agar tidak diejek oleh teman-temannya.* [She should not be vengeful, she should not be discouraged and must be diligent in learning so that her scores are good and so that she is not ridiculed by her friends.]

- One of the characteristics of critical thinking is that students will think before taking action. The thing to think about is the advantages and disadvantages of its actions to anticipate.

One characteristic of critical thinking is making predictions. Based on the collected data, students are able to make predictions by reflecting on what happens when it happens to them.

Question:

- *Apa alasan kamu menyimpulkan Rani tidak marah jika diejek oleh teman?* [What is the reason for you to conclude that Rani is not angry when teased by friends?]

Answer:

- *Karena Rani mempunyai hati yang baik dan murni akan tetapi Rani hanya bisa memaafkannya. Kita pun mempunyai perasaan karena kita sebagian makhluk hidup mempunyai kekurangan.* [Because Rani has a good and pure heart but Rani can only forgive them. We also have feelings because we are some living things that have deficiencies.]

On data about critical thinking skills arranged in questions to measure students' ability to argue, can be described as follows.

Question:

- *Mengapa Ani selalu memberi semangat kepada Rani agar selalu belajar?* [Why does Ani always encourage Rani to always study?]

Answer:

- *Karena, temanlah yang mendukung dalam belajar, suka maupun duka. Agar kita tidak berputus asa.* [Because friends are the ones who support learning in love and sorrow so we don't despair.]

V. CONCLUSION

Primary school students can think critically if there is a buffer that is able to guide concrete what should be considered abstractly. Learning strategies to develop critical thinking skills are dialogical and dialectical thinking. In this way, students will get used to using critical thinking on everything, including themselves. Critical thinking is done through the right questions and collecting relevant information.

Critical thinking is that thinking is hypothetical thinking, i.e thinking is used to find answers. To compile hypotheses, students must be able to compile presupposition questions. To

arrange a hypothesis, students are asked to assume events that might occur even though they have never happened in their daily lives. Assumption conjunctions in learning Indonesian at elementary school may like if, if possible, if only, etc. Apparently, fifth grade students can make hypothetical presuppositions and find new or other possibilities based on their presuppositions. This ability is formed by the ability to think about future. Future thinking is the ability of students to make predictions based on experiences that have been known or experienced. This is where students apply Visualizing capabilities, Futuristic Thinking, Showing Foresight, Proactive Planning, Creative Thinking, Taking Risks, Process Alignment, Coalition building, Continuous Learning, and Embracing Change found in the Platinum model.

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