

## The Teacher's Educational Leadership Roles According to Kolb's Theory of Learning

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**Abstract:** One of the important roles of teachers in the classroom is the educational leadership role. It is known that knowledge about learning processes and how learning happens and also becoming aware of students' learning styles can make a contribution to the educational leadership of the teacher in the classroom. This paper tries to explain how learning happens according to the Kolb's theory of learning and defines the learning styles of students in accordance with this learning theory and then points out the leadership roles which teacher should adopt in the classroom for these students having different learning styles and suggests some ideas about what to do with such learners.

**Key words:** Educational leadership • Teacher's roles • Teacher's educational leadership roles • Kolb's theory of learning • Experiential learning theory • Learning styles • Teaching styles

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### INTRODUCTION

Many studies have been conducted on learning and theories of learning, both because they concern anyone who has ever been educated and because such learning lasts for lifetime, irrespective of time or place. In spite of this, studies on the teaching referred to as "activity for ensuring learning" remain limited, perhaps because it concerns a smaller number of people concerned with teaching, specifically teachers. Such studies on theories of learning are a great resource for teachers seeking new strategies as they develop their teaching activities. But they complement studies in other areas of teaching too, from what a teacher must do in class, how and why he must do these, the role and tone he must adopt while doing so and the effect this behaviour has on the students.

This study will examine the act of learning firstly by looking through Kolb's perspective and then by considering the educational leadership roles a teacher could play according to this theory.

Kolb's theory of learning, when looked at from the viewpoint of the learner, explains the nature of the learning process and how a student learns. When looked at from the viewpoint of the teacher, the individual who plans and organises teaching activities, it can also be

considered as a theory of teaching. Under the title "Teaching, according to Kolb's theory of learning", it can be used to explain the roles that teachers should adopt during teaching. In the dexterous hands of a teacher, learning theories can be transformed into teaching strategies. For this reason, Kolb's experiential learning theory, one amongst many theories of learning, provides a general framework for teachers in relation to the content of issues to be taken into account in planning, applying and evaluating teaching activities in class.

Teachers, whom Skinner described as engineers of behaviour forming, must pay attention to a number of factors that affect the learning process when preparing and applying their teaching programmes. Recent researches into the teaching and learning environment, which have been heavily focused on cognitive and behavioural psychology, have put forward some very important suggestions in terms of organising and developing teaching. While both theories argue that the student must have an active approach in the learning process, they make different definitions of the roles displayed by the student [1].

According to the behavioural approach, learning is the product of a relationship of causality that emerges in a student as increased or decreased behaviour, in connection with that student's response to stimulants

and the reinforcements used after these responses. Behaviourists do not take into account the role of the student as the intermediary variable in this process [1].

In the cognitive approach, the student's role as the intermediary variable is taken into account. In contrast to the behavioural approach, the cognitive approach does not simply regard the student as an individual that responds to reinforced stimulants coming from his surroundings. It also considers the student to be an individual that processes the information with his existing cognitive systems and structures them to develop new cognitive systems [1].

According to Kolb's approach to learning, the student's role in the process is different from both the behavioural and cognitive approaches. Under Kolb's theory students' experiences have an important place in the learning process, because individuals learn as a result of their own lives and experiences.

**Kolb's Experiential Learning Theory and Learning Styles:** In the process of developing his own theory of learning, Kolb was influenced by John Dewey and his belief that learning should be based on experience; Kurt Lewin, who believed in the importance of the individual being active in the learning process; and Jean Piaget, who defined intelligence as the result of the individual and influences of his surroundings [2].

Kolb's theory of learning, which has also been called the experiential learning theory, emerges as a result of the influences between the individual and his surroundings, in a manner similar to the learning models of Lewin and Dewey. Furthermore, in a manner similar to Piaget's theory of learning, it continues as a cycle created by experiences from the concrete to the abstract, by observations and reflections and by implications and behaviours. The reason Kolb referred to this theory as the "experiential learning theory" is because experience is the source of learning and development [2].

According to Kolb, knowledge is constantly extracted from a learning individual's experiences and tested [2]. Learning is not bound to any time or place. It exists everywhere and at every time and is the process where, at every stage of life, an individual achieves accordance with his surroundings. New knowledge, skills and concepts can be learned through experience and these are organised and arranged within an individual's existing cognitive structures. New experiences occur as a result of the concepts and new knowledge extracted from these. In other words, Kolb says that knowledge is created as a result of experiences occurring and later from these experiences being transformed and adapted.

Based on this, according to Kolb, learning is the process of the knowledge and concepts that emerge as a result of the transformation of experience, then reorganising and restructuring cognitive structures according to this new knowledge and finally preparing the ground for new concrete and abstract experiences. This process continues as a cycle. In other words, we can say that according to Kolb, learning is a process, but in contrast knowledge is a product [2].

According to Kolb, there are six basic principles of experiential learning. These are as follows:

- Learning is not a result or a product, but a process.
- Learning is an uninterrupted process based on experiences.
- Learning requires a resolution between forms of accordance to the world that are dialectically contrary to one another.
- Learning is a holistic process of accordance to the world.
- Learning includes the interactions between an individual and his surroundings.
- Learning is the process by which knowledge is created as a result of interaction between social knowledge and personal knowledge.

Kolb's theory of learning is two-dimensional. These dimensions indicate the two basic components of the learning process. The first of them is the perception of knowledge; the second is the processing of knowledge. Kolb's theory is based on these two dimensions forming four quarter-circles and coming together. According to Kolb's experiential learning theory, knowledge is perceived either by thinking or feeling. This knowledge is subsequently processed by doing or watching.

In Figure 1, the horizontal axis represents the processing of knowledge, our method of approaching a task by choosing to learn it by doing or watching something. The process of knowledge perception, depicted in the vertical axis of Figure 1, represents our emotional responses, such as choosing to learn by thinking or feeling. According to Kolb's theory of learning, individuals perceive knowledge by feeling or thinking and process it by watching or doing. While knowledge perception presents clues as to how we think, knowledge processing attempts to explain how we do it.

From this point of view, Kolb's theory of learning argues that people learn in a loop, by feeling, watching, thinking and doing-or by living. Individuals process

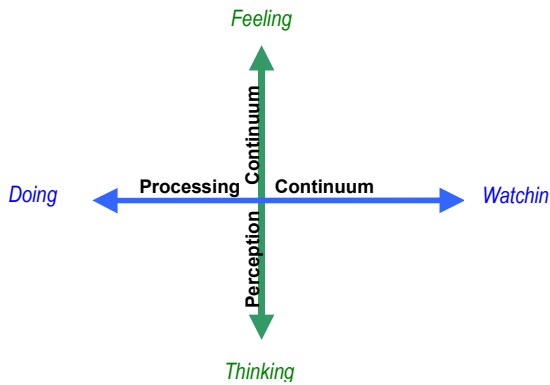


Fig. 1: The two dimensions of Kolb's theory of learning and the two basic processes of learning

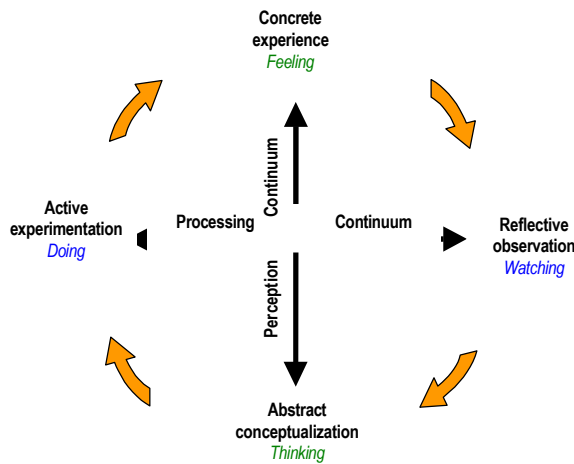


Fig. 2: Learning types according to Kolb's theory of learning

the knowledge they gather from around them and convert these into behaviours. And the processes continue, constantly renewing themselves. In short, learning consists of individuals converting their knowledge into behaviours-or, by running to work.

According to Ergür [3], rather than producing a fresh alternative to behavioural and cognitive approaches, Kolb's theory describes learning as the amalgamation of experiences, knowledge, perception and behaviour. New knowledge, skills or approaches can occur by existing within the four types of experience-based learning, according to Kolb. Students require four different abilities in order to learn effectively [4]. These abilities are as follows:

- Concrete experience
- Reflective observation
- Abstract conceptualisation
- Active experimentation

According to Kolb's theory of learning, concrete experience and abstract conceptualisation explain how an individual perceives knowledge, while reflective observation and active experimentation explain how an individual processes knowledge. By this measure:

- Concrete experience is based on feeling
- Reflective observation is based on watching
- Abstract conceptualisation is based on thinking
- Active experimentation is based on doing and living

Kolb has mentioned, in connection to one's experience, that these abilities follow each other in a continuous process and described the experiential learning theory as a four-stage cycle that includes concrete experience, reflective observation, abstract conceptualisation, active experimentation.

**Concrete Experience:** An individual's interactions with other individuals in the context of daily events are stressed at this stage of the learning cycle. It is important that the individual in the learning environment is open-minded and possesses the ability to be flexible to changes. Individuals at this stage learn by relying on their feelings; both individual experiences and interaction with other people is important. The individual demonstrates an awareness of the people with whom he interacts and their emotions and learning occurs as a result of certain experiences and interactions with people. At this stage, the teacher should use personalised and individualised teaching activities.

**Reflective Observation:** At this stage of the learning cycle, an individual's varied thoughts and ability to evaluate events from different perspectives is emphasised. The individual in the learning environment needs to be patient and objective, like an observer and should possess the ability to make careful choices. These individuals rely on their own thoughts and feelings when making up their minds. Individuals at this stage learn by watching and listening and prefer to observe carefully before making up their minds. By looking at issues from different perspectives, they examine the meaning of events. At this stage, an opportunity for reflective testing should be provided to the individual.

**Abstract Conceptualisation:** It is more important at this stage of the learning cycle for the individual to use logic and ideas, rather than emotions, to understand problems

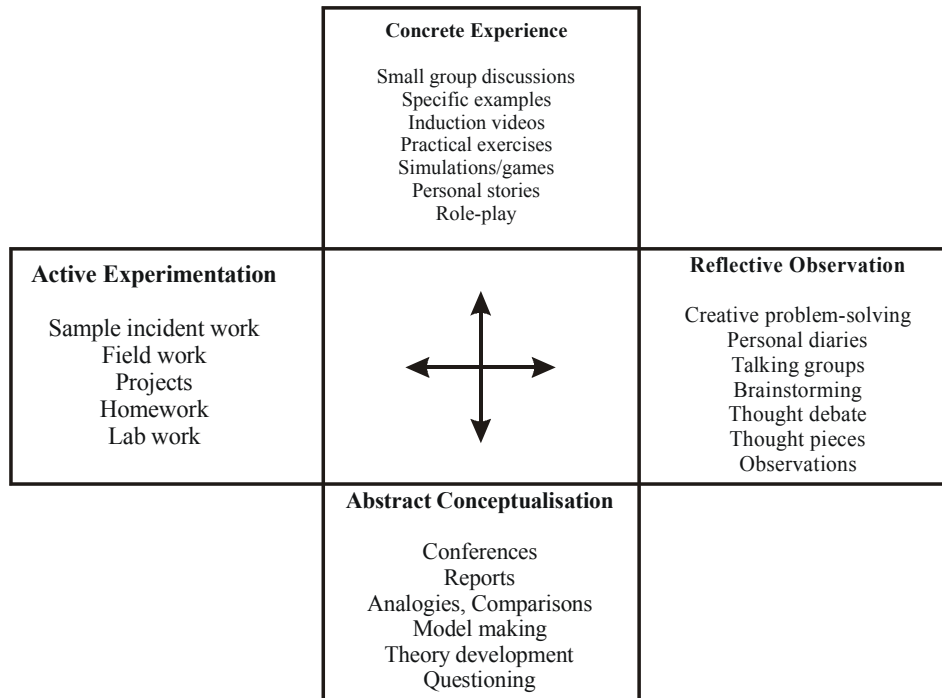


Fig. 3: Educational activities that support the different perspectives of learning types. (Adapted from: Svinicki and Dixon, 1987, p. 142).

and events. At this stage, the individual develops theories to solve problems based on systematic planning. Individuals here analyse ideas, make systematic plans and take action in relation to the situation based on their own intellectual understanding. The individual at this stage requires time to examine the information presented to him.

**Active Experimentation:** At this stage of the learning cycle, it is important for the individual to affect his surroundings and engage in certain initiatives or attempt to change a situation. Individuals at this stage involve themselves in things that they can practically do, rather than simply observe and learn by doing or experiencing. These individuals also have the ability to produce work. This is why doing something and seeing the results of their own effects and creativeness is important for individuals. These people enjoy taking risks to achieve something and they affect people and events with their actions.

According to the situation or the environment, an individual can join the learning cycle by starting at any of these stages. Attempting just one of these stages would be sufficient for learning to occur, but attempting all of them would help the best learning occur.

For instance, an individual wishing to learn how to swim could attempt the choice of steps presented below:

- Concrete experience: tips and techniques into swimming are acquired from an expert.
- Reflective observation: one thinks about how to swim and watches other people as they swim.
- Abstract conceptualisation: one attempts to understand the concept of swimming and its theory.
- Active experimentation: one jumps into the water and attempts to learn by trying.

Some applications describing activities relating to this matter that could be undertaken in class are shown in Fig. 3.

Points received in exchange for answers to the questions inside the learning style inventory developed by Kolb are used to determine the individual's learning style. Aşkar and Akkoyunlu have argued in one study that this inventory could also be used in Turkey [5].

The answers given to the 12 questions in the inventory first determine the individuals' differing choices on the concrete-abstract and active-reflective dimensions, before amalgamating these abilities to determine the individual's learning style and categorise them under one of four learning styles. These styles are as follows:

- Diverging
- Assimilating
- Converging
- Accommodating

According to Kolb, this produces a learning style that combines the individual's abilities; each learning style resides within a different quarter of the learning cycle (Figure 3). Learning style is not a fixed position; it is a different choice used for learning and can change from situation to situation. In other words, an individual does not always learn with the same method. They can use different learning styles for different situations.

It must also be said that there is a long-term stability when it comes to learning style [6]. Therefore, according to Kolb, based on an individual's learning style inventory results, the individual in question could use the same style for years without changing it. The learning style of a 60-year-old shows similarities with the style adopted by the same individual aged 20. But to accept this particular thought put forward by Kolb, very long-term studies must be undertaken.

This approach from Kolb has been a source of inspiration for many researchers developing different learning styles. There are many learning style theories in existence today and some are used widely. For instance, while in the United States the Dunn, Dunn and Price Learning Styles Inventory is widely used in primary schools, in Britain both Kolb's Learning Styles Inventory and Honey and Mumford's Learning Styles Questionnaire are widely known and used. Some of the most effective learning style models are as follows:

- Allinson and Hayes's Cognitive Styles Index (CSI)
- Apter's Motivational Style Profile (MSP)
- Dunn and the Dunn model and Learning Style tools
- Entwistle's Approaches to Study Skills Inventory for Students (ASSIST)
- Gregorc's Mind Style Models and Style Delineator (GSD)
- Herrmann's Brain Dominance Instrument (HBD)
- Honey and Mumford's Learning Styles Questionnaire (LSQ)
- Jackson's Learning Styles Profile (LSP)
- Kolb's Learning Styles Inventory (LSI)
- Myers-Briggs Type Indicator (MBTI)
- Riding's Cognitive Styles Analysis (CSA)
- Sternberg's Thinking Styles Inventory (TSI)
- Vermunt's Inventory of Learning Styles (ILS)

It is natural for there to be a series of similarities and differences between Kolb's approach and those of other researchers. For instance, according to Honey and Mumford, a student does not prefer just one style of learning; some prefer to use a number together. In contrast to this, Dunn and Dunn have argued that a learning style is like a fingerprint and cannot be changed [7]. But the thought shared by all of the researchers listed is that it is rather hard to teach a student anything without knowing the learning styles of those students.

To approach the subject purely from an educationalist's view is to restrict the subject's importance. It is important for individuals to be aware of their own learning styles and knowingly act in accordance with this for them to be successful in both their private and professional lives.

Taking individual differences into account and knowing the learning style of the students has become an important condition of effective teaching in the information age we live in today. Teachers need to know how individuals perceive and interpret knowledge and how the act of learning occurs and to know how knowledge is stored in the mind and how forgetfulness occurs, so that they can plan their teaching activities more effectively and increase the productivity of the teaching-learning environment.

According to Kolb's theory of learning, there are certain conditions that must be taken into condition regarding the learning styles of individuals. Knowing these and to plan how to teach, will guide the teacher on how to reveal or uncover the students' potential and increase their performance.

**The Diverging Learning Style:** Individuals possessing this learning style have dominant concrete experience and reflective observation abilities. They perceive knowledge through the concrete experience method and process it through the reflective observation method. They have the ability to see concrete events from many different perspectives, but prefer to observe rather than act. Finding paths resting on a renewable, powerful imagination in order to do something is very important for them. They are good at identifying problems and gathering information on problems and are aware of people and the feelings of people. They enjoy group work based on cooperation, such as brainstorming, as well as creating and discussing ideas on certain matters. The questions that such students ask tend to begin with the word "Why?" Teachers of students with this style of learning need to be good guiders and motivators in order to be effective over them.

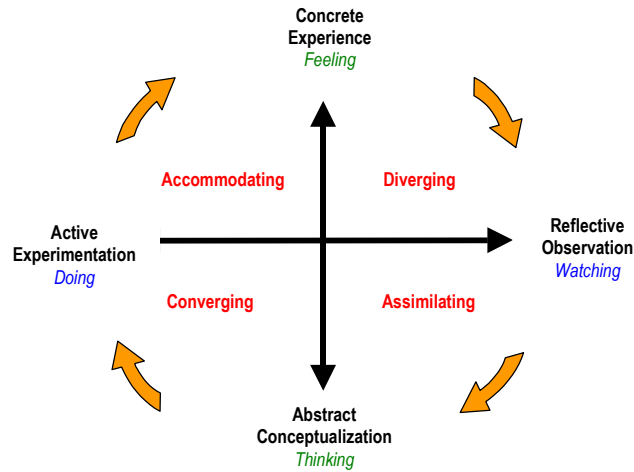


Fig. 4: Learning styles according to Kolb's theory of learning

<b>Concrete Experience</b> <i>Feeling</i>	
<p><b>Accommodating</b></p> <ol style="list-style-type: none"> <li>1. Carrying out unstructured tasks,</li> <li>2. Commitment to targets</li> <li>3. Opportunity seeking and acquiring,</li> <li>4. Affecting others and leadership,</li> <li>5. Personally integrating with society and becoming involved in matters related to them.</li> </ol>	<p><b>Diverging</b></p> <ol style="list-style-type: none"> <li>1. Collecting knowledge by unfamiliar means</li> <li>2. Acting in a manner unique to one's self</li> <li>3. Answering open-ended questions</li> <li>4. Individualised learning</li> <li>5. Fashioning applications</li> <li>6. Making lack of clarity apparent</li> <li>7. Openness towards listening</li> <li>8. Awareness towards values and emotions</li> </ol>
<b>Active experimentation</b> <i>Doing</i>	<b>Reflective Observation</b> <i>Watching</i>
<p><b>Converging</b></p> <ol style="list-style-type: none"> <li>1. Creating new paths in thought and application,</li> <li>2. Applying new ideas to experiences,</li> <li>3. Choosing the best possible solution,</li> <li>4. Identifying targets,</li> <li>5. Making decisions.</li> </ol>	<p><b>Assimilating</b></p> <ol style="list-style-type: none"> <li>1. Organising information,</li> <li>2. Creating conceptual models,</li> <li>3. Testing ideas and theories</li> <li>4. Picturing experiences</li> <li>5. Solving quantitative data</li> </ol>
<b>Abstract conceptualization</b> <i>Thinking</i>	

Table 2: Basic principles of learning styles (Adapted from: Riding, Richard J. and Rayner, Stephen G. 1998).

**The Assimilating Learning Style:** Under this learning style, individuals have dominant abstract conceptualisation and reflective observation abilities. They perceive knowledge through abstract conceptualisation and process it through reflective observation. They can combine and integrate many different observations and thoughts. For this reason, they enjoy thinking with inductive logic and develop models and theories to this regard. They enjoy thinking of abstract ideas and concepts,

creating alternative solutions and designing projects and experiments. They also enjoy analysing quantitative information and a systematic approach, as well as detailed explanations and computer-supported education. For these students, the questions that must be asked begun with “What?” and, provided they are given sufficient time, can give good answers. Teachers of students with this style of learning need to be an expert or a consultative authority in order to be effective over them.

**The Converging Learning Style:** These individuals have dominant abstract conceptualisation and active experimentation abilities. They perceive information through abstract conceptualisation and process it through active experimentation. They attach importance to applying ideas in practice and problem-solving. They enjoy taking decisions, solving problems and applying ideas in practice. Rather than interpersonal matters, they prefer solving technical problems. When it comes to activities in which they could participate, they enjoy watching the details of steps of the activity being explained and participating in activities that have clear and attainable goals. They learn well in environments where they know they will not be outcast for being unsuccessful and are not afraid of making some kind of mistake. Questions asked by these students begin with the question “How?”; teachers of students with this learning style should be a good coach over such students, they must guide them during activities and must offer feedback regarding the results.

**The Accommodating Learning Style:** These students have dominant concrete experience and active experimentation abilities. They perceive knowledge through the concrete experience path and process it through active experimentation. They are successful at harmonising themselves with changing conditions. In similar fashion to learning by discovery, they are successful at solving problems in the event of an instinctive trial mistake. They can comfortably form relations with other people. They enjoy taking part in group work with participatory activities, finding solutions, taking risks, sharing information with ours, class discussions, debates and presentations. Students of this learning style do not like formal and authoritarian structures. When working with others, they act as the group’s leader. They enjoy role-play, description and reciprocal interaction. These students will want to apply what they have learned in class in order to solve problems in real life. The questions that must be asked for these students begin with “If... or let us imagine...?” Teachers of students with this learning style must not be an obstruction for these students so as not to hinder their success. They must not interfere in their affairs and during activities must observe from the outside as much as possible, giving ample opportunity and creating a suitable environment for the students to find something by themselves.

According to Kolb’s styles of learning, some of the basic points that must be taking into account when planning, organising, applying and evaluating learning styles are presented in Fig. 5 below.

**Roles of the Teacher According to Kolb’s Theory of Learning:** While preparing teaching activities, there are some principles to which the teacher should pay attention. According to Senemoğlu [1], these can be collected under three headings:

- Learning principles according to student characteristics,
- Learning principles according to content,
- Learning principles according to teaching activities.

Learning styles is one of the student qualities that affect the learning process. For this reason, it is important for the teacher to be aware of the learning styles of students in the class, of how they perceive events around them and of how they respond to these. But people, based on their earlier learning lives, develop a strategy to determine how they learn in certain situations and they don’t always learn with the same method. For this reason, the teacher needs to know the class’s students very well and know which learning strategy they use in which situation. The teacher must plan beforehand the teaching strategy he will use at which point and thus prepare the teaching-learning environment that will ease the process of learning accordingly.

According to Given [8] (quoted by Veznedaroğlu and Özgür, [9]), when students are taught with their preferred learning style, they display the following behavioural traits:

- A significant statistical increase in positive attitudes towards the teaching,
- An increase in acceptance of what is different from one’s self,
- A significant statistical increase in academic achievement,
- Positive development in in-class behaviour and discipline,
- Greater inherent discipline in completing the homework.

When a teaching-learning environment suitable to learning styles is prepared, aside from increasing the students’ academic success, progress has been recorded in developing position attitudes towards other and developing one’s own inherent discipline. For this reason, one of the most important tasks for a teacher is to prepare a suitable teaching-learning environment.

A teacher aware of his students’ individual differences will take their learning styles into account and plan his teachings accordingly. In his subsequent

teaching activities, he will encounter students with different learning qualities and will organize his teaching activities to meet their needs.

In this process, according to Kolb's four learning styles, the teacher must form the class working groups beforehand, determine which students will form a group with whom and choose the suitable tools and devices that will be required. The teacher must determine the roles he will adopt during that time. Knowledge of learning styles will help the teacher carry out his role of leadership in the class. Some of these will be referred to below.

**The Teacher's Roles According to the Diverging Learning Style:** For students of this learning style, the teacher must first of all be a good motivator. As a visionary leader, the teacher must determine an attractive vision, form the necessary strategy to achieve this and present it to the students. By determining targets attainable by every student to their potential, he must bring clarity to any ambiguity. He must convey his vision to all students, form common values and spread these to all. He must demonstrate his confidence in the students' ability to reach their objectives and express his goodwill.

**The Teacher's Roles According to the Assimilating Learning Style:** For students of this learning style, the teacher must first of all be very knowledgeable and expert. The knowledge should be organised for students beforehand and should be of a quality that grants them vision to interpret different events from different perspectives, thus acting as an intellectual stimulant. As this type of student prefers to learn by watching and listening, the teacher must additionally be a good role model, be an example and a source of inspiration. As the knowledgeable individual, the teacher must organise the knowledge organised earlier as choices and must allow the students to test their own thoughts. During this process, the teacher must allow time for some students to analyse the knowledge and come to a conclusion. The ground must be prepared in class for discussions and brainstorming and students should be given tasks to realise the importance of performing well to achieve. This will allow the students to gain trust in their ideas and logic.

**The Teacher's Roles According to the Converging Learning Style:** For students of this learning style, the teacher must be a good coach. It is very important for students of this group for their targets to be laid out openly and in an attainable manner. The steps required to reach these targets should be presented to them in detail and optimism and confidence in the students'

success must be made clear. Another important task for the teacher is to motivate unsuccessful students again, so as to convince them that they can succeed and introduce them to new ideas. Students of this group need direction to advance without fear of making a mistake; they must be left with a positive feeling of themselves, their development and the belief they will succeed. During the activities, the teacher must give guidance to the students, show them a path and provide them feedback on the results. The teacher must learn from and with them. This way, the teacher will help them make their own decisions and find the best solution.

**The Teacher's Roles According to the Accommodating Learning Style:** For students of this learning style, the teacher must use his influence, not his authority. Students of this group do not like an authority leading them, which is why the teacher must carefully observe such students from the outside, but openly display confidence in them at the same time. To satisfy these students' own feelings of leadership, priority should be given to group discussions and group work and they should be provided with new cultural forms to allow them to replicate what they have learned in class in real life. The teacher must build an effective communication with students of this group and, when necessary, should use them to influence and reach small groups in the class. Students of the accommodating learning style can thus act as a leader to smaller groups and become an example that is closer to them. It is very important that the teacher rewards and congratulates students of this group when they are successful. Even small successes should be used to reinforce the belief felt for them, because this will be an incentive for new practical discoveries. Also, in order to awaken strong emotions over these students, they should be united around common values and their commitment to the objective shown by these values should be maintained.

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