e-ISSN: 2810-059X

FACILITATING COMPLEX THINKING IN EDUCATIONAL PSYCHOLOGY (The Perspectives of Kelvin Seifert and Rosemary Sutton)

Muhammad Nur
MTsN 2 Tanah Laut, Kal-Sel, Indonesia
Corespondensi author email: **Muhammadnur19**@gmail.com

Anisaurrohmah
MAN Insan Cendekia Tanah Laut, Kal-Sel, Indonesia
urrohmahanisa@gmail.com

Mahmud Fauzi Hamidy
Kementerian Agama Banjar, Kal-Sel, Indonesia
emfauzyhamidy@gmail.com

Keywords

Facilitating;
Complex Thinking;
Educational
Psychology.

Abstract

Teaching involves a variety of instructional strategies, where decisions and actions are designed to facilitate learning. The choice of strategy depends in part on the forms of thinking aimed at the student-whether the goal is for students to think critically, for example, or to think creatively, or to solve problems.

INTRODUCTION

Many strategies as possible spaces, to provide key instructional choices and their effects on students. We concentrate primarily on two broad categories of instruction, called direct instruction and student-centered instruction. As expected, each teaching approach is useful for certain purposes. In the teaching and learning process, we can see the way students think, or at least how the teacher wants students to think. What is the significance for students to think critically (shrewdly or logically)? Or to think creatively? Or become skilled at solving problems? The form of thinking is the cause of various choices among various learning strategies.

METHODS

The study of this research uses a literature review where the literature is taken in accordance with the subject matter and analyzed in depth so that conclusions and findings can be drawn in the study. Literature taken from books, journal articles both nationally and internationally and other literature (Phillippi & Lauderdale, 2018; Marshall et al., 2013; Bengtsson, 2016).

RESULTS AND DISCUSSIONS

Forms of thinking associated with classroom learning

Although teaching strategies differ in their details, they each encourage certain forms of learning and thinking. Forms have a distinctive educational purpose, although they sometimes overlap, in the sense that one form can contribute to its success with another. Consider three rather complex forms of thinking that are commonly adopted in classroom learning: (1) critical thinking, (2) creative thinking, and (3) problem-solving.

Critical thinking

Critical thinking requires skills to analyze the reliability and validity of information, as well as the attitude or disposition to do so. Skills and attitudes can be displayed with respect to certain subjects or topics, but in principle they can occur in any domain of knowledge (Halpern, 2003; Williams, Oliver, & Stockade, 2004). A critical thinker does not always have a negative attitude in the everyday sense of constantly criticizing someone or something. On the other hand, he can be considered an astute person: a critical thinker if he asks key questions, evaluates evidence for ideas, reasons for problems both logically and objectively, and expresses ideas and conclusions clearly and precisely. Last (but not least), critical thinkers can apply this habit of mind to more than one realm of life or knowledge.

Given this broad definition, it is not surprising that educators have suggested certain cognitive skills as contributions to critical thinking. In one study, for example, researchers found that critical thinking can be reflected in a published article stimulated by explanations in the form of questions and comments at the margins of the article (Liu, 2006). In this study, students were initially instructed in how to annotate reading material. Later, when students finished the supplementary reading for the assignment, it was found that some students actually used their explaining skills more than others – some only underlined parts of the message. When essays are written about reading and then analyzed, people who write from annotators can find better, more critical reasons than essays written by other students.

In another study, on the other hand, researchers found that critical thinking can also involve verbal discussion of personal problems or dilemmas (Hawkins, 2006). In this study, students were asked to verbally describe a recent event, which could be a personal incident that disturbed them. Classmates then discuss the incident together in order to identify the exact reasons why the incident was troubling, as well as the assumptions that students made in describing the incident. The student who first tells the story uses the results of the group discussion to frame the topic for a research essay. Of one story about a disturbing incident, a student recounted a time when a store clerk had been harassed or rejected by a student during a recent shopping assignment. Through discussion, the classmate decided that the underlying assumption of the student's disorder was his suspicion that he had been racially victimized based on the color of his skin. The student then used this idea as the basis for a research essay on the topic “racial profiling in retail stores”. Oral discussion to stimulate critical thinking in students and classmates, but also rely on critical thinking skills before them at the same time.

Note that in both of these research studies, for example in relation to others, what makes the use of “critical” thinking is students' metacognitive strategies for thinking about thinking and for seeing the success and quality of thinking on their own. This concept is discussed in Chapter 2 as a feature of the constructivist view of learning. As for what we can show, when students gain experience in constructing their own knowledge, they also become skilled both to know how they learn, and to know if they have learned something well. These are definitions of the two qualities of metacognition, but they are also part of critical thinking. In fostering the critical thinking process, the teacher must seriously foster the ability of students to build or control their own thoughts and avoid being controlled by ideas that cannot be reflected.

The best way to teach critical thinking is to keep it a topic of debate. One issue is whether to embed these important skills into existing programs or to teach them separately, or independently or by course. The first approach has the potential advantage of integrating critical thinking throughout the student's education. However, this risks reducing the understanding and use of critical thinking, because critical thinking takes different forms in each detail of the student learning context and appearance varies between programs and teachers. The liberal approach has the opposite quality: There is a better chance of being understood clearly and coherently, but there are burdens that get in the way of linking to other programs, tasks, and activities. This dilemma is the problem discussed in Chapter 2. Unfortunately, studies to compare different strategies for teaching critical thinking have not solved the problem.

Problems related to teaching critical thinking are the process of deciding who most needs to learn critical thinking skills. Should all students, or just some of them? Teaching all students seems a more democratic alternative and it is appropriate for educators. The survey found, however, that teachers sometimes favor teaching critical thinking that is advantageous for already well-rounded and highly capable students who come from relatively high-income families, or (for high school students) who are taking courses for university (Warburton & Torff, 2005). Presumably the reason for this somewhat bias is that only students with high gains can benefit and/or understand and use critical thinking better than other students. However, there is little research evidence to support this idea, even if it is unethical to question it.

Creative thinking

Creativity is the ability to create or do something new that is also useful or appreciated by others (Gardner, 1993). “Something” can be an object (such as an essay or painting), a skill (such as playing a musical instrument), or an action (such as using a familiar instrument in a new way). To be creative, an object, skill, or action cannot simply be whimsical; it cannot be of any use or value, and cannot simply be the result of an accident. If people type random letters that make up a poem by chance, the result may be beautiful, but it wouldn't be creative with the above definition. Viewed this way, creativity encompasses a wide range of human experiences that many people, if not everyone, have had at some time or another (Kaufman & Baer, 2006). This experience was not limited to a few geniuses.

Of particular importance to the teacher are two facts. The first is that an important form of creativity is creative thinking, the ideas of a new generation are useful, productive, and appropriate. The second is that creative thinking can be stimulated by the teacher's efforts. Teachers can do, for example, encourage students to think divergently, openly and with thinking in a different direction (Torrance, 1992; Kim, 2006). Divergent thinking is stimulated by open-ended questions with many possible answers, such as the following: a) How many uses can you think of for a cup?; b) Draw a picture that somehow combines all of these words: paint, firefighter, and banana; c) What is the most unusual thing to think about when it comes to wearing shoes?.

Note that creatively answering these questions depends in part on the already acquired knowledge of which object the question refers to. In this case divergent thinking depends in part on the ability of convergent thinking questions, focused, logical reasoning about ideas and experiences that lead to specific answers. Up to the point, then, developing students' convergent thinking—as schools often do by emphasizing mastery of content—facilitates students' indirect divergent thinking, and also for their creativity (Sternberg, 2003; Runco, 2004; Cropley, 2006). But it is taken to the extreme that the excessive emphasis on convergent thinking can prevent creativity.

Whether in school or outside, creativity seems to thrive best when creative activity is an intrinsic reward in itself, and a person is relatively indifferent to what other people think of the outcome. Whatever the activity—composing a song, writing an essay, organizing a party, or whatever—it is more likely to be creative if the creator focuses on and enjoys the activity itself, and thinks relatively little about how others might evaluate the activity (Brophy, 2004). Unfortunately, encouraging students to ignore other people's responses can sometimes pose a challenge for teachers. Not only is it a job to evaluate students, i.e. teachers learn from certain ideas or skills, but also they have to do so within the limited time limit of the course or in the school year. Despite these constraints, though, creativity can still be encouraged in the classroom at least some of the time (Claxton, Edwards, & Skala-Constantinou, 2006). Suppose, for example, that students should be assessed on their understanding and use of vocabulary. Testing their understanding can limit creative thinking; Students will understandably focus their energies on learning the "right" answers for the test. But appraisal doesn't have to happen all the time. It is also possible to encourage experimentation with vocabulary through writing poetry, making word games, or in other ways of thinking. All of these activities have creative potential. To some extent, therefore, learning content and experimenting or playing with content can both find a place—even one of these activities can often support the other. We return to this point later in this chapter.

Problem-solving

Indeed less open-minded than creative thinking is problem solving, analysis and solution of complex or ambiguous tasks or situations and which pose difficulties or obstacles of some kind (Mayer & Wittrock, 2006; (Maesaroh et al., 2020); (Syamsuri et al., 2021). Troubleshooting is required, for example, when a doctor analyzes a chest X-ray: a chest X-ray is certainly not clear and requires skill, experience, and wits to decide where the cloudy looks lump and interpret it as a real physical structure (and a medical problem because it's real). . Problem solving is also needed when a grocery store manager has to decide how to increase sales of a product should he put it on sale at a lower price, or increase publicity for it, or both? Will these actions actually increase sales enough to pay their costs?

Problem solving in the classroom

Problem solving that occurs in the classroom when the teacher gives a more complex task or challenge and those present can find solutions that are not easy or obvious. Student responses to these problems, as well as strategies to help them, indicate key features of problem solving. Create a story that describes two common features of problem solving: the effect of structure level or constraints on problem solving, and the effect of mental barriers to problem solving. The next section discusses each of these features, and then looks at general techniques for solving the problem.

The effect of constraints: well-structured versus ill-structured problems

Problems vary in the amount of information they provide to solve the problem, as well as some of the rules or procedures required for solution. A well-structured problem provides much of the required information and can in principle be solved using relatively few clearly understood rules. A classic example is the word problem that is often taught in math lessons or classes: everything you need to know is contained in the problem stated and the solution procedure is relatively clear and precise. Sick-structured problems have the opposite quality: information is not necessarily in the problem, the solution procedure is quite a lot, and several solutions are possible (Voss, 2006). extreme examples are problems such as “How can the world achieve lasting peace?” or “How can teachers ensure that students learn?”

By this definition, the Nine point problem is relatively well-though-not-completely structured. Most of the information needed for the solution is provided in Scene #1: there are nine dots shown and instructions are given for drawing four lines. But not all the necessary information was provided: students were required to consider rakes that were longer than implied in the original statement of the problem. Students have to “think outside the box”, as -in Willem puts it, literally.

When there is a well-structured problem, so the solution procedure is possible too. A well-defined procedure for solving a particular type of problem is often called an algorithm; examples are procedures for multiplying or dividing two numbers or instructions for using a computer (Leis erson, et al., 2001). Algorithms are only effective when the problem is very well structured and there is no question of whether this algorithm is the right choice for the problem. In that situation pretty much guarantees the right solution. They do not work well, however, with ill-structured problems, where they are ambiguous and questions about how to proceed or even about exactly what the problem is about. In those cases it is more effective to use heuristics, which are general “rules of thumb” strategies, so to speak—which do not always work, but often do, or which provide at least partial solutions. When starting research for a paper, for example, a useful heuristic is to scan a library catalog for titles that look relevant. There's no guarantee that this strategy will produce the most needed book for paper, but it does work over time to make it worth trying.

In the Nine point problem, most students start at Scene #1 with a simple algorithm that can be stated like this: “Draw one line, then draw again, and again, and again”. Unfortunately this simple procedure did not produce a solution, so they had to find another strategy for the solution. Three alternatives are described in Scenes #3 (for Alicia) and 4 (for Willem and Rachel). Of these, Willem's response resembles the heuristic the most: he knows from experience that a good general strategy that often works for such problems is to suspect fraud or deception in how the problem was originally stated. So he set out to question what guru meant by the word line, and came up with an acceptable solution as a result.

Common obstacles to solving problems

This example also illustrates two common problems that sometimes occur during troubleshooting. One of them is functional fixedness: the tendency to assume the functions of objects and ideas are fixed (Germany & Barrett, 2005). Over time, we get so used for one particular purpose for an object that we neglect other uses. We might think of a dictionary, for example, as necessarily something to verify spelling and definitions, but it can also serve as a gift, a doorstop, or a pedestal. For students working on the nine-point matrix described in the last section, the idea of “drawing” lines is also initially fixed; they consider it to be connecting the dots but not extending the line beyond the points. Functional fixedness is sometimes also called response set, the tendency for a person to frame or think about each problem in a series in the same way as the previous problem, even when doing so is inappropriate for later problems. In the nine-point matrix example described above, students often try one solution after another, but each solution is limited by the response set not to extend any lines beyond the matrix.

Functional fixedness and set of response constraints in problem representation, the way one understands and organizes the information given in the problem. If information is misunderstood or used inappropriately, then errors may occur if indeed the problem can be solved at all. With the nine-point matrix problem, for example, interpreting the instruction to draw four rows as meaning “draw four rows completely in the matrix” means that the problem simply cannot be solved. For another, consider this matter: “The number of lilies in the lake doubles every day. Each lily covers exactly one square foot. If it takes 100 days for a lily to cover a lake, how many days will it take for a lily to cover exactly half the lake?” If you think that the size of the lily affects the solution to this problem, you are not representing the problem correctly. Information about the size of the flowers is irrelevant to the solution, and only serves to distract from the information that is really important, the fact that lilies multiply their coverage every day. (The answer, incidentally, is that the lake is half closed in 99 days, can you think why?)

Strategies to assist problem solving

As with cognitive constraints for problem solving, there are also general strategies that help the process to be successful, regardless of the specific content of the problem (Thagard, 2005). One strategy assists problem analysis—identifying parts of the problem and working on each part separately. This analysis is especially useful when the problem is structured. Consider this issue, for example: "Drafting a plan to improve bicycle transportation in the city." Troubleshooting this problem is easier if you identify its parts or component subproblems, such as: (1) Crossing bicycle lanes on busy roads, (2) educating cyclists and motorists to ride safely, (3) repairing potholes in streets used by cyclists, and (4) revise traffic laws that harass cyclists. Each separate subproblem is easier to manage than the original, common problem.

Another strategy helps work backwards from the final solution to the problem originally stated. This approach is helpful when the problem is well structured but also has elements that are distracting or misleading when approached in a forward, normal direction. The water lily problem described above is a good example: starting with the day when all the lakes are covered (Day 100), ask what day it is because it will be half closed (from the terms of the problem, it would be the day before, or Day 99). Working backwards in this case encourages reframing the additional information in the problem (i.e. the size of each water lily) as merely an inconsequential nuisance to the solution.

The third strategy is helping analogical thinking—using knowledge or experience with similar features or structures to help solve the problem at hand (Bassok, 2003). In planning to improve cycling in the city, for example, an analogy of cars with bicycles is helpful in thinking of solutions: improving conditions for vehicles requires many of the same steps (improving highways, educating drivers). Even the solution of simple, more basic problems is aided by considering analogies. A first grader can partially decode foreign printed words by analogy to the word he has learned already. If a child is not yet able to read a word screen, for example, he or she may notice that parts of this word look similar to words they may already know, such as see or green, and from these observations derive instructions on how to read a word screen.

Broad instructional strategies that stimulate complex thinking

Because the forms of thinking just described—critical thinking, creativity and problem solving—are widespread and important in education, it is not surprising that educators have identified strategies to encourage their development. Several possibilities are shown in Table 24 and group several learning strategies along two dimensions: how many strategies are student-centred and how many strategies depend on group interaction.

It should be emphasized that the two-way classification in Table 24 is not very precise, but provides a useful framework for understanding the options available for planning and executing instructions. The more important of the two dimensions in the table is the first - the extent to which instructional strategies are good for teacher-directed or student-initiated. We can take a closer look at this dimension in a later section of this chapter, followed by a discussion of group-oriented teaching strategies "Effective Teaching" and task modeling to students and closely monitored student progress toward the goals of teacher-directed instruction.

Teacher-directed instruction

As the name implies, Teacher-directed instruction, every strategy that is initiated and guided primarily by the teacher is included in this model. A classic example is an exposition or lecture (only telling or explaining important information to students) combined with assigning reading from the text. But teacher-directed instruction also includes strategies that involve more active responses from students, such as encouraging students to elaborate on new knowledge or to explain how new information relates to prior knowledge. Whatever their form, teacher-directed learning methods usually include organizing information on behalf of students, even if the teacher also expects students to organize it further on their own. Sometimes, therefore, the teacher-directed method is thought of as transmitting knowledge from teacher to student as clearly and efficiently as possible.

Lectures and readings

Lectures and readings are traditional staples of educators, especially with older students (including college students). At their best, they pre-arrange information so that (at least in theory) students only have to remember what was said in the lecture or written in the text to begin to understand it (Exley & Dennick, 2004). Their limitation is the ambiguity of the responses they require: listening and reading are by nature calm and silent, and do not in themselves indicate whether a student understands or even attends to the material. Educators sometimes complain that "students are too passive" during lectures or while reading. But physical serenity is intrinsic to these activities, not to the students who do them. A book just sits still, after all, unless a student makes an effort to read it.

Advance organizers

Despite these problems, there are strategies for making lectures and readings effective. A teacher can be very careful about organizing information for students, and he or she can turn part of the mental work onto the students themselves. An example of the first approach is the use of brief advance overviews or introductions to new material before the material itself is presented (Ausubel, 1978). Textbook authors (ourselves included) often try to deliberately include periodic advance organizers to introduce new sections or chapters in the text. When used in lectures, advance organizers are usually statements in the form of a brief introduction, although sometimes diagrams showing the relationships between key ideas can also serve the same purpose (Robinson, et al., 2003). Whatever the form, advance organizers are partially organized on behalf of the students, so they know where to put everything, so to speak, as they study it in more detail.

Recalling and relating prior knowledge

Another strategy for improving teacher-directed instruction is to encourage students to relate new material to previously familiar knowledge. When one of us (Kelvin) first learns a foreign language (in his case French), for example, he often sees similarities between French and English vocabulary. A French word for picture, for example, is picture, spelled exactly that in English. The French word for beautiful splendide is, spelled almost the same as in English, though not quite. Relating French vocabulary to English vocabulary helps in learning and remembering French.

As children and adolescents become more experienced in their academic fields, they tend to relate new information to previously learned information more frequently and automatically (Goodwin, 1999; Oakhill, Hartt, & Samols, 2005). But teachers can also facilitate students' use of these strategies. When presenting new concepts or ideas, the teacher can relate them to previously learned ideas intentionally—basically modeling memory strategies that students learn to use for themselves. In science class, for example, he might say, “This is another example from the one we studied earlier”; in social studies he might say, “Remember what we knew last time about the growth of railroads? We saw that…”

If students are relatively young or struggling academically, it is especially important to remind them of their prior knowledge. Teachers can periodically ask questions such as “What do you already know about this topic?” Or “How will new knowledge of this topic change what you already know?” Regardless of the age of the student, connecting new to prior knowledge is easier with help from someone who is more knowledgeable, such as a teacher. When learning algorithms for multiplication, for example, students do not initially see how multiplication relates to the addition process that they might have learned previously (Burns, 2001). But if a teacher takes time to explain the relationship and to give students time to explore it, then the new multiplication skill can be learned more easily.

Elaborating information

Deciphering new information means asking questions about new material, inferring ideas and relationships between new concepts. the strategy is closely related to the strategy of remembering previous knowledge as discussed above: elaboration enriches new information and connects it to other knowledge. In a sense this elaboration makes new learning more meaningful and less arbitrary.

A teacher can help students use elaboration by modeling this behavior. The teacher may interrupt the explanation of an idea, for example, by asking how it relates to other ideas, or by speculating about where a new concept or idea might lead. He can also encourage students to do the same, and even ask questions to guide their students' thinking. When providing examples of concepts, for example, teachers can refrain from offering all examples, and instead ask students to think of additional examples on their own. The same tactics can work with assigned readings; if reading includes examples, the teacher can instruct students to find or create additional examples of their own.

Organizing new information

Organizing new information. There are many ways to organize new information that are particularly suited to teacher-directed instruction. A common way is to ask students to decipher information read in a text or heard in a lecture. Outlining works especially well when information is organized somewhat hierarchically into a series of main topics, each with supporting subtopics or subpoints. Outlining is basically a more common form of strategy taking notes, or writing down key ideas and terms from readings or lectures. Research studies find that the exact style or content of the notes is less important that the quantity of notes taken: more detail is usually better than less (Ward & Tatsukawa, 2003). Written notes ensure that students think about the material not only while writing it down, but also when reading notes later. This benefit is especially helpful when students are relatively experienced in school learning in general (as at previous grade levels), or relatively inexperienced about a particular topic or content in particular. Not surprisingly, these students may also need more guidance than usual about what and how to write notes. It can be helpful for teachers to provide note-taking guidelines.

In studying expository material, another useful strategy that is more visually oriented is to create concept maps, or diagrams of relationships between concepts or ideas. Exhibit 10 shows a concept map created by two individuals that illustrates how key ideas, child development, relate to learning and education. One of the 195 Educational Psychology maps drawn by the classroom teacher and the other by a university psychology professor (Seifert, 1991). They suggest possible differences in how both individuals think about children and their development. Not surprisingly, teachers pay more attention to practical issues (eg, classroom learning and child abuse), and professors pay more attention to theory (eg, Erik Erikson and Piaget). The differences suggest that these two people may have something different in mind when they use the same term in child development. The differences have the potential to create misunderstandings between them (Seifert, 1999; Super & Harkness, 2003). In the same way, the two maps also suggest what everyone might need to study who wants to achieve a better understanding of other people's thoughts and ideas. Map of personal definition of "child development"

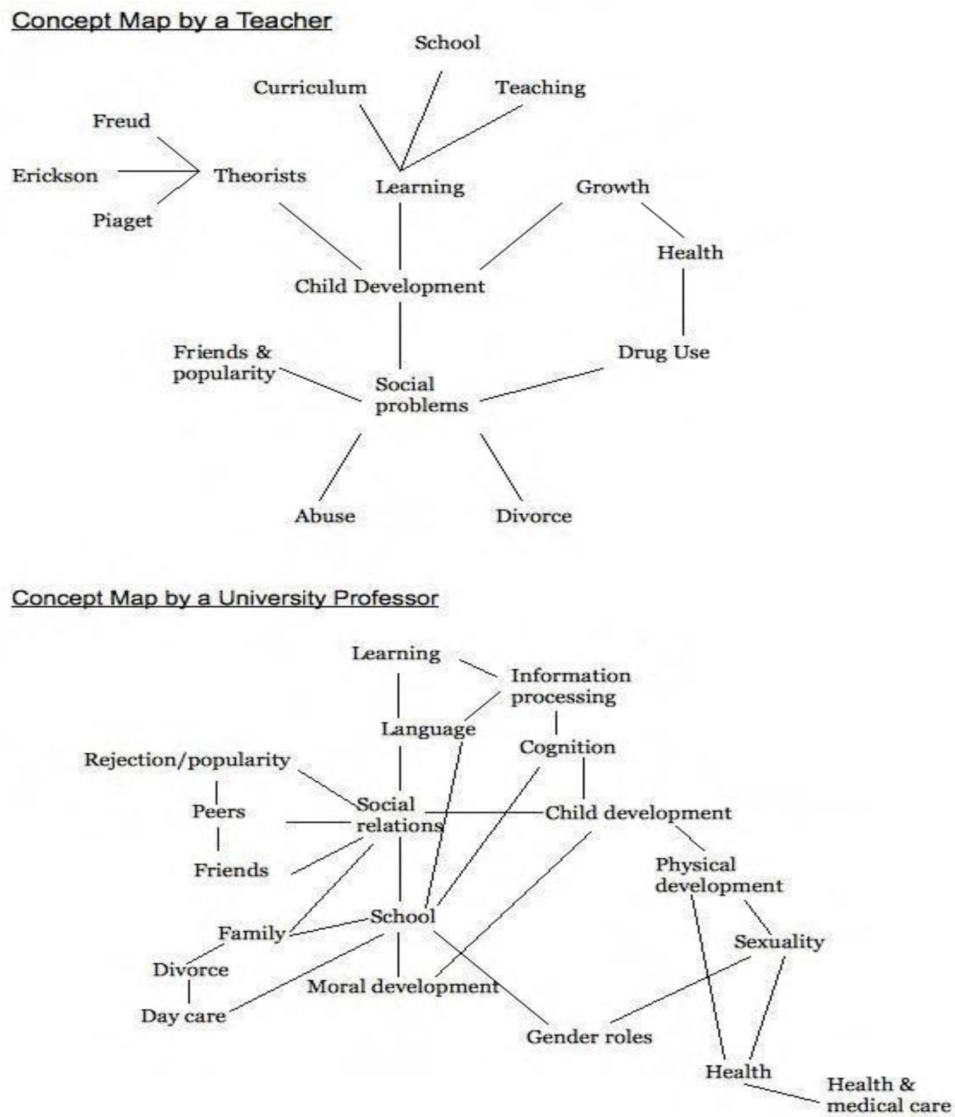

Exhibit 14: Maps of personal difinitions of “child development”

CONCLUSION

Teaching involves a variety of instructional strategies, where decisions and actions are designed to facilitate learning. The choice of strategy depends in part on the forms of thinking aimed at students—whether the goal is for students to think critically, for example, or to think creatively, or to solve problems. A fundamental decision in choosing a learning strategy is much emphasized on direct teacher instruction, compared to the student center model. Teacher-directed instruction strategies include lectures and reading (expository teaching), mastery learning, scripted or direct instruction, and complex teacher-directed approaches such as Madeline Hunter's effective teaching model. The model (student center model) that focuses on student learning includes independent study, student self-reflection, inquiry learning, and various forms of cooperative or collaborative learning. However, for some students, curriculum content and learning objectives can be used against one type of instruction. Teaching often involves combining different strategies appropriately and creatively

REFERENCES

Aronson, E. (2001). *In the jigsaw classroom.* Beverly Hills, CA: Sage.

Benson, B. & Barnett, S. (2005). *Student-led conferencing using showcase portfolios.* Thousand Oaks, CA:Corwin Press.

Black, P., Harrison, C., Lee C., Marshall, B., & William, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan, 86*(1), 8-21.

Bothmer, S. (2003). *Creating the peaceable classroom.* Tuscon, AZ: Zephyr Press.

Britt, T. (2005). Effects of identity-relevance and task difficulty on task motivation, stress, and performance. *Motivation and Emotion, 29*(3), 189-202.

Brophy, J. (2004). *Motivating students to learn, 2nd edition.* Mahwah, NJ: Erlbaum.

Brown, D. (2004). Urban teachers' professed classroom management strategies: Reflections of culturally responsive teaching. *Urban Education, 39*(3), 266-289.206

Brookfield, S. (2006). *The skillful teacher: On technique, trust, and responsiveness in the classroom, 2nd edition.* San Francisco: Jossey-Bass.

Chesebro, J. (2003). Effects of teacher clarity and nonverbal immediacy on student learning, receiver apprehension, and affect. *Communication Education, 52*(2), 135-147.

Cooper, P. & Simonds, C. (2003). *Communication for the classroom teacher, 7th edition.* Boston: Allyn & Bacon.

Cronbach, L. & Snow, R. (1977). *Aptitudes and instructional methods: A handbook for research on interaction.* New York: Irvington.

Crutsinger, C., Knight, D., & Kinley. (2005). Learning style preferences: Implications for Web-based instruction. *Clothing and Textiles Research Journal, 23*(4), 266-276.

Davidson, J. & Wood, C. (2004). A conflict resolution model. *Theory into Practice, 43*(1), 6-13.

Emmer, E. & Stough, L. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist, 36*(2), 103-112.

Gibbs, J. (2003). *Moral development and reality: Beyond the theories of Kohlberg and Hoffman.* Thousand Oaks, CA: Sage.

Good, T. & Brophy, J. (2002). *Looking in classrooms, 9th edition.* Boston: Allyn & Bacon.

Gordon, T. (2003). *Teacher effectiveness training.* New York: Three Rivers Press.

Guerrero, L. & Floyd, K. (2005). *Nonverbal communication in close relationships.* Mahwah, NJ: Erlbaum.

Hawkins, J. (2006). Accessing multicultural issues through critical thinking, critical inquiry, and the student research process. *Urban Education, 41*(2), 169-141.

Heimann , M. Strid, K., Smith , L., Tjus , T., Ulvund , S. & Meltzoff, A. (2006). Exploring the relation between memory, gestural communication, and the emergence of language in infancy: a longitudinal study. *Infant and Child Development*, 15(3), 233-249.

Hunter, R. (2004). *Madeline Hunter's Mastery Teaching, Revised Edition.* Thousand Oaks, CA: Corwin Press.

Jones, T. (2004). Conflict resolution education: The field, the findings, and the future. *Conflict Resolution Quarterly, 22*(1-2), 233-267.

Jones, V. & Jones, L. (2006). *Comprehensive classroom management: Creating communities of support and solving problems, 6th edition.* Boston: Allyn & Bacon.

Katz, L. (2000). *Engaging children's minds: The project approach.* Norwood, NJ: Ablex Publishers.

Kohn, A. (2006). *Beyond discipline: From compliance to community.* Reston, VA: Association for Supervision and Curriculum Development.

Kounin, J. (1970). *Discipline and group management in classrooms.* New York: Holt, Rinehart & Winston. *Educational Psychology* 207 A Global Text

Lyman, F. T. (1981). The responsive classroom discussion: The inclusion of all students. In A. Anderson (Ed.), *Mainstreaming Digest* (pp. 109-113). College Park: University of Maryland Press.

Marks, L. (2003). Instructional management tips for teachers of students with autism-spectrum disorder. *Teaching Exceptional Children, 35*(4), 50-54.

Marsh, A., Elfenbein, H. & Ambady, N. (2003). Nonverbal "accents": cultural differences in facial expressions of emotion. *Psychological Science, 14*(3), 373-376.

Marzano, R. & Marzano, J. (2004). The key to classroom management. *Educational Leadership, 62,* pp. 2-7.

McCafferty, S., Jacobs, G., & Iddings, S. (Eds.). (2006). *Cooperative learning and second language teaching.* New York: Cambridge University Press.

Moritz, J. & Christie, A. (2005). It's elementary: Using elementary portfolios with young students. In C. Crawford (Ed.), *Proceedings of the Society for Information Technology and Teacher Education International Conference 2005* (pp. 144-151). Chesapeake, VA: Association for the Advancement of Computing in Education.

Nations, S. & Boyett, S. (2002). *So much stuff, so little space: Creating and managing the learner-centered classroom.* Gainesville, FL: Maupin House.

Peterson, T. (2004). So you're thinking of trying problem-based learning?: Three critical success factors for implementation. *Journal of Management Education, 28*(5), 630-647.

Reynolds, A. (1992). What is competent beginning teaching? *Review of Educational Research, 62*(1), 1-35.

Slavin. R. (1994). *Cooperative learning, 2nd edition.* Boston: Allyn & Bacon.

Snow, R. (1989). Aptitude-treatment interaction as a framework for research on individual differences in learning. In P. Ackerman, R. Sternberg, & R. Glaser (Eds.), *Learning and individual differences,* pp. 13-60. New York: W. H. Freeman.

Sternberg, R. & Grigorenko, E. (2004). Successful intelligence in the classroom. *Theory into Practice, 43*(4), 274-280.

Maesaroh, Akbar, B., Murwitaningsih, S., Elvianasti, M., Aslan, 2020. Understanding Students Characteristics of Graduates in Biological Education Department (A Case StudyDone in Muhammadiyah University Prof. Dr. Hamka). International Journal of Psychosocial Rehabilitation 24, 1839–1845. https://doi.org/0.37200/IJPR/V24I6/PR260177

Syamsuri, S., Kaspullah, K., Aslan, A., 2021. THE UNDERSTANDING STRATEGY OF WORSHIP TO EXCEPTIONAL CHILDREN. EDUKASI 9, 18–31.

Stevens, B. & Tollafield, A. (2003). Creating comfortable and productive parent/teacher conferences. *Phi Delta Kappan, 84*(7), 521-525.

Stiggins, R. & Chappuis, J. (2005). Using student-involved classroom assessment to close achievement gaps. *Theory into Practice 44*(1), 11-18.

Thorson, S. (2003). *Listening to students: Reflections on secondary classroom management.* Boston: Allyn & Bacon.

Turiel, E. (2006). The development of morality. In W. Damon, R. Lerner, & N. Eisenberg (Eds.), *Handbook of child psychology, vol. 3, pp. 789-857.* New York: Wiley.

Van Meerionboer, J., Kirschner, P., & Kester, L. (2003). Taking the cognitive load off a learner's mind: Instructional design for complex learning. *Educational Psychologist, 38*(1), 5-13.208

White, C. (2005). Student portfolios: An alternative way of encouraging and evaluating student learning. In M. Achacoso & N. Svinicki (Eds.), *Alternative Strategies for Evaluating Student Learning* (pp. 37-42). San Francisco: Jossey-Bass.

Weinstein, C.,Tomlinson-Clarke, S., & Curran, M. (2004). Toward a conception of culturally responsive classroom management. *Journal of Teacher Education, 55*(1), 25-38.