A Modified Conceptual Model to Improve Classroom Education with Cognitive Learning

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ABSTRACT

Mind is the body's inseparable part of learning. Cognitive learning is a method that helps students use their brains more efficiently. This is an active constructive and long-lasting process. It encourages learners to take part in classes and learning journeys. This method allows the teacher or student to teach or learn subjects by skills critical thinking and application not by memorization or repetition. The student must learn how to learn through experience and cognitive strategies the student's experience will also affect his behavioural changes. The learning style and process reflect changes in the brain's content, organization and storage of information. Students lag behind their studies because not all of them can digest the same subject, syllabus and taste. The Cognitive Learning Approach involves students who are not engaged in their studies to achieve insight and fulfilment in their learning process. As students gain more confidence in their skills, they can find new ways to engage in learning in the form of groups, debates, answers to questions, etc. The teacher will have a personalized way of teaching that encourages students to get the best results. Here, every student is involved and self-assessed. The tutor should assist students in finding the right ideas and ways of thinking, as opposed to traditional classroom methods. The main goal of this paper is to present a set of cognitive structures for understanding the cognitive learning approach. The paper will also compare traditional classroom approaches with cognitive techniques for the future classroom.

Keywords: Cognitive Skills, E-learning, AI, learning style, cognitive structure, cognitive science, classroom education, personalised learning.

1. INTRODUCTION :

Learning is a continuous process of a child. The child begins to learn from birth to death, morning to night, 24x7x365 days of life from parents, teachers, neighbours and so on. We learn from conversations, observations, thoughts, lectures, speeches, etc [1]. In a traditional classroom, the teacher teaches the subject in active mode and lets the student mug up, memorize and repeat the subjects. The student will participate passively in this learning process. That form of rote learning will not offer a deeper understanding of things, and the learner will not be able to apply them to new situations [2]. Cognitive learning plays a role in teaching in the classroom. The Theory, on the other hand, suggests that students will be able to acquire skills and knowledge to understand new subjects on their own through their past experiences. The theory is concerned with explaining how information is interpreted by learners. Here the brain plays a key role in learning. Understanding brain development will help you learn more effectively. We need to use the best learning methods for each child's learning style, as well as for educators to be trained to empower students to incorporate digital technology in this way. Cognitive theories view students as active objects. The student is engaged internally in the learning process involving memory, thinking, reflection, abstraction, motivation, and metacognition. It makes it possible for students to organize old knowledge, schema and scripts to learn new knowledge [3]. The teacher introduces the student with new information in the classroom to create new knowledge which is the task behind cognitive development and psychology. Cognitive development is a branch of psychology that

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defines learning through the processing of information, reasoning and memory. There, the way of thinking and interpreting information is focused on achieving the goal of cognitive learning in a more effective manner. Students understand new things more easily by comparing them to something they already learn. In this way, the teacher will take the subjects to each student's interest in linking new themes [4].

2. OBECTIVES :

- To find model for students with critical thinking and self-learning.
- To find curriculum to be planned by the tutor on the children in learning.
- To plan cognitive tools and teaching styles to create a platform for cognitive learning approach

3. METHODOLOGY :

The study is performed through the use of secondary data in journal articles, books, reports, chapters, and conference proceedings. The relevant data are gathered and conceptually analysed by proper review of the articles. The own theoretical model for improving future classroom structure is constructed by referring available resources. The model is explained in theoretical terms with its structure and benefits.

4. RELATED WORK :

Learning is an ongoing process in life for humans and should support students to become active, constructive and robust. It improves its ability to think and reason with the knowledge acquired. In the new higher levels of education in the classroom, information technology and information age play an important role. But today's approach to traditional education is one-to-many relationships driven by teachers. The teacher would have dictatorship to deliver the subjects, make the students memorize them by mugging up, write the exams to test student's knowledge. Students are passive students and, whatever their interest, should study general education. The learner is informed only by books and teachers. Students are also unable to learn new things to gain knowledge. This approach lacks critical thinking or derives students' new concepts and decision-making abilities. This leads to the inventing of new learning methods. Child will learn skills and techniques for critical thinking and for linking the topics learned in the class. Not only the student but also the teacher is interested in this research [5].

Parent, instructor, public, nature etc. can be a tutor. But teachers in the classroom should consider the way each student gets the information or subjects whether they are visual learners, auditory learners or both. Teacher would consider the form of affective learning that would allow him effectively remember and apply the new concepts [6]. Therefore, learning is called "learning how to learn" [7].

To build this conceptual model scholarly published article, books, reports, chapters, and conference proceedings of scholar publications are studied and reviewed. Some of the published papers on education with cognitive approach are studied and listed in the table below with references.

Table 1: Researchers contribution to cognitive education.

S.N.	Year	Author(s)	Findings/Focus
1	2005	Mainieri *et al.* [8]	The study found that students have to develop a variety of learning strategies and teaching plan to incorporate all strategies that will enhance the flexibility of reasoning for the students.
2	2008	Georgiou & Botsios [9]	Author suggests constructing a new learning style in students using cognitive psychology to overcome the disadvantages of the present learning style.
3	2010	Evans *et al.* [10]	The application and improvement of cognitive learning styles in higher education is studied on the European Information Network for Learning Styles (ELSIN)
4	2010	Lou& Hu [11]	The student's emotional status, ability and interest will be to navigate to e-learning in order to improve online education quality.

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5	2011	Buchanan [12]	Computer with technology is like human brain could be used with science to enhance the educational cognitive abilities.
6	2012	Marschark & Knoors [13]	The author has proven to find best results in studies by providing best methods of cognitive learning to students with hearing problems through video coaching or visual space class, mentoring and peer classroom observations.
7	2012	Jakobsone *et al.* [14]	To develop personal management skills, the new mode of learning with group of students is formed and effective knowledge is shared within the group for common purposes. These online learning information systems gather knowledge and make use of ICT in presenting knowledge to make the students think and act in a new direction.
8	2015	Kovalčíková I. [15]	The article attempted to find a way to implement the cognitive test at various levels in a qualitative manner with multidisciplinary cooperation on different categories of pupils in order to achieve success in cognitive learning.
9	2016	Miller & Dumford [16]	For higher education to improve, of course, creative cognitive processes are needed. Paper also proved that teaching skill in all students should be creative in promoting mental capacity.
10	2016	Saparkyzy *et al.* [17]	In a student with his joy, self-awareness, mental strength, enthusiasm, it will be possible to transform external aspects of learning process into an inner side of learning. Thus, such cognitive activity involves a set of methods and techniques to transform that of individual co-dialogic student, and vice versa.
11	2017	Shawer [5]	Teacher should plan curricula with learner-centered skills in style by grouping students to pose task requirements and evaluate them at the personal collective level. Courses are taught in conjunction with other subject-related examples and materials to determine the skills and concepts than a specific content.
12	2018	Muwonge *et al.* [18]	The organizational skills and critical thinking are the important factors that help the students to improve their academic performance by contributing the motivational beliefs. Therefore, teacher should focus on improving cognitive learning strategy to boost the student's motivation and performance through it.
13	2018	Mikerova *et al.* [19]	The teaching method should be planned in such a way as to influence the students' level of perception. Student's academic interest is tested and metal development program is planned and implemented based on their interest.
14	2019	Siburian *et al.* [20]	The research has proven successfully that the results of cognitive learning develop critical and creative thinking skills. Hence new strategies to be implemented by the teachers based on cognitive abilities to empower the students' skills.

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15	2020	Obergriesser & Stoeger [21]	Student should enjoy learning and this learning process is made easier for students with dissimilar interests to acquire knowledge. This process is accomplished by improving the competency by repeating similar tasks with appropriate feedback. In this way, teachers should find the teaching methods in the learning process along with plans to avoid boredom which may arise from repeating the same tasks.

5. LEARNING THEORIES :

Learning method has its own learning techniques and approaches to encourage students on their journey. The theories of learning are categorized into Behaviourism, Cognitivism and Constructivism in order to acquire, retain and recall knowledge. New behaviour is learned by acquiring knowledge through the combination of stimulus and response in the theory of behaviourism. Examples of this theory are: repetitive practice, the provision of bonus points for good work, the establishment of rules, etc. Teachers use this theory to reward or punish student behaviour. But this experience will not allow for troubleshooting or critical thinking. Students just follow the teachers' guidelines here. Cognitivism is learning internally through the processing of information. Behavioural shifts are shown to reflect what is happening in their brains. New ideas are developed, stored and will find new skills based on previous memory-stored information. Highlights of his learning include mnemonics, real life problems, classification of concepts, etc. Constructivism can help learners develop their own knowledge on their own experience and knowledge. Whatever the learner has learned and encountered; it will contribute to learning. Here, therefore, each learner has a different set of perceptions of the same learning concept. Such learning will take the new experiences of the learner into their mind. Applications of this theory are case studies, modelling, discovery, brainstorming, etc [22].

6. RELEVANCE OF COGNITIVIST APPROACHES :

Learning and teachers today need a cognitivist approach to learning. All learners should learn from their experience, and their task of cognitive processing must be established. This is what was suggested by Ertmer and Newby in 1993. They also proposed that a behaviorist approach allows the subject to be learned by the learner, i.e. to know what is going to be studied, but a cognitivist approach gives better ideas to solve problems with facts and laws, even with new situations, i.e. to know how to do the job. Constructivist methods are used for ill-defined problems and issues [3].

7. TYPES OF COGNITIVE LEARNING :

There are 13 types of cognitive learning which are listed below [1].
1. **Implicit learning**: When you learn knowledge and skills without knowing it, it's known as implicit learning.
2. **Explicit learning**: When you really want to learn any learning experiences and opportunities this is called explicit learning.
3. **Cooperative and collaborative learning**: Cooperative learning is performed in communities by individual members with the best skills and values. When an instructor gives a definition and information is developed around it, it is called collaborative learning.
4. **Meaningful learning**: A method of cognitive learning that uses inspirational, cognitive and affection dimensions is called meaningful learning.
5. **Associative learning:** Understanding the connection between perceived stimuli and appropriate behaviour is associative learning.
6. **Habituation and sensitization (Non-associative learning):** People must unknowingly adapt themselves to the unexpected things that happen in their daily lives. Day after day, the undesired thing that happens to life is insignificant or desensitized, and very rarely is it called non-associative thinking.
7. **Discovery learning**: The quest for knowledge based on learning is called discovery learning.

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8. **Observation or imitation learning:** We consider that imitating when we notice someone or something, we've seen in our life is called observation learning.
9. **Emotional learning:** Learning with intelligence to control and balance person's emotions is called emotional learning.
10. **Experiential learning:** The consequence of own knowledge has developed either through activities or directly, teaching a lot of things is called experiential learning.
11. **Rote learning:** With no deeper understanding of information, memorization of things is rote learning.
12. **Receptive learning:** Knowledge learned independently in a passive manner when the information provided by the instructor is likely to be receptive learning.
13. **Metacognitive strategies**: Thinking about thinking is meta-cognitive learning. There, intentionally thinking and planning for learning methods to be used to engage students in the learning experience.

8. FACTORS INFLUENCING THE LEARNER IN COGNITIVE LEARNING :

The pupil may find difficulty in learning process due to some of the following influencing factors:
- Environmental factors may have an effect on the student in his or her studies. The classroom, the curriculum, the books, the instructor, the building of all will matter the learning. Schools must be fitted with educational materials and must provide an atmosphere for education without disruptions.
- The student is supposed to understand the subjects. If he or she finds doubts about subjects or difficulties in knowing the things taught, he or she must discuss them with the teachers by providing feedback on a regular basis.
- Before learning, the student should have a proper mental plan for studies such as subjects which are interested, subjects to be studied, etc. When determined, the aim is set to move forward and, eventually, the learning methods are identified to achieve the goal with the plans established.
- Learner can consider techniques such as attending a class, encoding subjects to mind as information, storing them in memory for a long time, and retrieving them whenever needed.
- Certain variables, such as emotions, opinions, attitudes and values, may also influence the learning process.
- Memory plays a vital role in cognitive learning. Data is sensed and processed in an ordered manner and is needed to retrieve stored information in order to process new data in order to gain new knowledge. Memory should arrange knowledge in an organized manner so that knowledge can be transferred from or to memory in different contexts [1].

9. ROLE OF TEACHER IN COGNITIVE LEARNING IN DESIGN :

Teacher is also equally responsible in cognitive learning. These are the common points to be considered by designers or teachers in the cognitive learning approach.
- Teachers should also educate the learner about their backgrounds or experiences that may have an impact on the result of learning.
- Teachers should better plan their teaching strategies to coordinate their research and to teach students information or knowledge based on their history or experience.
- The instructor will research the cognitive framework of the learner and provide the correct mechanism for giving feedback from the students. This will change the teaching strategies followed by the instructor in presenting the data to the student in an efficient manner by assimilating and accommodating the information [3].

10. COGNITIVE LEARNING STRATEGIES :

The idea of cognitive learning theory had been developed by four psychologists. The theories and methods of learning are first discussed, and in later parts a new model based on this basic cognitive is proposed. When the child starts learning it starts with basic knowledge and progresses gradually in the next stage [2]. Jean Piaget, a Swiss psychologist and cognitive learning theory founder, has proposed an improvement in intelligence from infancy to adulthood. Intelligence is what helps the learner think and

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build knowledge-enhancing structures. The interaction with the world and individual knowledge is progressively enhanced. According to Piaget's theory, the development of knowledge is driven by five key concepts, such as assimilation of schemas, accommodation, balance and adaptation.

Schema: It is the fundamental building block of intelligence. It is an in-house, mental, and physical activity involved in concept learning. They are cognitive structures which enable learners to organize their knowledge. Experiences provide new information for altering, incorporating, or modifying existing schema [23].
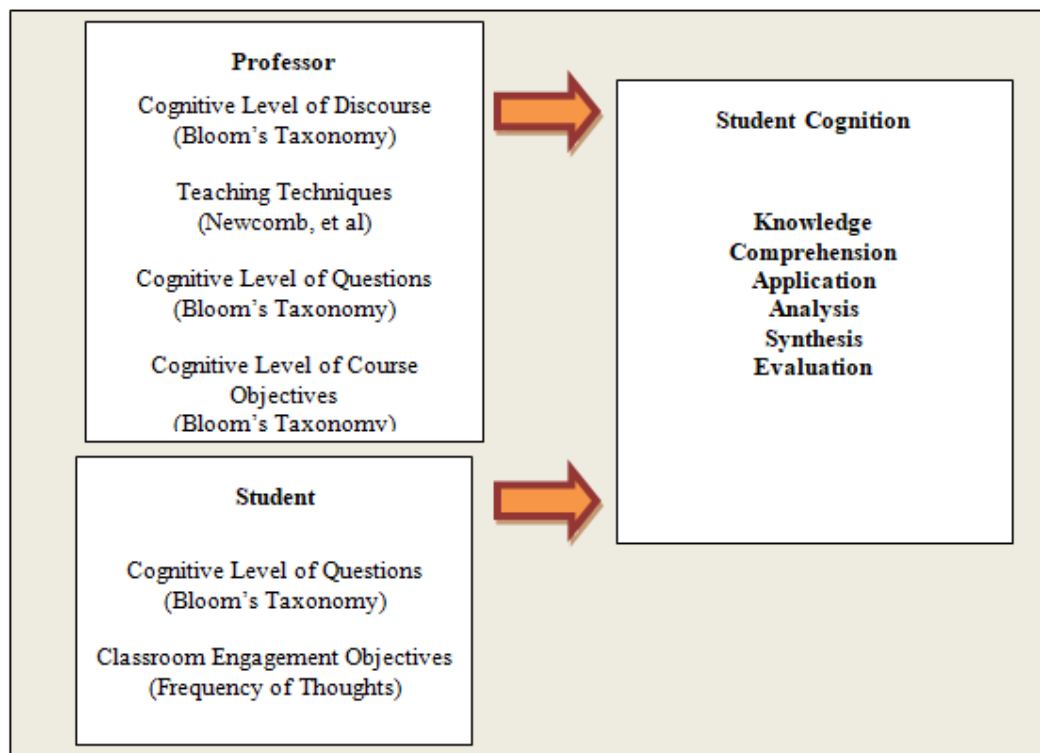

Fig. 1: Conceptual Framework of Proposed Factors Influencing Student Cognition[24]

Assimilation: Assimilation is the attempt to bring new information into the existing schema. Here the child may try using an old item or experience to find new things. Looking at the zebra for example, a child could say it's a donkey. Because the child knows the donkey's shape, and notices that the zebra is looking the same pattern.

Accommodation: It is accommodation that derives the new information or experience from altering existing ideas or the schema. Sometimes, this process develops a new schema, using the previously acquired knowledge. The child will learn that the zebra looks like a donkey but has some other features. As a consequence, even though the form is the same, the child differentiates zebra and donkey as distinct. This is where learning by accommodating skills is done.

Equilibration: That is the balance between accommodation and assimilation. To account for new knowledge, cognitive development requires maintaining a balance between applying old knowledge and changing or mastering behaviour. Disequilibrium often arises when new information does not match or fit within an established schema (assimilation). Consequently, equilibrium moves one step further along the path of learning to progress.

Adaptation: External objects, ideas, or information is internalized into memory during the learning process. Assimilation and adaptation are two sides of adaptation, or an inseparable aspect [25].

Learning goes through 4 main stages, Sensorimotor Stage, Preoperational Stage, Concrete Operational Stage, and Formal Operational Stage, according to Piaget's theory. It is therefore very important to learn to teach staff to organize a course session. That new information to be presented will expand upon already gained knowledge. Teacher should start with basics (first stage) and become masters in that subject. Then

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teach new things progressively to change the scheme to move students through each stage. Materials required for learning are provided in a certain logical order. Additionally, appropriate teaching techniques to be implemented at the required stages for the learners. Teachers should allow the learners in the learning process to comment or ask questions. All students must actively participate in cognitive learning in classroom, even if they are poor in intelligence. By improving their non-dominant intelligences, they should utilize their dominant intelligence. Teachers should understand and incorporate various cognitive learning styles to turn students into active learning participants, not as programmed animals [26].

Another educational psychologist, Benjamin Bloom, has proposed a hierarchical approach to Bloom's taxonomy for cognitive learning. It has 6 learning stages. They are:

Remember: The process of studying knowledge and facts, updating them whenever necessary and reproducing what they have learned is called remembering.

Understanding: The ability to understand the information that has been learned to deliver, summarize, etc.

Applying: This is the method of obtaining new information on the basis of the experience acquired.

Evaluation: Information is evaluated in order to take a further step forward in the learning process.

Creating: To find new ways of viewing things in the form of inventions and construction in order to produce or design a new object [26].

11. COGNITIVE LEARNING FUTURE CLASSROOM MODEL (CLFCM) :

A new model based on existing Piaget's learning is theoretically presented in this paper. This cognitive learning paradigm focuses on learning with affective computing to identify the cognitive level of learners. It also introduces cognitive structures to define cognitive tools and cognitive learning strategies to provide knowledge with a cognitive learning approach. Figure 2 shows the learner model for processing information using memory and retrieval methods. The data is provided by the teacher in the classroom (Figure 3) to the student in the classroom. He may be aware of the prior skills of the learner so that the building blocks of knowledge can be properly structured. The student's emotions called affective information are calculated to apply teaching strategies as shown in Figure 4. When a teacher (may be a human being or a cognitive tutor (intelligent machine) enters the classroom, the student's emotions are studied by their gestures or facial expressions [27]. If he finds that students are interested in subjects, the class will be taught in the classroom. Initially, he prepares teaching materials for the learner and provides them in a logical order at the appropriate time. Teaching materials are also supportive knowledge of student domains that may include text, images, audio, video or projects that help teachers deliver subjects to students. It is structurally organized and retrieved by students for optimal use. Apprentices should be made interactive and encouraged to ask questions or feedback in order to restructure the materials and strategies used for learning [28-30]. In the classroom, the tutor must provide observational and visual learning using hypermedia and multimedia tools. Practical demonstrations, illustrative examples and non-matching examples are given to identify the assimilation and adaptation of things. This will enhance the knowledge of the learner to link old knowledge to new knowledge in order to find new ideas. Teachers must provide a means of storing, preserving and retrieving knowledge from memory. New concept maps are built based on student feedback or results to improve teaching strategies [31]. Cognitive learning strategies such as outlines, summaries, rehearsals, tests, questionnaires, discussions, group discussions, games, etc. are planned using cognitive tools by tutors. Teacher makes students play an active role in the classroom with confidence, self-efficacy and meta cognition. Every teacher is responsible for building the student's knowledge of his or her abilities. Teacher builds skills such as logic, reasoning, visual, auditory, and mathematical, etc. for students to solve unfamiliar situations by using the problem-solving applications studied in the classroom. This makes it possible for the learner to gain knowledge to move forward with the next higher stage of learning [3], [27], [32].
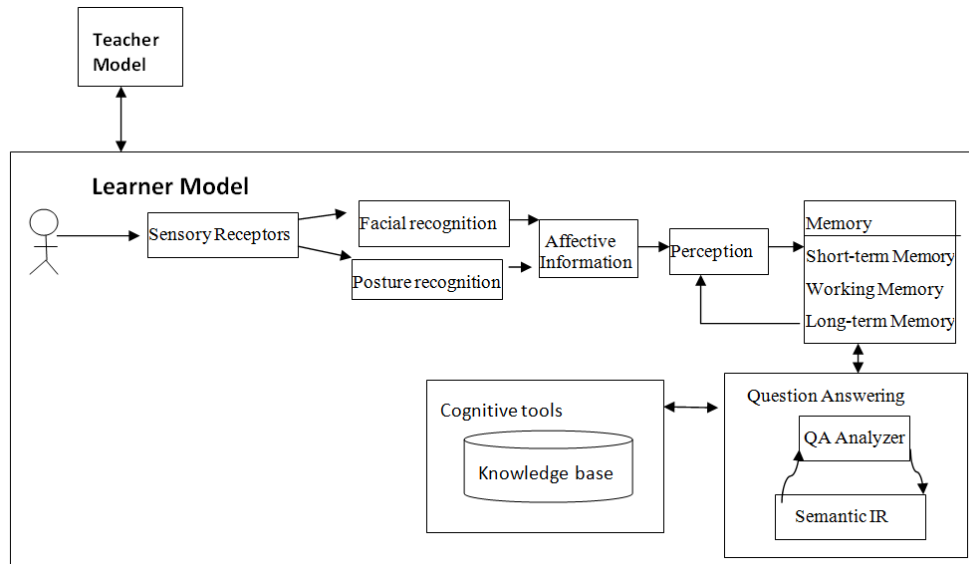
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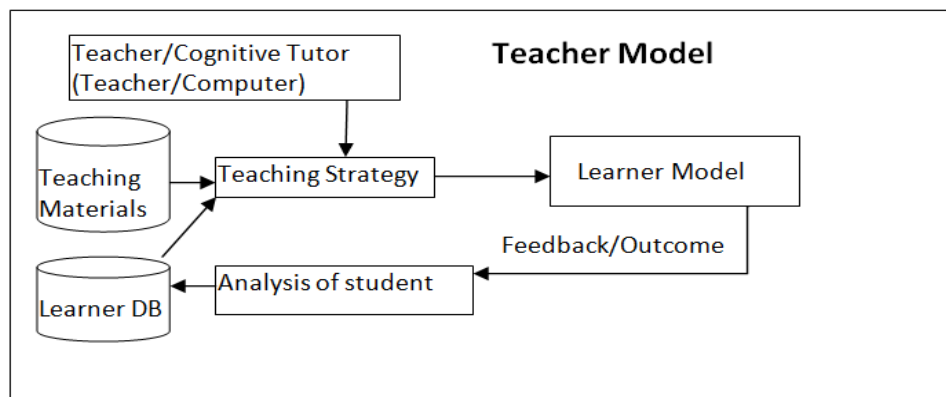**Fig. 2:** A conceptual model of learner in cognitive learning approach

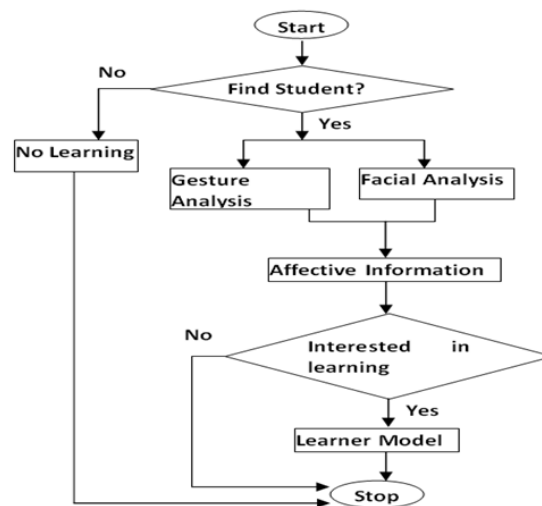**Fig. 3: A conceptual model of teacher in cognitive learning approach**

Fig. 4: Testing of student emotion to apply teaching strategy

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The learner model learner acquires knowledge from internal and external sources. Five sensory organs are used in the class, lecture or information taken into account in the form of student signals. Teaching may include auditory (ears), visual (eyes) and tactile (skin). If his brain signals that subjects are interesting, he shows a positive approach to the class [33]. Now his attention is on the teacher to take knowledge into his memory. The next component of the model is memory consisting of three forms: short-term memory, working memory and long-term memory. In the short term, memory information is processed and stored for only a few seconds. Working memory is a conscious memory that encodes and decodes information between itself and long-term memory. Long-term memory storage and retrieval subsystems are used to acquire knowledge and, in turn, to use knowledge. The storage subsystem helps store the collected knowledge in memory in different formats and the retrieval subsystem uses cognitive abilities to use the acquired knowledge. Declarative, procedural or contextual knowledge may be the knowledge stored in memory [34]. Each type may represent different memory components in action. They give functions such as what, how, when and why the rules, concepts and principles to be applied to memory-stored knowledge [35]. Here, students begin to think and apply strategies to retrieve knowledge to process perceived information. Thinking strategy involves; (1) recalling the memory to select the matching schema with new information by mapping,(2) problem solving technique on the other hand requires assimilation and accommodation together to integrate the new information with old knowledge in memory,(3) creative thinking, which uses brain or cognitive ability to build new knowledge which is not stored in memory along with adaptation of knowledge. Here individual student intelligence may take the role in creativity of information processing [36].

12. COMPONENTS OF CLFCM :

Cognitive tools: These are computer devices or software intended to assist cognitive processing. They assist teachers and learners in the field of education in the delivery of knowledge. Critical thinking and cognitive learning strategies are activated by the optimal use of this tool. This environment in learning will create intelligent tutoring systems to activate learner cognition towards engagement in the classroom and skill set. It will also help the student to construct the knowledge rather than reproducing the information. Therefore, cognitive tools provide a way to learning with technology rather than knowledge from technology [39]. Semantic networks, spreadsheets, expert systems, databases, multimedia applications are the best cognitive tools assist in the classroom in learning to amplify thinking capability of learner [39].

Roles of cognitive tools: These tools are classified into four main categories with specific technologies in an educational environment. They are, (1) information seeking, (2) information presentation, (3) knowledge organisation and (4) knowledge integration. If learner wants to retrieve information may use technologies like search engines, databases developed through MS-access, SQL, and oracle, etc. Information presentation tools will enhance quality of the information with meaningful representation. For example, graphics organizer, PowerPoint presentation, word document etc. A graphic organizer is used in visual learning to improve thinking abilities towards the improvement in the performance in learning. It provides visual display to demonstrate relationship between concepts and ideas. Visual map or diagram such as concept map, mind map and web map are drawn using this to enhance visual learning strategies to understand the subject matter content. They play as instructional tools. Teaching strategies may include concept maps to create learning modules to assist students to organise information and identify connections. Knowledge Organization allows students to link information one another to build or rebuild new structures [31]. Each learner has verbal and visual information processing system. Auditory narration and animation take part in these two systems respectively. Using multimedia, the learner is engaged in three cognitive processes: selecting, organizing and integrating information. That is incoming verbal information is applied first into incoming visual information model. Then text and image required to present the information are organized together. Finally, connection between word and image are built to integrate the information to build a knowledge given in the classroom with multimedia. It is always better to present information with words and images simultaneously to provide knowledge. The words presented in the class should be auditory narration rather than visual-text on screen along with images. Multimedia classes will help the slow learners and speed learners to understand the knowledge with same speed. Speed learners will improve knowledge by creating their own mental image on brain

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just by listening the class and slow learners gain the knowledge by listening and visual image together on screen [31]. Knowledge organization is meant to describe, represent, and organize the documents, subjects and concepts by teachers, students and computer programs. Structuring and restructuring the information can be done by students to relate information using cognitive tools. Tools used here are Inspiration, Hyper Author, Word document, etc [40-42]. These cognitive learning tools help the student to build mind maps and visual thinking. It assists to take notes, organize information and structure writing to implement the thought of student in written form. It provides presentations from mind maps and outlines to exhibit the knowledge. Organizing knowledge can be done using AI techniques or other computer programs too. This will improve information processing by avoiding much time in searching and testing huge amount of information in memory [43-44]. Knowledge Integration tools will connect new information one another to build the large array of information based on prior knowledge stored on memory [45]. Online discussions, Simulation software, teleconference, video streaming, mapping tools and podcasting are the commonly used cognitive technologies for integrating knowledge acquired by the learner. Podcasting is a cognitive tool used by teachers to share ideas and suggestions. This method of learning develops listening skill of students. To create educational podcast, teachers must select a proper content includes main concepts to make the student to listen subjects with interest [46-47]. Course content and learning activities may be the part of podcast to improve the learning. Teachers have to explain their classes through interviews, dialogues etc to the podcast. Podcasting can be used in traditional and distance education in multi dimension to educate students [48]. Whereas simulations are instructional or experiential earning helps learners to get experience with the topic before real world implementation. It makes better understanding of information in learning. Some of the cognitive tools like teleconferences, video streamings are used in distant learning.

13. ADVANTAGES AND LIMITATIONS OF CLFCM :

The mood, actions, environment, area of interest, experience, intelligence and skills of student will take on the major role in this proposed model. Teacher will take the responsibility of reaching the subject contents to the students or learner based on the student behaviour. Therefore, in this model, both learner and instructor take the lead role equally. It has a list of benefits and disadvantages below:

ADVANTAGES
- One-to-one relationship with the teacher and the student will be established in the classroom. It increases the student's continuous progress in his studies.
- Teachers should evaluate student behaviour, such that conventional teaching techniques and approaches are often tested for further development.
- Because cognitive devices are teaching aids, learners should often interact with subjects in the classroom. This facilitates personalized learning.
- Performance and result for the students would be higher.
- Learner acquires competencies in decision-making and critical thinking.

LIMITATIONS
- This model necessitates advanced classroom technology and software as resources. This installation will impact model cost.
- Teacher needs extra time and energy to evaluate large, multi-dimensional student data collected by sensory receptors to enhance the classroom's teaching environment.
- The cognitive learning approach needs more teacher training to control student attitude and class participation behaviour.

14. DISCUSSION & FUTURE WORK :

The theoretical model is designed and proposed in the classroom based on the theory of cognitive learning. The proposal is prepared by referring to existing work, scholarly published papers, projects and models on cognitive education, contributed over the last 15 years by different psychologists, authors and researchers. Cognitive education encompasses two main components: teachers and students. The challenges of traditional methods of learning are personalized learning, diversity in student interest and potential, the capacity to grasp subject matter. Cognitive skills differ from one student to the next. Some

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are good at listening and some are good at the visual classes. This model is proposed to overcome from limitations of the traditional approach to learning. Development of skills and knowledge are educational goals for building future for students. Better outcome of student academic performances are experienced with cognitive tools, such as new technologies, hypermedia tools in teaching and learning. This is demonstrated in many of the research papers that are being applied to university students, education sectors around the world. In research papers, variety of solutions, possibilities, requirements and their outcomes are demonstrated at different levels of education. This could include artificial intelligence, big data, and machine learning with powerful platforms for students to analyze and develop cognitive skills to build their career in education.

This article introduced cognitive learning future classroom model, a modification of the existing model. It comprises two sub-models one for teacher and one for student or learner. Theoretical model is proposed by combining ideas from various contributors of the cognitive learning model of Piaget with other models of learning. Future research to be built on future cognitive education in the classroom will combine needs, ideas, learning strategies and skills with new, emerging teaching and learning technologies. This includes also the modification of the classroom infrastructure to incorporate new technologies in education. In this learning approach training is compulsory for teachers, students and parents. Estimating the time and cost involved for all of these in terms of the benefits of this new approach will also be necessary.

15. CONCLUSION :

Every individual is different in cognitive learning, which is why it takes an array of learning styles to help all of your students achieve their academic potential. The program is designed and adjusted based on mood, actions and interest. Teacher may use cognitive devices as teaching aids to make the student more involved in learning the subjects. Using cognitive methods, students may be more focused on subjects with more engagement than the current scenario. With teachers and resources, they are free to ask questions and answers. Even there are some drawbacks of using this proposed model, as the advantages would overpower technology which improves extra costs. Student gets more benefits than the problems found in it. That certainly would increase a student's standard in his studies.

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