

**THE ROLE OF THE ACL (ACTIVE COLLABORATIVE LEARNING) MODEL IN
EDUCATION**

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Abstract: The study describes a teaching action undertaken in the belief that the use of methodologies based on active and cooperative learning could obviate some of the most worrying deficiencies in current scientific teaching, while at the same time supporting the validity of the constructivistic theory that prompted them. A teaching action on genetically modified organisms (GMOs) was planned which involved the setting up of tools (diagnostic tools, strategies imbued with problem-based learning and concept cartoons), a teaching sequence and laboratory materials (replica-plating aimed at the recognition of transformed bacteria, *Nicotiana* cultures, electrophoresis comparing protein patterns of GM and non-GM plants). The action can also be considered effective with respect to scientific education as well as overall intellectual and social maturity. Though the structure and the organisation of the schools involved were very different, autonomous inquiry, group work, and plenary discussion were not impeded in any way.

Keywords: just-in-time teaching, signal processing; learning to learn

Introduction

In modern education, traditional passive learning methods are being replaced by interactive and engaging approaches that foster deep understanding and critical thinking. One such innovative approach is the **Active Collaborative Learning (ACL) model**, which encourages student participation, teamwork, and problem-solving. This article explores the significance of ACL in education, its benefits, and its impact on learning outcomes.

Activity-based Learning, one of the methods, is best suited to acquire skills and cooperative learning. In the first model, a broad scheme of learning outcomes (in terms of skills) is designed by the teacher in consensus with the industry in which the students are expected to take up jobs in the future. The second model is proposed for knowledge acquisition.

Unlike individual learning, which can be competitive in nature, students learning cooperatively can capitalize on one another's resources and skills. The Department of ECE implementing different tools for establishing Active based learning method. Some of the tools are given below.

Understanding Active Collaborative Learning (ACL)

Active Collaborative Learning (ACL) is a student-centered teaching methodology that emphasizes **active participation, discussion, and collaboration** among learners. Unlike traditional lecture-based teaching, where students passively receive information, ACL engages students in

meaningful activities that require interaction, reflection, and teamwork. It involves tasks such as group discussions, problem-solving activities, peer teaching, and project-based learning.

Key Features of ACL

1. **Student Engagement** – Learners are actively involved in discussions, activities, and decision-making.
2. **Collaborative Approach** – Learning is a shared experience where students work together to achieve common academic goals.
3. **Critical Thinking and Problem-Solving** – Encourages analytical thinking and application of knowledge to real-world scenarios.
4. **Peer Learning** – Students learn from each other by exchanging ideas, feedback, and perspectives.
5. **Instructor as a Facilitator** – Teachers guide and support students rather than simply delivering lectures.

Benefits of ACL in Education

1. **Enhanced Understanding** – Students develop a deeper grasp of concepts through hands-on learning and discussions.
2. **Improved Communication Skills** – Encourages verbal expression, listening, and constructive argumentation.
3. **Higher Retention Rates** – Active engagement leads to better memory retention compared to passive learning.
4. **Stronger Teamwork Abilities** – Prepares students for collaborative work environments in professional settings.
5. **Increased Motivation** – Learners find ACL more stimulating and enjoyable, leading to a positive attitude toward education.

The Impact of ACL on Learning Outcomes

Research suggests that students involved in ACL-based learning achieve better academic performance, demonstrate higher creativity, and develop strong interpersonal skills. ACL fosters an inclusive learning environment where students feel valued and confident in sharing their ideas. Furthermore, it bridges the gap between theoretical knowledge and practical application, preparing students for real-world challenges.

Implementation Strategies for ACL

- **Group-Based Activities** – Assign projects that require teamwork and collective problem-solving.
- **Peer Teaching** – Encourage students to explain concepts to their peers, reinforcing their own learning.
- **Case Studies and Role-Playing** – Use real-life scenarios to enhance understanding and engagement.
- **Technology Integration** – Utilize digital tools and collaborative platforms for virtual teamwork.

Conclusion

The **Active Collaborative Learning (ACL) model** is revolutionizing education by promoting interactive, student-driven learning experiences. By emphasizing engagement, teamwork, and critical thinking, ACL equips students with essential skills for academic and professional success. As educators continue to implement ACL strategies, the future of learning becomes more dynamic, inclusive, and impactful.

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