LEARNING THEORY

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PART I
WHAT IS LEARNING ?

This chapter will help students to understand:

- The concepts of learning in the classroom.
- How to apply learning Strategies in the classroom.
- Difficulties with learning

NATURE OF LEARNING

Learning is the process by which human beings acquire a vast variety of competencies skills, and attitudes. Learning begins in infancy with the baby's acquisition of a few simple skills to adulthood, which individual is expected to have mastered specific job tasks and other functional skills. The competencies of human acquired in a very wide range of settings, both formal and informal, ranging from the relative confines of a school classroom, to the wide open spaces of the countryside or a quiet corner where a chance conversation led to deeper understanding of some topic or another. Learning is not exclusive to the domain of an education system. Learning begins a very long time before school; continues for even longer after school; and happens rapidly, and in parallel with school, in a great number of different ways and settings. Learning proceeds in a number of different ways, and has been described and explained by many different interested researchers and opinion-makers over many years.

Bell-Gredler (1986) stated that the human capacity for learning is an important characteristic that sets the species apart from all others. It provides benefits for both the individual and society. For individual, the capacity for continued learning contributes to the development of highly diverse life styles. For society, learning plays a key role in transmitting the culture's accumulated knowledge to new generation. It makes

possible new discoveries and interventions that build on past developments.

Definition of Learning

Learning is a complex concept and activity. Most teachers and pupils would recognize the importance of the social and emotional elements of learning, in addition to cognitive aspects of learning, thinking and problem solving. But what is learning? Is it a conscious or an unconscious activity? What is the relevance of related concepts, such as learning styles, learning strategies and self-regulated learning? Some of these concepts you may have come across before or they may be new to you. They will all be relevant to professionals and learners in school.

In English Dictionary as proposed by Hilgrad and Bower (1977, in Fudyartanto, 2002), etymologically definition of learning is 1) to gain knowledge, comprehension, or mastery of the trough experience or study, 2) to fix in the mind or memory, memorize; 3) to acquire trough experience, 4) changed from in forme of to find out. By definition, learn has a sense of acquiring knowledge or have acquired knowledge through experience, recall, mastering the experience, and get information or find. Etymologically learn have a basic meaning is the activity or activities, and mastery of something.

Etymologically the definition of learning is very brief. Therefore necessary to define learning in the terminology. It helps to understand more deeply about the sense of learning. In terminology, many experts

defined learning, among them is Cronbach. (1954) stated "Learning is shown by change in behavior as result of experience". According to Cronbach, the best learning is through experience. In having the students use all five senses. This opinion is in accordance with what was proposed by the Spears (1955), which states " Learning is activities to Observe, to read, to imitate, to try something themselves, listen to follow direction.

Another definition of learning proposed by Morgan et al (1986) which states that learning is a change in behavior that is relatively fixed and occur as a result of training or experience. What was put forward by Morgan and his colleagues are similar to the statement put forward by other experts who claim that learning as a process that can lead to behavioral changes because of reaction to a particular situation or because of the occurrence of an internal process within oneself. These changes did not occur because of genetic heritage, or natural response, maturity, or a temporary state of organisms, such as fatigue, the influence of drugs, fear, and so forth. And can constitute a change in understanding, behavior, perception, motivation, or a combination of all of them. (Snelbecker (1974), Bower & Hilgrad 1981), Gagne (1985), in Soekamto & Winataputra, 1997).

Woolfolk (1995) states that "learning occurs when experience causes a relatively permanent change in an individual's knowledge or behavior. Changes that occur through the learning process may be intentional or may not, into a better direction or wrong direction. The quality of one's learning is determined by the experiences gained when he

interacts with the surrounding environment. Sometimes learning is to produce a simple change, but also sometimes result in changes in the complex.

According to Pritchard (2009) without looking for too long, and without delving too deeply into learnt sources, it is possible to find a range of definitions of the process of learning. He summarize definition of learning as in table 1.1. The table contains a sample of these definitions. Each of us will identify more or less strongly with different definitions from the list presented. In everyday terms, it is supposed that learning is the process of gaining more knowledge, or of learning how to do something-ride a bike, for example. As we will see, learning is viewed differently by those who have spent time investigating and experimenting in the field, according to the context of their work and other factors exerting influence at the time. We will look at the work of both behaviorist and cognitive psychologists and consider the very different approaches that each takes and the very different definitions that each might offer of a process which, for most of us, comes very naturally. A basic understanding of processes of learning is essential for those who intend to develop activities that will have the potential to lead to effective learning taking place in classrooms that is teachers.

Table 1.1 Definitions of Learning

Definition of Learning
• A change in behavior as a result of experience or practice. • The acquisition of knowledge. • Knowledge gained through study. • To gain knowledge of, or skill in, something through study, teaching, instruction or experience. • The process of gaining knowledge. • A process by which behavior is changed, shaped or controlled. • The individual process of constructing understanding based on experience from a wide range of sources

Source: Pritchard, 2009

Characteristics of Learning

According to some definitions of learning put forward by experts. There are some characteristics of learning (Wahyuni, 2006) namely;

1) Learning is characterized by a change in behavior (change behavior). This means that the results of the learning can only be observed from the behavior change, from not knowing to knowing, from unskilled to skilled, and so forth.

2) Changes in the behavior of relatively permanent, this means that the behavioral changes that occurred because of learning for a certain time will be fixed or not changed.

3) Behavior change can't be immediately observed at the time of the learning process is underway, these behavioral changes are potential.

4) Behavior change is the result of practice or experience.

5) The experience or training that can provide reinforcement. Something that strengthens the spirit or give impetus to change behavior.

Principles of Learning

Davis (1971 in Soekamto and Winaputra, 1997) proposed that teacher must to understand the principles of learning as follows;

1) No matter what students learned, they must experience it for their self.

2) Students learn according to their ability level.

3) Students learn according to their ability level.

4) Students must master one stage before proceeding to a higher stage

5) Students will increase their motivation to learn if he was given the responsibility and the full confidence of their learning.

Learning Process

The learning process is a series of activities that occur in individual in the central nervous while he learn. Learning occurs in the abstract because mentally and not be observed. Therefore, the learning process can only be observed if there is a change in attitude from individu which

different from the previous behaviour. Changes in behavior can be in terms of knowledge, affective, and, psychomotor. Based on the views Gagne, (in Winkel, 2007) states that the process of learning, especially learning that occurs in schools through the stages or phases as follows (see table 1.2.);

Table   1.2. Stages of Learning

Stages of Learning	Students,s activity of Learning	The series of Teaching by Teachers
1. Phase Motivation	Students aware of the goals and willing to involve themselves	1. The teacher raises in students' learning motivation and awaken the students' instructional goals will be achieved. Teachers make students' attention focused on the learning task at hand. This can be done by mentioning the use of studying the subject so that students want to learn and interested.
2. Phase Concentration:	Students must consider the relevant elements, thus forming a specific perceptual patterns	2. The teacher directs students' attention, so special attention to the principal elements in the material (selective perception). It can be cultivated by showing certain events in a demonstration, pointing to the inside of books printed in bold or striking colors, by giving a preliminary description and so forth
3. Phase of Processing	Students hold information in short-term memory (STM) and process information to take its meaning.	3. Teachers help students to understand the lesson by form of verbal, scheme, or chart. The teacher gives instructions on how to take the core or making schemes or formulate concepts and rules. Teachers can give questions to help students explore the information already stored in LTM
4. Phase of storage	Students store the information has been treated in long-term memory LTM); information is entered into the memory. Learning outcomes have been obtained, in part or whole	4 in this phase the information stored in long-term memory is unstable because the processing is insufficient, therefore, teachers should provide guidance for students to find stability in processing information
5.a Phase of the first exploring	Information stored in long term memory extracted and inserted into the short-term memory. This information is linked to new information or attributed to something outside the scope of the relevant field of study. Inserted back in LTM	5. a. 1. Teacher gives a question directed to explore the memory in LTM (as in No. 3). It can also be done in order to learn a new topic later 2. Teachers help students explore the newly obtained results from the LTM and link it with something beyond the scope of the relevant lessons (learning transfer) 3. Teachers help students prepare for exams that include some subjects, by reviewing the lessons

5. b. Phase of the second exploring	The student retrieval information stored in LTM and prepare it as an input to phase achievement. Directly or through STM	5b. The teacher gives instructions on the form of achievement is expected, for example in the form of written descriptions, verbal, diagrams, drawings, or demonstrations.
6. Phase achievment	The information extracted is used for performance and achievements that show learning results	6. The teacher gives instructions on the form of achievement is given. Teachers give clear instructions whether performance will be achieved in the form of written, oral, or act.
7. Feedback	Students get feedback for the performance of their achievment	7. The teacher provides feedback immediately after achievement given in the form of action / demonstration or verbal description. Teachers also provide feedback as soon as possible after the written description is checked.

Self Chek

1. List experts's definition of learning and summarize in a sentence
2. Give your argument. Why students should experience their learning process.
3. Describe in detail the processing of learning

LEARNING STYLES

One of the major tasks teacher will face in helping students with their thinking skills and problem solving strategies will be to make them aware of how they prefer to go about it. What strategies are they comfortable with? They can't answer this question unless they know certain things about themselves, which takes us into the world of cognitive and learning styles.

Pritchard (2009) states that the literature provides many useful definitions of learning styles and related ideas which we could consider. To look briefly at one or two will act as a useful starting point. Learning style is defined variously as:

- a particular way in which an individual learns;

- a model of learning-an individual's preferred or best manner(s) in which to think, process information and demonstrate learning;

- an individual's preferred means of acquiring knowledge and skills;

- Habits, strategies, or regular mental behaviors concerning learning, particularly deliberate educational learning, that an individual displays. Cognitive style is also defined in a range of different ways, as:

- a certain approach to problem-solving, based on intellectual schemes of thought;

- individual characteristics of cognitive processing which are peculiar to a particular individual;

- a person's typical approach to learning activities and problem-solving;

- Strategies, or regular mental behaviors, habitually applied by an individual to problem solving.

There are many overlapping features contained within these definitions. So, a learning style is a preferred way of learning and studying; for example, using pictures instead of text; working in groups as opposed to working alone; or learning in a structured rather than an unstructured manner. Learning preferences refer to an individual's preferred intellectual approach to learning, which has an important bearing on how learning proceeds for each individual, especially when considered in conjunction with what teachers expect from learners in the classroom. This idea will be explored later. The term 'learning preferences' has been used to refer to the conditions, encompassing environmental, emotional, sociological and physical conditions, that an individual learner would choose, if they were in a position to make a choice (Dunn et al. 1989).

There are a number of instruments for assessing student's learning preferences, for example; The Learning Style Inventory (Renzulli & Smith, 1978), Style Profile (keefe & Monk, 1986), David Kolb's Learning Styles Inventory (Kolb, 1979). Test of learning style have been critized for lacking evidence of reliability and validity. One of the critics states people are different, and it is good practice to recognize and accomodate individual differences. It is also good practice to present information in a variety of ways through more than modality, but it is not wise to categorize learners and prescribe methods solely on the basis of test with questionable technical qualities (Wooflok, 1995).

What becomes very clear as we think closely about different learners who are known to us is that they do not all learn in the same way. Each individual will adopt an approach to learning with which they are most comfortable and in doing so leave behind the approaches with which they are less comfortable. It is helpful for learners if they are aware of their own particular learning preferences in order that they can use an appropriate learning style to suit the particular learning that is being undertaken, and take opportunities to improve their potential for learning when faced with a learning activity that might steer them towards one of their "weaker" or at least one of their less favored-styles.

Learning Styles Models

Learning styles are not fixed traits which an individual will always display. Learners are able to adopt different styles in different contexts. For most of us, one or two styles are preferred above the others. Pritchard (2009) summarize learning styles model as follow;

1. Honey and Mumford (1986) suggest that we need to be able to adopt one of four different styles in order to complete any given learning task satisfactorily. An inability or reluctance to adopt any particular style has the potential to hamper our ability to learn effectively. The four styles described in the Honey-Mumford Model are: activists, reflectors, theorists, and pragmatists.

   Activists prefer to learn by doing rather than, for example, by reading or listening. They thrive on novelty, and will 'give anything a try'. They like to immerse themselves in a wide range of experiences and

activities and like to work in groups so that ideas can be shared and ideas tested. They like to get on with things, so they are not interested in planning. Activists are bored by repetition, and are most often open minded and enthusiastic.

Reflectors stand back and observe. They like to collect as much information as possible before making any decisions; they are always keen to 'look before they leap'. They prefer to look at the big picture, including previous experiences and the perspectives of others. The strength of reflectors is their painstaking data collection and its subsequent analysis, which will take place before any conclusion is reached. Reflectors are slow to make up their minds, but when they do, their decisions are based on sound consideration of both their own knowledge and opinions, and on what they have taken in when watching and listening to the thoughts and ideas of others.

Theorists like to adapt and integrate all of their observations into frameworks, so that they are able to see how one observation is related to other observations. Theorists work towards adding new learning into existing frameworks by questioning and assessing the possible ways that new information might fit into their existing frameworks of understanding. They have tidy and well-organized minds. They sometimes cannot relax until they get to the bottom of the situation in question and are able to explain their observations in basic terms. Theorists are uncomfortable with anything subjective or ambiguous. Theorists are usually sound in their approach to problem-solving, taking a logical, one step-at-a-time approach.

Pragmatists are keen to seek out and make use of new ideas. Pragmatists look for the practical implications of any new ideas or theories before making a judgment on their value. They will take the view that if something works, all is well and good, but if it does not work, there is little point in spending time on the analysis of its failure. A strength of pragmatists is that they are confident in their use of new ideas and will incorporate them into their thinking. Pragmatists are most at home in problem-solving situations. These four dimensions can be used as a way of classifying learners. The four basic types of learner, as characterized by preference for active, reflective, theoretical or practical learning, are clearly different one from the other, but most learners are not extreme examples of just one preference. Most people have characteristics of all four dimensions. Honey and Mumford devised a learning style inventory, designed to help individuals to find out which predominant type of learner they might be. Completing the inventory involves answering 'yes' or 'no' to 80 statements, 20 of which are related to each of the four types: theorist, pragmatist, activist and reflector.

2. Neuro-Linguistic Programming (NLP). Neuro-Linguistic Programming is concerned with how we communicate and how this affects our learning. Over many years, and through many research projects, including close and detailed observation of the way we communicate, three particular learning styles-visual, auditory and kinesthetic have been identified.

Visual learners prefer to learn by seeing. They have good visual recall and prefer information to be presented visually, in the form of diagrams,

graphs, maps, posters and displays, for example. They often use hand movements when describing or recalling events or objects and have a tendency to look upwards when thinking or recalling information.

Auditory learners prefer to learn by listening. They have good auditory memory and benefit from discussion, lectures, interviewing, hearing stories and audio tapes, for example. They like sequence, repetition and summary, and when recalling memories tend to tilt their head and use level eye movements.

Kinesthetic learners prefer to learn by doing. They are good at recalling events and associate feelings or physical experiences with memory. They enjoy physical activity, field trips, manipulating objects and other practical, first-hand experience. They often find it difficult to keep still and need regular breaks in classroom activities. While we all use all three styles of learning to some extent, some learners rely heavily on one of them. An over-reliance on one style, and an inability or unwillingness to adopt another style where it might be appropriate, can be limiting in some learning situations and can mean that learning might be hindered.

3.   The Myers-Briggs Type Indicator (MBTI) system is a means of establishing an individual's personality profile and is used widely in aptitude testing for employment. Designed as a tool for investigating the many different strands of personality type, the MBTI also has something for teachers to be aware of. The MBTI describes four personality types. According to the model, learners may have styles as in table 1.2.1.

Table. 1.2.1. Myers-Briggs Type of Learning Styles

Type of Learning	Characteristics	Strength
Extrovert learners	• talk to understand new information and ideas; work in groups; try something first and think about it later; • see the results from a project; see examples of how other people are doing the work.	Extroverts learn best when they can work with a friend and learn by trying something themselves instead of watching or listening to others. When they have difficulty with understanding, they benefit by talking about their ideas with others.
Introvert learners	• study alone; listen to others talk and think about information • privately; • think about something • first and try it later; listen, observe, write and read; • take time to complete assignments.	Introverts learn best when they can find quiet places to work and have enough time to reflect on, redraft and improve their work. Introverts often like to make connections between school work and their personal interests.
Sensing learners	• like clear goals; • are careful and pay • attention to details; like taking one step at a time; • have a good memory for facts; • pay more attention to practical tasks and ideas.	Sensing learners learn best when they can ask their teacher to explain exactly what is expected and when they can focus on skills and tasks that are important in their lives. They like to use computers, watch films or find other ways to see, hear and touch what they are learning.
Intuitive learners	• like reading and listening; like problems that require the use of imagination; like variety; are more interested in big ideas than in little details; • like starting on new projects rather than finishing existing ones.	Intuitive learners learn best when they can find ways to be imaginative and creative in school. They prefer to follow their instincts and understand the big picture before they begin school tasks.
Thinking learners	• want to be treated fairly; like teachers who are organized want to feel a sense of achievement and skill; • use clear thinking to work out problems; • like clear and logical direction.	Thinking learners learn best when they have limited time to do their work and are able to put information in a logical order that makes sense to them. They succeed when they can focus on what they already know in order to make connections to new information.
Feeling learners	• like to have a friendly relationship with teachers; learn by helping others; need to get along with other people; like to work with groups; like tasks with which they have a personal connection.	Feeling learners learn best when they can work with a friend, find opportunities to choose topics they care about and help others.

Judging learners	• like to have a plan and stick to it; work in a steady, orderly way; • like to finish projects; • take school seriously; like to know exactly what is expected of them.	Judging learners learn best when they have short-term goals, when they are able to make a plan of action and find out from the teacher exactly what is expected.
Perceiving learners	• are open to new • experiences in learning; like to make choices; are flexible; • work best when work is fun; • like to discover new information.	Perceiving learners learn best when they find new ways to do routine tasks in order to generate interest and to discover new information and ideas. They prefer being involved in projects that are open-ended without definite cut-off points and deadlines.
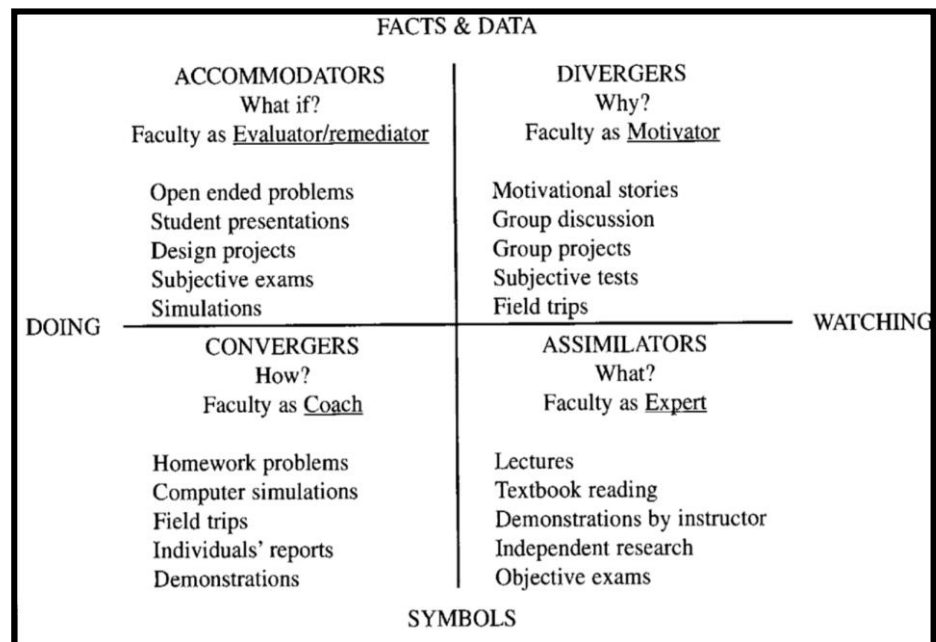
Figur 1.2.1 . Kolb's Learning Styles

4. Kolb's Learning Style Model, which classifies individuals over two

continuous dimensions as having a preference for:

1). Concrete experience mode or the abstract conceptualization mode (the dimension concerning how the learner takes in information).

2). Active experimentation mode or the reflective observation mode (the dimension concerning how the learner internalizes information).

In the figure 1.2.1 Kolb describes four general learning types based on the two dimensions, as follows:

- Type 1: Diverger (concrete, reflective).Type 1 learners often use the question 'Why?' and they respond well to explanations of how new material relates to their experience and interests. Diverging learners prefer to learn by observation, brainstorming and gathering information. They are imaginative and sensitive.

- Type 2: Assimilator (abstract, reflective).Type 2 learners often use the question 'What?' and respond well to information presented in an organized, logical fashion. They benefit if they are given time for reflection. Assimilating learners prefer to learn by putting information in concise logical order and using reflective observation.

- Type 3: Converger (abstract, active). Type 3 learners often use the question 'How?' and respond to having opportunities to work actively on well-defined tasks. They learn by trial and error in an environment that allows them to fail safely. Converging learners like to learn by solving problems and doing technical tasks, and are good at finding practical uses for ideas.

- Type 4: Accommodator (concrete, active).Type 4 learners often use the question 'What if?' and respond well when they are able to apply new material in problem-solving situations. Accommodating learners are people-oriented, hands-on learners and rely on feelings rather than logic.

5. The Felder-Silverman Learning Style Model is another system for describing learning style. It has many similarities with the other systems and classifies learners as:

- Sensing learners who prefer the concrete, are practical, and are oriented toward facts and procedures; or intuitive learners who prefer the conceptual, are innovative, and oriented towards theories and meanings; visual learners who prefer visual representations of material-pictures, diagrams, flow charts; or verbal learners who prefer written and spoken explanations;

- Inductive learners who prefer to consider topics by moving from the specific to the general; or deductive learners who prefer to consider topics by moving from the general to the specific;

- Active learners who learn by trying things out and working with others; or reflective learners who learn by thinking things through and working alone;

- Sequential learners who prefer to work in a linear, orderly fashion and prefer to learn in small incremental steps; or global learners who prefer to take a holistic view and learn by taking large steps forward.

Individual learners have preferred ways of working, thinking and learning. If an individual's preferred approach to learning tasks is ignored in the ways that a teacher expects them to work, there is a distinct possibility that their learning will not progress as efficiently and effectively as it might. Descriptions of learning styles are plentiful and some are complex. One description commonly used to help teachers understand differences in a practical and immediate way is the 'visual/auditory/kinesthetic'. It is likely that one-third of any given class will have a preference for learning which is undertaken in one of these divisions. This means that teachers should be aware of and take into account the fact that some of their pupils will find it difficult to make headway with their learning if at least some of it is not presented in an appropriate format for them. It is very important that opportunities are given to learners of all types to take part fully in the planned learning activities in classrooms and that they should have full access to the curriculum, whatever their learning style preference might be.

Implications of Learning Styles in the Classroom

In some ways, Pritchard (2009) proposed the suggestions that implicatios of learning styles in the classroom here:

- Be aware that individuals have different strengths and are likely to perform very differently according to the nature of the style of the tasks with which they are presented. By understanding learning styles so students can improve their performance in school, for that role is very important teachers in cultivating students' intrinsic

motivation and provide a strong incentive for them to learn according to their learning style.

- Give opportunities for learning in a range of different ways; sitting and listening may suit some children, but others will find this particularly difficult; conversely others will not respond well to individual work. Be flexible in teaching approaches.

- Give opportunities for learners to respond in a range of different ways; writing prose responses is not the only way to record events; indeed there are many ways other than writing that new learning can be dealt with.

- Be prepared to reward responses to work that do not necessarily conform to the traditional expectation of 'school work'.

- Teacher help students realize that there is more than one way to approach and solve a learning problem, and that one approach is almost certainly as valid as another if it leads to the required outcome.

Self-chek

1. List experts definition of learning styles and summerize in one sentence.

2. Mention and explain the types of learner's style·

3. Explain what are implications of learning styles in the classroom.

References

Bandler, R. and Grinder, J. (1979) Frogs into Princes. Moab, UT: Real People Press.

Baron, J. (1978) Intelligence and general strategies, in G. Underwood (ed.) Strategies of Information Processing. London: Academic Press.

Briggs, K. and Myers, I. B. (1975). The Myers-Briggs Type Indicator. Palo Alto, CA: Consulting Psychologist Press.

Briggs Myers, I. and Myers, P. (1980) Gifts Differing. Palo Alto: Consulting Psychologists Press.

Bokaerts, M. (ed.) (2000) Handbook of Self-regulation. New York: Academic Press.

Brown, A.L. and Ferrara, R.A. (1985) Diagnosing zones of proximal development, in J.V. Wertsch (ed.) Culture, Communication and Cognition: Vygotskyan Perspectives. Cambridge: Cambridge University Press.

Butterfield, E.C. and Belmont, J.M. (1977) Assessing and improving the executive cognitive functions of mentally retarded people, in I. Bailer and M. Steinlicht (eds) Psychological Issues in Mental Retardation. Chicago: Aldine Press.

Bruner, J. (1986) Actual Minds, Possible Worlds. Cambridge, MA: Harvard University Press.

Claxton, G. (1990) Teaching to Learn. London: Cassell.

Dunn, R., Cavanaugh, D., Eberle, B. and Zenhausern, R. (1982) 'Hemispheric preference: the newest element of learning style', The American Biology Teacher, 44(5), 291–4.

Dunn, R., Della Valle, J., Dunn, K., Geisert, G., Sinatra, R. and Zenhausern, R. (1986) 'The effects of matching and mismatching students' mobility preferences on recognition and memory tasks', Journal of Educational Research, 79(5), 267–72.

Dunn, R., Dunn, K. and Price, G. E. (1989) The Learning Style Inventory. Lawrence, KS: Price Systems

Fisher, R. (1990) Teaching Children to Think. New Jersey: Simon and Schuster.

Gardner, H. and Hatch, T. (1990) 'Multiple intelligences go to school: educational implications of the theory of multiple intelligences', Center for Children and Technology Technical Report, Issue 4. www.edc. org/cct/ccthome/reports/tr4.html (Accessed 10.12.10).

Hartman, V. F. (1995) 'Teaching and learning style preferences: transitions through technology', VCCA Journal, 9(2), 18–20.

Honey, P. and Mumford, A. (1986) Manual of Learning Styles (2nd edn). London: P. Honey.

Kirby, J.R. (ed.) (1984) Cognitive Strategies and Educational Performance. New York: Academic Press.

Leadership Project (1995) Adult Learning Principles & Practice. Toronto: Sheridan College.

Lemmon, P. (1985) 'A school where learning styles make a difference', Principal, 64, 26–9.

MacMurren, H. (1985) 'A comparative study of the effects of matching and mismatching sixth-grade students with their learning style preferences for the physical element of intake and their subsequent reading speed and accuracy scores and attitudes'. Doctoral dissertation, St. John's University, New York.

Nisbet, J. and Shucksmith, J. (1986) Learning Strategies. London: Routledge and Kegan Paul.

Pollard, A. (1985).The Social World of the School. London: Holt, Rinehart & Winston.

Pritchard, Alan. (2009). Ways of Learning: learning theories and learning styles in the classroom. New York: Routledge.

Resnick, L. and Beck, I.L. (1976) Designing instruction in reading: interaction of theory and practice, in J.T. Guthrie (ed.) Aspects of Reading Acquisition. Baltimore, MD: Johns Hopkins University Press.

Riding, R.J. and Rayner, S.G. (1998) Cognitive Styles and Learning Strategies. London: David Fulton Publishers.

Schmeck, R.R. (1988) Individual differences and learning strategies, in C.E. Weinstein, E.T. Goetz and P.A. Alexander Learning and Study Strategies: Issues in Assessment, Instruction and Evaluation. San Diego: Academic Press.

Wade, S.E., Trathen, W. and Schraw, G. (1990). An analysis of spontaneous study strategies, Reading Research Quarterly, 25: 147–66.

Wahyuni, E.N. & Baharuddin (2015) Teori-Teori Belajar dan Pembelajaran. Yogyakarta, Aruzz Media.

Warr, P. and Downing, J. (2000) Learning strategies, learning anxiety and knowledge acquisition, British Journal of Psychology, 91: 311–33.

Weinstein, C.E., Husman, J. and Dieking, D.R. (2000) Self-regulation interventions with a focus on learning strategies, in M. Bokaerts (ed.) Handbook of Self-Regulation New York: Academic Press.

Wood, D. (1998) How Children Think and Learn, 2nd edn. London: Blackwell.

Zimmerman, B.J. (1997) Self-efficacy and educational development, in A. Bandura Self-efficacy: The Exercise of Control. New York: W.H. Freeman.