

ACTIVE LEARNING FRAMEWORK CONSULTATION FORM

The consultation is part of the Novigado project's O2 "Active Learning Reference Framework".

How should active learning look like in a school? What would you recommend to teachers?

By Adil Tugyan, ESL teacher and teacher trainer, Turkey

Active learning is an instructional approach in which students take an active and fully engaged role in their education, rather than sitting passively and absorbing information. This might involve several different kinds of activities, such as class discussions, hands-on learning, collaborative group work or other dynamic approaches to instruction.

Active learning is more engaging than just sitting and taking notes while a teacher is talking. It's more effective than traditional instruction, and it also helps build critical 21st century skills that employers desire.

When students are actively engaged in their learning, they are thinking, creating, sharing, communicating and constructing new knowledge. They are also taking ownership of their education. For these reasons, active learning is replacing the old-school "sit and get" approach to instruction in many classrooms all around the world.

For active learning to be successful, however, a number of important elements must be in place. For instance, teachers need to be taught proven strategies for leading active learning in their classrooms. They need support structures to help them implement these strategies effectively, while overcoming their fears of trying something new in front of their students. And they need the right kind of classroom environment to support and encourage active learning—which includes the design of the learning space and how student desks and tables are configured.

By taking a more active role in their education, students learn more while also taking ownership of the learning process. As a result, they learn to become independent thinkers and problem solvers.

"I used to think it was good teaching to stand in front of a class and lecture and have students quietly doing work alone at their desks, but I don't think that anymore. A great classroom is a place where students are doing as much of the talking and thinking and problem solving as the teacher. It's a place where students are tackling questions and problems that are relevant to their daily lives. This kind of classroom helps prepare students to be thinkers—and that is the most important skill a teacher can teach."

Active learning can take many forms. Here are some of my examples.

A - Student Inquiry: It is always very important to use student-led inquiry technique by giving students a driving or investigative question to answer. For example: If you were a NASA scientist, and you had to write a proposal recommending which planet should be explored by the next space probe, which planet would you choose—and why? High-quality questions should engage the students and create wonderment through relevance to their world. These questions should require students to do research from

multiple sources, think about their findings, and then synthesize the results into a clear and cohesive argument or plan. If the question is Google-able, then it probably is not deep inquiry.

B - Discussion & Debate: Class discussions and debates can be an excellent strategy for enhancing student motivation, fostering intellectual agility and encouraging democratic habits. They create opportunities for students to practice and sharpen a number of skills, including the ability to articulate and defend positions, consider different points of view and enlist and evaluate evidence. While discussions and debates can be valuable active learning strategies, leading them in the classroom can be anxiety-producing. Discussions are, by their nature, unpredictable, and require us as instructors to surrender a certain degree of control over the flow of information. Careful planning can help ensure that discussions are lively without being chaotic and exploratory without losing focus.

C - Creating & Composing: Having students create original works that demonstrate or enhance their understanding of a topic—such as public service announcements, movie trailers, rap songs, picture books, blog posts, photo journals, advertisements, business plans, 3D models or other artifacts—is an active learning strategy grounded in decades of research. It has its roots in constructivist theories of education, which say that learners construct their own understanding of the world by experiencing things and reflecting on those experiences (in other words, “learning by doing”). Letting students get creative also allows them to become “protagonists of their own learning. Students are more highly engaged and motivated when they are given creative license, and they learn how to become innovators and creative problem-solvers as well. At our school we created a Skill Lab during the school day, students use this lab to create or compose digital artifacts for class-related projects; after school, students are free to hang out and learn digital media skills under the guidance of teachers.

D – Collaboration: Having students work together in small groups to solve problems and share information not only leads to deeper learning and understanding; it also builds the essential teamwork skills that employers covet. We encourage classroom collaboration by assigning students to groups to review their homework, do daily class assignments, participate in moderated discussions and complete hands-on projects. Often, teachers give them group tests, which are designed to be harder than individual assignments. This way, Students quickly realize that they are able to solve problems as a group that they would not be able to solve as individuals.

E - Project-Based Learning: Project-based learning combines student inquiry, creation and collaboration by challenging students to solve a real-world problem or complete an authentic learning task. Project based learning is leading to deeper learning and greater student engagement by empowering students to make meaningful contributions to the world. Our school is working with local university to help educators develop authentic problems for their students to solve.

Classroom Design

For active learning to take place at a school in an effective way, classroom design is very important. How a classroom space is designed can have a significant effect on the type of

learning that takes place there, because different kinds of learning activities are best supported by different arrangements of the physical space.

A room with rows of tablet arm chairs facing an instructor's desk in front of chalkboards conveys the pedagogical approach: 'I talk or demonstrate; you listen or observe.'" On the other hand, "a room of square tables with chairs on each side conveys the importance of teamwork and interaction to learning.

Arranging desks or tables in a large circle or "U" shape works well for direct instruction, because it focuses students' attention on what the teacher has to say. It also makes whole class discussion easier, because every student can see every other student in the class. Arranging desks or tables in small groups, with three or four students facing each other, facilitates small group interaction and collaboration. Because there will be times when teachers will want to use each of these instructional strategies in their classrooms, flexibility is key when designing learning spaces

A study by researchers at the University of Salford in England found that classroom design can have a 25% impact, either positive or negative, on a student's progress over the course of an academic year—and flexibility (defined as how easily a classroom's furniture could be rearranged to support a variety of activities and teaching approaches) was one of six key environmental factors that showed the most effect on student success.

Active vs. Traditional Classrooms

How a classroom is designed can encourage or discourage active learning. In a University of Minnesota study, class discussions were found to occur 48% more frequently in active vs. traditional classrooms.

The traditional classroom had rows of tables facing the front of the room, while the active learning classroom was equipped with round tables holding up to nine students, making it easy for students to break off into groups of three for collaborative work.

Having flexible and modular furniture that teachers and students easily can move around the room and arrange into different configurations is critical for supporting various learning styles and activities, such as the use of active learning strategies.

The Role of Technology in Active Learning

In active learning, the classroom is global, bursting out of the four walls. Technology's everywhere. So is nonstop access to information, interaction and shared digital content. It's a more open, creative, and collaborative space than ever before.

Although technology is not essential to active learning, it can be a powerful tool to support student-driven learning. If students have access to a device with Internet connectivity, they can do independent research and use rich applications for creating and collaborating.

There are five key considerations to use technology to support active learning,

1. **Equity:** How will you ensure that all students have equitable access to technology devices for learning? For instance, if you allow students to use their own personal laptops, tablets and cell phones in class through a "bring your own device" policy, how will you make sure that students who don't have their own personal device can

participate? You might pair students who don't have a device with someone who does and require them to share, for example—or keep a supply of school-owned devices handy for them to borrow.

2. **Digital citizenship:** Students using digital devices in class must be taught how to use the devices safely and responsibly. Digital citizenship education should teach students how to use technology to search for, evaluate and curate information; how to act appropriately online; how to use technology in an ethical manner, such as not hacking into other peoples' information, downloading music illegally, plagiarizing, sending spam or stealing someone's identify and how to safeguard their privacy and IT security, among other lessons.
3. **Security:** How teachers will keep their school networks secure from viruses, phishing scams, ransomware attacks and other online threats. Security measures should include keeping all operating systems up to date; regularly applying security patches; using a multilayered approach to IT security that includes firewalls, web filtering, antivirus protection and advanced threat detection; and educating staff as well as students about security best practices.
4. **Connectivity:** Before investing in devices for your students, make sure you upgrade your network infrastructure so that it can handle all the traffic. Students and staff should be able to get online without a hitch, or else they will become frustrated, give up and not use their devices for learning.
5. **Power:** If students are using digital devices to support self-directed learning, they need easy access to power supplies throughout the day so they can recharge their devices as necessary.

Recommendations for Teachers

Making the shift to active learning can be a big transition for many teachers, especially if they have been lecturing for their whole careers. For one thing, it involves giving up some degree of control over their classroom and transferring ownership of the learning process to the students themselves—and this shift can be accompanied by a profound sense of loss. Also, teachers with little or no experience in leading active learning strategies might find it somewhat intimidating to try a new teaching style. They may feel anxious about looking vulnerable in front of their students if something goes wrong.

These are legitimate concerns stemming from genuine emotions. Introducing change of any kind often makes people uncomfortable, and when you add in the fact that teachers are performing their jobs in front of an audience every day, that anxiety becomes even more magnified. Leading a successful transition to active learning requires understanding and addressing the emotional implications of this change for teachers.

1. Assess the needs of the class

- What topics or ideas do students struggle with most in your course?
- What data or information will help you understand what students are learning?

- Which active learning strategies will provide this data, and ultimately help your students meet their learning objectives?

2. Design the activity

- Prepare a timeline to help you manage the activity. Will it take place in the classroom? How long will it last? What instructions will students need to participate in the activity?
- Establish ground rules for the activity. How should students interact with each other? What are they expected to do during the activity?

3. Evaluate the activity

- Consider any roadblocks or challenges that you and your students experienced in carrying out the activity. How might these be overcome?
- Elicit feedback from students on whether or not the activity assisted in their learning. Did they find the activity helpful?
- Assess the usefulness of the information the activity provided you. Did the students improve their understanding of the topic or concept? Can you use data from the activity to make further improvements to future activities or instruction in general?

Here are a few simple active learning exercises to try in your classes.

- **Case study:** Give students a scenario or case study to problem solve in groups. Then have groups share out and debrief the activity. Use this discussion time to address core concepts or research processes, rather than introducing them first.
 - Example: In five minutes, find two authoritative websites on adopting a vegan diet.
 - Learning Outcome: Students will be able to evaluate websites for authority.
- **Think-pair-share:** Give students a question or problem to think about on their own, then have them discuss their answers or results with a partner.
 - Example: Have students brainstorm keywords for their individual topics, then share their lists with their partners for feedback or to generate some additional keywords through discussion.
 - Learning Outcome: Students will be able to develop a keyword strategy for a research topic.
- **Concept maps:** Creating concept maps is an activity that can be adapted to many different lessons and can be done individually or in groups. Have students make concept maps on paper, whiteboards, or using a tool like padlet or bubbl.us.
 - Example: Have students create concept maps to help them narrow or explore research topics or generate more keywords.
 - Learning Outcome: Students will be able to articulate research questions and keyword banks.

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