Deep Learning in Education

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Abstract: Deep learning can be defined as the process through which an individual becomes capable of taking what he learned in one situation and applying it to new situations. The concept of deeper learning has gained momentum among educators as a means of better preparing students for college and career. Deeper learning strategies promote transfer of knowledge through project –based learning and internship project –based learning which creates connections across what students are learning in different disciplines and helps develop collaboration skills.

Keywords: Critical thinking, Communication across subjects, lifelong learning, Intrinsic motivation.

Introduction

The man intent of this is paper is to present deep learning in education covering its meaning, definition, importance and characteristics skills, that can be carried out by both students and teachers, besides its different competences. Deep learning   builds connections between new and old knowledge, it Focuses on core concept of problem-solving and helps learning to be autonomous and capable of applying learning knowledge to practice. To start with the definition of Deep learning it examines new facts and ideas critically and tying them into existing cognitive structure and making numerous links between ideas. Its goal is contributing to positive impact on the communication and development of the whole person with specific attention to mercy values.

When engaged in deep learning, students think critically and communicate and work with others effectively across all other subjects which aids in fostering lifelong learning.

Looking for meaning and focusing on the central argument or Concepts needed to solve a problem, besides interacting actively and making connections between different modules, relating new and previous knowledge by linking course content to real life.

These characteristics of Deep learning have an impact on both students and teachers. It encourages students to be intrinsically curious about the subject, being determined to do well and mentally engage when

doing academic work, having time to pursue interests through good time management and positive experience of education leading to confidence in ability to understand and succeed.

As for the teachers, it aids in showing personal interest in the subject, by bringing out its structure concentrating and giving ample time for concepts and engaging students in active Learning.

In deep learning teachers' duties are to use assessment that requires thought and requires idea to be used together relating new material to what student already knew and understand, in addition to being consistent and fair in assessing declared knowledge in intended learning outcomes.

Researchers in deep learning show how learning should be a vehicle in the classroom the student again complete knowledge without is the burden but only for the teaching to be more fun. Brain -based on theories that restrict Concepts about how to solve and knowledge about learning technology contribute to the overall learning of computer.

A theory that helps understand the topic of deep learning is creating the environment that support brain development which is also is considered a complex task, expertise in the field of neurology and education agreed that child's physical and mental development should be considered as integrated Factors when building. On an environment suitable for learning. Many of the environmental factors important to brain functioning are the quality of social environment and interaction and nutrition which are overlooked in its impact on education. In this connection, it is important to take advantage of the brain's potential facilitate the learning process. Emotion and cognition work together to guide the learning process.

Some theories that have an impact on deep learning encourage teachers to build adaptive conviction by speeding knowledge about facts, and concepts of the subject in questions. They know how to deal with problem solving, including the ability to decompose problems and find a solution through systematic approach to the task.

Knowledge about their own cognitive functioning, this means students should be aware of their attitude and motivation towards learning will affect the outcome.

The importance of education of deep learning in education lies in the fact that it helps students think critically and communicate and work with other effectively across all subjects. Students learn to self –direct- their own education and adapt "academic mindsets" as they learn to be lifelong learners.

To continue focus on the topic of deep learning in education, one must refer to and discuss the 6 powerful strategies for deep learning in the classroom.

The first strategy is concerned with creating a community of learners by developing strong school Communities which is essential for students. To solve from playing a passive role in their Education to being active, self-directed learners and establish norms for constructive feedback, and reflection and design the building to reflect on an environment that promotes opening and collaboration.

The second strategy is to compose which means to activate students to lead their own learning

Active and meaning full education experiences are critical in helping students reach deeper learning goals. Schools that embrace deeper learning objectives emphasize inquirybased learning that is geared towards working actively and productivity.

Contextualizing as using the human themes is the third strategy. Evidences supports the fact that learning becomes more meaningful when the materials in different subjects are connected.

The fourth strategy which is reaching means reaching beyond classroom walls help provide students with A more holistic learning experience.

Inspire: personalize the learning is the fifth strategy which deals with the idea that finding the spark a subject idea, or a project that makes student light up – is the key to personalized learning experiences for individual students.

The sixth and final strategy is wire which stresses the fact that to make technology servant not the master.

Deep learning incorporates technology purposefully to enhance, rather than automate learning this happens in the several ways among them, using programs and applications that build students research, and critical and thinking is Skills, offer digital methods to design projects, collaborate and communicate within the outside of the school.

In addition to the afore mentioned deep learning strategies, the author of this paper would add a fundamental point namely deep learning competency.

A main competency is content expertise which shows students develop key competencies skills with ample opportunities to apply knowledge and engage in activities that matters to them.

Collaboration also as a competency stresses the fact that Students co-design projects with peers execute shared discussion making conflicts, and assume leadership roles.

Critical thinking and problem-solving indicate as competencies that students consider a variety of innovative learning approaches to understand complex questions.

Effective Communication is another competency that students practice listening to understand communication with empathy and share their learning through reflecting on their work.

Self-directed learning as a competency indicates that most students use teacher and peer feedback and self-direction to monitor and directed their own learning while building self-knowledge both in and out of the classroom.

Academic mindset as a competency aids students to establish a sense of place identity and belonging to increase self-efficacy while engaging in critical reflection.

Other themes that are closely relevant and part and parcel of deep learning is the idea of its relation to teacher education programs, preservice teachers and community used approach to language teaching.

Research in teacher education has shown that among prospective teachers, teacher candidate who have a deep orientation to learning potentially develop deeper content knowledge.

Teachers thinking and motivation related to professional learning and instruction is a key consideration in successful education system.

The relation between teacher's motivation level and improved foreign language learning has not been well dealt with in some studies.

In teacher training workshops, instructors often ask what is the difference between projects -based learning and deep learning- first, the project should have input from Student otherwise it would trigger intrinsic motivation.

The deep approach uses projects in a very special way. It used projects for organizing instruction organized as follows; movies which mean the different version of videos with English subtitles.

Pedagogy means PDF file describe pedagogical use of video for each thematic unit. The addition to reading and writing and oral exchanges.

Scaffolds and advanced Organizers are used as accompanied by preparatory materials such as glossary, grammar, Scaffolds and summarize.

Some teachers in a study were asked to reflect on their experiences. Several teachers understood how learning video contribute to their instruction al sitting.

Another instructor explained how the design of materials sustained student interests. All instructor found that the availability of the new learning models was possible to be used and implemented.

The analyses of the teachers thinking behaviors revealed that the negotiation of whether a new approach can be implemented begins new approach can be implemented begins in the minds of teachers and that teacher's resistance to changes in foreign language teaching is not come on. objectives are old to Direct the language class into a well-organized one. All teaching activities should be surrounded by effective teaching subjective, and taken deep learning into consideration. They reported that by and improving learning autonomy of the students, they are able to construct and integrate their own knowledge system, deepen their understanding of declarative and procedural knowledge, improve abilities and learn and cultivate lifelong learning habits. When using cooperative inquiry method students will follow teacher's steps to achieve deep learning and make use of inner learning motivation and so on.

Deep learning with authentically is a condition that aids learners to better achieve in an authentic learning environment. Even though the primary knowledge could help learners provide scaffolding, reflection is still needed to master deep learning knowledge and complex concept, creating authentically to achieve deep learning for students

The authors proceeded to clarify the conditions of English teaching in senior high classrooms showing that the new English learning curriculum are categorized the foreign language strategy into several parts, normally they are the cognitive strategy, monitoring strategy, communicative strategy are the steps for students and method activities, monitoring strategy and resource strategy, etc...

Cognitive strategy is the steps and methods for students to accomplish specific learning activities, mentoring strategy is a kind of strategy when student plan, implement reflect, assess and adjust   learning process and outcomes. Communication strategy is a collection of strategy used when students are fighting for more communication chances, sustain and improve their communication.

Besides the study on effective teaching strategy related to Deep learning showed that effective teaching objective are able to direct

the language class into a well-organized one which serve as an anticipated learning outcome of implement high school activities all teaching activities should be surrounded by effective teaching objectives and taking deep learning as consideration.

According to the deep learning theory when related to students Outlook to learning English in high school, they should be able to construct and integrate their own knowledge system deep understanding of declarative knowledge and improve abilities to cultivate lifelong learning habit.

To end this point, it is essential to teaching assessment and reflection as specific standards for examining deep the learning, which deals with high order thinking. Good assessment and reflection will provide feedback immediately and service as advisement and monitoring for students learning process and outcomes.

Students would be more focusing on the procedural assessment, when learning deep which shows that the students' knowledge has been deepened, critical thinking has formed and self-reflection has been given.

Based on extensive interviews with experts in the field and a review of the relevant literature, the William – Hewlett foundation identified six dimensions of deeper learning, which have collectively become the focus of a national initiative to promote deeper learning in schools.

These Dimensions are

- Mastery of core academic content
- Crucial thinking and problem solving
- Effective communication
- Ability to work collaboratively
- Learning how to learn
- Academic mindsets

The authors taking a slightly different approach, define deeper learning as the process through which an individual becomes capable of taking what was learned in one situation and applying to new situations.

Hewlett foundation and the NRC provided the competence associated with deeper learning as fall into three main domains:

1- Cognitive domain which means deep content knowledge and critical thinking and complex problem solving.

2- Interpersonal domain which includes collaboration and communication

3- Intrapersonal domain which encompasses learning to learn competencies and academic mindsets.

The concept of deeper learning has gained momentum among educators as a means of better preparing students for college and career.

Strategies to promote learning in network schools.

In the cognitive domain the strategies to promote mastery of core academic content and critical thinking skills.

They defined core academic content as the ability to develop and draw from a baseline understanding of knowledge in an academic discipline and to transfer knowledge to other situations.

They proceeded to define critical thinking skills as the ability to apply tools and techniques drawn from core subjects to formulate and solve problems.