

## A STUDENT-CENTERED EFFECTIVE LEARNING FRAMEWORK FOR QUALITY EDUCATION

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**ABSTRACT.** *Effective teaching and learning process is essential for providing quality education at all levels. This research addresses growing quality concerns of Pakistan's educational sector and makes a case for shifting the focus from teacher-centered to student-centered learning process for quality educational experience. A conceptual framework for effective learning is presented based upon studies of educational psychology, cognitive learning and personal teaching experience. The framework combines student-centered teaching strategies with classroom assessment techniques to create a dynamic and interactive classroom environment. To create an organizational context conducive for effective learning the framework assigns roles and responsibilities to all the stakeholders and requires their active participation and collaboration.*

**Keywords:** Effective Learning; Learning Process; Learning Framework; Student-Centered; Teacher-Centered; Quality Education.

**1. Introduction.** Provision of quality education has become indispensable for educational institutes all over the world. Quality education requires an effective teaching and learning environment both inside and outside the classroom. To create such an environment is a challenging task which necessitates careful planning in collaboration with all the stakeholders. An effective learning environment motivates and stimulates student's learning process. Inside the classroom, this can be achieved by capturing student's attention, transferring the subject knowledge, maintaining student's interest and using classroom assessments to monitor, measure and improve learning. All this can be achieved with *active* participation of students in their learning process and *effective* interaction between student and teacher. This demands integration of new learning-centric strategies with conventional classroom teaching. In context of Pakistan's educational scenario, the traditional teaching-centric approaches are predominantly common. Hence, there is need to shift the educational focus from *teaching* to *learning* by integrating student-centered learning and assessment approaches in the classroom teaching. This transformation demands significant changes in the educational institutes at organizational level with learning at the center of all policies, plans, rules and decisions and at the classroom level with students at the center of all teaching and assessment activities.

**2. Teacher-Centered vs. Student-Centered Learning.** The conventional classroom teaching is teacher-centered. In teacher-centered paradigm the main focus is on *teaching*. The teacher transfers the subject knowledge by delivering the lecture. Students *passively* receive information by listening, take notes and sometimes ask questions. Evaluation or assessment of student learning is done using the quizzes, homework, assignments, projects and written examinations. The main drawback of this approach is that it is *passive* because it lacks student's *active* participation and engagement. This problem becomes even worse for large class size with mixed ability students. Also in this approach teaching and assessment are separate.

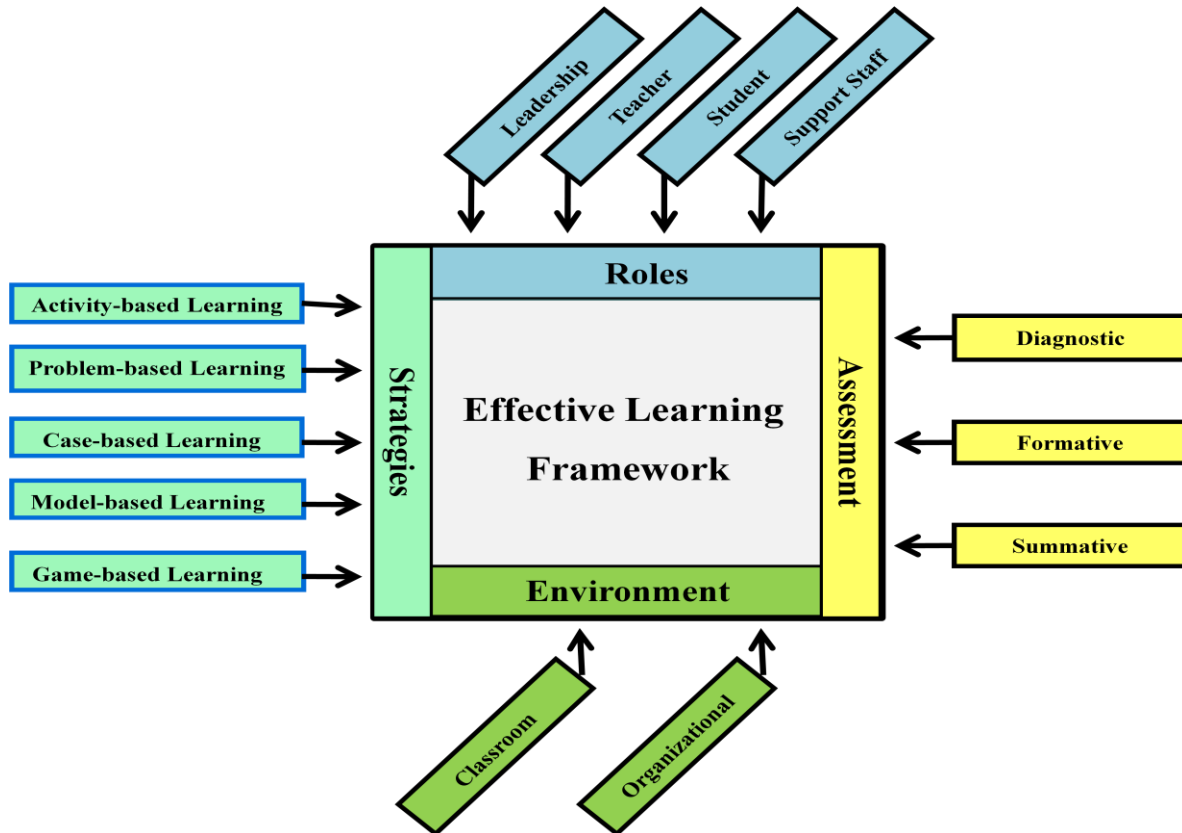
Assessment is used to monitor and measure learning after the teaching. As classroom assessment methods are not used hence teachers do not get immediate feedback of student's learning. Both these problems create a *static* learning environment that results in ineffective learning and frustrates both teachers and students.

The student-centered paradigm has *learning* as its focal point and is based upon engagement of students. This approach views learning as a cognitive and social process [1]. In this paradigm, teacher acts as a designer and manager of learning process. Students actively participate and have control over their learning process. Students construct knowledge by integrating new learning into what they already know. They receive information and transform it into knowledge by combining it with analysis, synthesis, communication, critical thinking, and problem solving skills. It creates a learning environment which is cooperative, collaborative, and supportive [6]. In student-centered paradigm, teaching and assessing are intertwined and assessment is mainly used to support and diagnose learning.

**3. The Proposed Effective Learning Framework.** The main idea of this framework is that effective teaching and learning techniques lead to student satisfaction and motivation to learn when properly supported by a positive learning environment. The proposed framework consists of four main components:

- **Strategies:** Use of different student-centered techniques to support and enhance learning
- **Roles:** Assigning roles and responsibilities to all the stakeholders to ensure their active participation and collaboration
- **Assessment:** Assessment and evaluation methods to measure, monitor and promote learning
- **Environment:** Effective learning environment both inside and outside the classroom

Figure 1 shows the proposed effective learning framework along with its main components.



**Figure 1. The Student-centered Effective Learning Framework**

Following is a detailed description of framework components and their relationship with each other.

**3.1 Strategies for Effective Learning.** Effective learning needs a *dynamic* and *interactive* classroom environment to motivate and encourage students. Such an environment requires flexible and adaptable teaching strategies to support and develop student's learning potential. Research shows that student-centered learning techniques can significantly increase student learning, motivation and their ability to think critically and creatively [14]. Following is a summary of some of the student-centered teaching strategies which have been proven effective in enhancing student learning.

- *Activity-based Learning:* Activity-based learning is based on effective student-teacher interaction. Active learning encourages students to inquire, explore, experiment, collaborate and experience the joy of discovery [3]. In this technique the role of teachers shifts from that of delivering knowledge to that of facilitating and guiding [8]. Active learning techniques include discovery learning, experiential learning and inquiry-based instruction [9].
- *Problem-based Learning:* In this technique learning is achieved through the use of the problem. The learning is organized in the context of the problem. Problem based learning approach is a cognitive apprenticeship with main emphasis on the knowledge domain and the problem solving skills related with that knowledge domain [16]. This method considers learners as constructors of their own knowledge. Students are encouraged and expected to think both critically and creatively and to monitor their own understanding of the problem domain.
- *Case-based Learning:* Case-based learning has become popular in recent years. Several studies provide strong support for the educational value of collaborative, case-based learning [20]. Some case based learning strategies use cases for testing student's understanding and developing their cognitive skills. In this scenario, the case is discussed after the topic is covered in order to help test understanding. Other case approaches use the case as a reference for learning as an example. In this approach, learning objectives are presented along with the case.
- *Model-based Learning:* Model-based learning involves formation and improvement of mental models by students. Model formation integrates prior knowledge and new information about the instance into a mental model of the situation [4]. External representations (concept maps, causal models, and belief networks) are used to provide insight into internal constructs and processes (mental models and systems thinking) [18]. These external representations are used to help students conceptualizing and forming an appropriate mental model about the learning topic. Once a model is formed, teachers can adjust instructional supports appropriately.
- *Game-based Learning:* Educational games have become popular in the academic community recently. Educational games can be used to enhance the learning experience by improving student's motivation and engagement. The integration of games in the learning process requires involvement of instructors in the development process to enhance the educational value of the games [21].

**3.2 Roles and Responsibilities.** All the stakeholders have collective responsibility and accountability to create an organizational context conducive for effective learning. This difficult task can be accomplished by ensuring their active participation in the learning process. The proposed framework achieves this goal by defining roles and assigning responsibilities to four main stakeholders of the learning process namely leadership, teacher, student and support staff. Following is the detailed description of these roles and responsibilities:

- *Leadership's Role:* Institutional leadership directly influence the organizational culture and climate through their planning, decision making and support. Studies show that educational leaders have significant effects on student learning and outcomes [12]. The leadership plays vital role in building consensus on important issues and drive required changes in the organizational structure or culture to support effective learning. It is important that all the rules, regulations and policy decisions are positively

framed, effectively communicated and consistently followed to ensure commitment and cooperation of all the stakeholders. Identifying, analyzing and prioritizing technical training and professional development requirements along with resource and budget estimates is also the responsibility of leadership.

- *Teacher's Role:* Teachers have the greatest influence on student's learning outcomes. Teachers are the directors of learning experience [2]. Main responsibilities of teachers include developing learning objectives, organizing and delivering the subject matter and engagement of students both inside and outside the classroom. To create a *dynamic* classroom environment based on student-centered learning techniques is a challenging task which require a teacher to play roles of a designer, manager and analyser of learning experience. Their additional responsibilities include identification, planning and preparation of learning activities (examples, problems, case studies etc), identification of appropriate resources and technology, developing appropriate assessment measures and corrective reinstruction for all students to reach the desired level of mastery [7]. Studies also suggest that teachers should structure their courses to promote collaborative and cooperative learning environments [15]. Use of new educational techniques and technology requires appropriate training and professional development for teachers.
- *Student's Role:* In student-centered paradigm students have *direct* control over their learning. A *dynamic* classroom environment requires *active* participation of students in all the learning activities. Effective student-teacher interaction requires commitment, dedication and a flexible and adaptable attitude of students towards learning. To cultivate an effective learning environment inside and outside the class student's responsibilities include regular attendance, constructive feedback and respect of teachers and support staff.
- *Support Staff's Role:* Systematic and efficient support services are an essential part of organizational structure. To maintain an effective learning environment administrative, academic and technical support and assistance is very important. This support is usually required in classroom, laboratory and library. Support staff is also responsible for providing necessary help during tutorial sessions, seminars and for students' projects and research activities.

**3.3 Learning Assessments.** In the learning process, assessments *of* and *for* learning are both important [19]. The assessment *of* learning monitors learning and identify achievement. The assessment *for* learning promotes learning by helping students learn more. Assessment *for* learning involves students in the assessment process. It uses the classroom assessment process and the information about student achievement to enhance student learning. Teaching and learning assessments can be divided into following three categories:

- *Diagnostic Assessment* is usually done before teaching. It is used to check students' previous knowledge and skill levels, and to identify their interests and preferences. Diagnostic assessments help teacher plan the lecture to address different learning requirements of students.
- *Formative Assessment* is done during the teaching. It is an ongoing assessment to give instant feedback to teachers and students. This feedback information can effectively be utilized for guiding teaching to improve learning. Formative assessment methods include surprise quizzes, oral questioning, teacher observations and student reviews.
- *Summative Assessment* is done at the end of lecture. It sums up what students have learned. These assessments are evaluative, and teachers usually summarize and report assessment results as a grade. Familiar examples of summative assessment include assignments, class tests or quizzes, performance tasks, final exams, course projects and work portfolios [13].

There is a growing need to develop new assessment techniques to effectively assess learning in collaborative, group-based techniques. An effective learning environment integrates assessments with teaching to monitor, measure and enhance learning and to guide and support teaching.

**3.4 Environment.** Academic and social environment of educational institutes strongly influences students' learning outcomes. Effective learning requires a motivated and *dynamic* classroom environment embedded inside a *positive* organizational environment.

- *Classroom Environment:* Student-centered teaching strategies create a *dynamic* classroom environment where students actively participate and have control over their learning process. In a *dynamic* classroom, teacher fosters positive attitude and effective interaction to stimulate and engage students in the learning process. Such a classroom environment has positive and long-lasting impacts on students' academic, social and emotional development. Conventional teaching methods can be combined with interactive and instructional multimedia and web-based technology to create a positive classroom environment that enhances student engagement and participation [11]. Usage of new educational technologies requires careful planning which involves identification of new technology, usage and requirement analysis, cost estimating, training for technology and proper implementation and integration in the learning environment.

*Organizational Environment:* A positive organizational climate promotes effective teaching and learning. To cultivate such an environment is collective responsibility of all the stakeholders. Organizational policies, rules and regulations should promote positive attitude among its members. It is important that successes are celebrated and problems are shared to motivate all the stakeholders to play their roles effectively. Moreover, any change in the current organizational structure or culture should be carefully planned with the consultation of all the stakeholders for smooth transition.

**4. Conclusion.** Quality education requires new teaching techniques, modern educational technologies and new assessment techniques to improve the effectiveness of learning process. In the proposed framework effective learning is accomplished by having a positive organizational environment with the cooperation of all stakeholders and by establishing a *dynamic* classroom environment based on effective student-centered learning and assessment techniques. The framework fosters trust and mutual support among stakeholders by ensuring commitment towards assigned roles and responsibilities and by having mutual consensus on policies and decisions. It is hoped that a careful implementation of this framework will enrich the students' learning experience and support quality education.

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