

Chapter 6

Active Learning Aimed at Visual Development

ABSTRACT

This chapter is about possible ways to engage students in active participation and find ways to secure that good grade means not only a good memorization for tests but also a good understanding of the course content. The text describes active learning, which may happen through sketching, depicting processes and products, and finally creating a visual message often constructed in a color-coded metaphorical way. Each project is related to a selected subject area, but the solution of the project can be seen as the specific type of the art. Developing good writing skills is required to create a storyline/storytelling that contains a development of action leading to a conclusion. Projects integrating science and art may be provided in the form of an unending, looped animation, video, or many other containers. Artists have always actively participated in events and resulting changes in societies. Developments in technologies, especially in computing, have strong impact on the ways artists create and thus contribute to cultural and social life.

6.1. ENGAGING STUDENTS IN COGNITIVE LEARNING ACTIVITIES

In contrast with the students' intrinsic interest in learning, education in schools is based on extrinsic rewards and undermines learner responsibility. Cognitive learning involves meaningful learning. Meaningful learning through creating art is an active, integrative learning, contrary to the hands-on or verbatim,

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step-by-step, rote learning by memorization and repetition of fragmented texts, which are not integrated with existing concepts, cognitive structures, or experiences. While working with students, it could be more efficient to avoid using tests on the daily basis, and to give students a test only when standardized tests are required by the school districts. The great number of textbooks contains tests at the end of each chapter, and students often scan the book seeking only words and terms included into the tests. As a result, a good grade doesn't mean a good understanding of the course content.

Cognitive learning may involve students to relate new concepts and processes to what they already know. They may organize them as verbal phrases or in a visual way as graphics. Cognitive learning may relate to higher order concepts in a cognitive structure, previous experiences related to new concepts and processes, and active translation of learned material into one's own constructs and creations. In such cases visual approach to data presentation may support cognitive approach to instruction and may ease the burden of the cognitive load. Many people would agree that visual style of learning might reduce intrinsic cognitive load in structuring information, by shifting the explaining process from abstract to meaningful parts, which may be easier to learn and remember. With a visual approach to learning and instruction, students draw sketches in order to capture the essence of the process under study, and control composition of their projects.

There are several possible ways to involve students' interest and engage them in active participation. Activities and projects listed below may encourage students to think independently and work on problems without answering questions like everybody else.

- **Presentation:** Of a specific theme may become one of active forms of learning. Students may choose themes that are close to their personal interests from the course content comprising the set of themes. After that students may design with their teacher a calendar of presentations. The form of a presentation may include an illustrated Power Point Presentation, video made by a student, a graphic novel including text and sketches, a poster, a speech or talk explaining photos made by a student, or other forms of visual/verbal presentation of a theme. The time of a presentation should be short enough, so it wouldn't interfere with the normal arrangement of a lesson; about 10 minutes duration seems sensible.

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