

Planning Digital Learning for K-12



How to make digital learning in K-12 both effective and efficient:

- **Wider Reach**

Providing digital access enables a wider viewership without depending on any location thus benefitting students and giving them an opportunity to learn anytime and anywhere.

- **Analytics Driven**

Each student's data is tracked at each step, which helps the teachers to understand the student's progress.

- **Adaptability**

The content can be reused and accessed by different learner groups at their own pace.

- **Accessibility**

Digital content makes it possible for learners with disabilities to learn in their comforting environment. Address the problem of making learning material available to all learners including those with disabilities.

3 things a learning program must entail:

- What is the desired outcome of the learning process? (Learning Objective)
- How should the teacher engage with the learner? (Instructional Method)
- What mechanisms should be used for effective engagement? (Delivery Method)

While planning digital learning, we need to synergize both content and technology. Here are the instructional methods that are effective for learners and instructors:

Learning Objectives

Any good learning program aims to develop three types of skills:

- **Cognitive skills**

Cognitive skills involve conscious mental activities such as thinking, understanding, learning, remembering and then applying these methods to resolve problems.

- **Interpersonal skills**

Interpersonal skills are skills that help an individual to interact with another individual or a group.

- **Psychomotor skills**

Psychomotor learning is the relationship between cognitive functions and physical movement like throwing a ball, drawing, driving, etc.

Learning objectives are designed around these skills. A specific learning objective will require specific instructional and delivery methods.

Instructional Methods

The design of an e-learning course for K-12 involves using a combination of the following instructional methods:

- **Descriptive Methods**

Descriptive methods require learners to listen, read, observe and absorb new information. Descriptive methods entail presentations, case studies, working examples and demonstrations. They facilitate the conceptual and factual knowledge acquisition, orientation, motivation, and attitudinal change.

- **Applied Methods**

Applied methods enable learners to engage in practical activities. These can range from simple exercises to complex methods like simulation or research activities. Applied methods consist of demonstrations, job aids, case or scenario -based exercises, simulations, games, etc.

- **Concerted Methods**

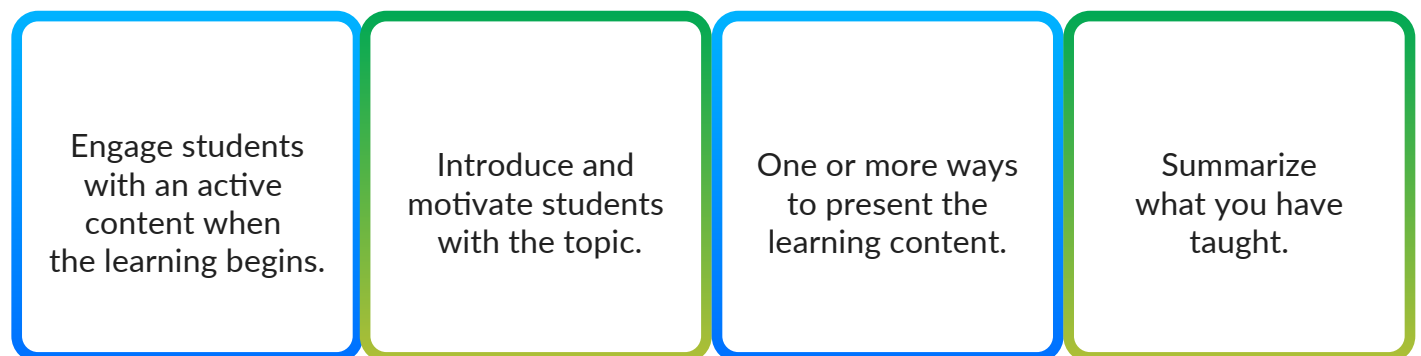
Concerted methods focus on the social dimension of learning, while engaging learners in sharing knowledge and thus performing tasks in a collaborative way. They add a social dimension to the learning experience. They include online-guided discussions, collaborative work and peer tutoring.

Delivery Methods

Here are some common delivery methods:

Presentations: Information on a specific topic is organized into a simple learning resource. These can be developed quickly and are useful for passive learning without any interactivity.

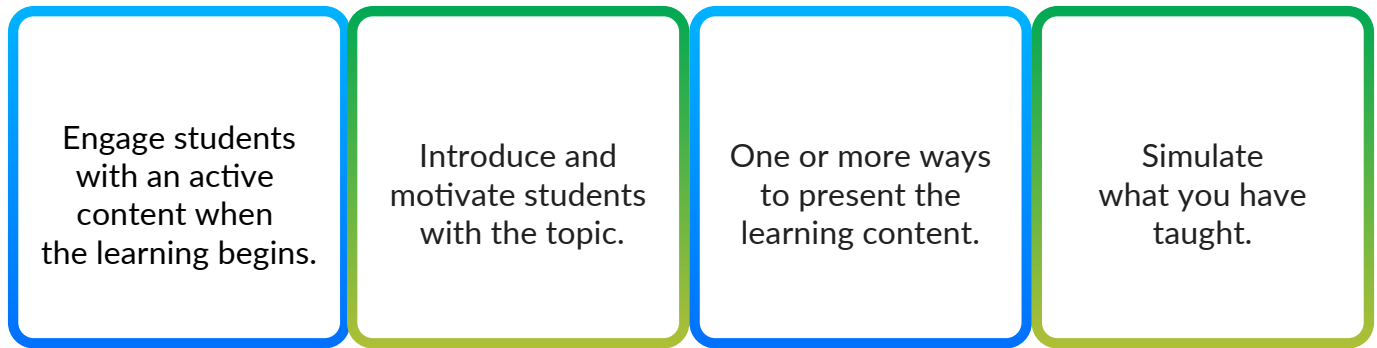
The applicable use case would be a lecture in the class.



High level Design for Presentations

Simulations: This is used to develop a deep understanding of complex systems. Digital learning games involve a competitive component that has certain challenges, rules and constraints. These are highly interactive and should be used when learners are required to practice high cognitive performance levels.

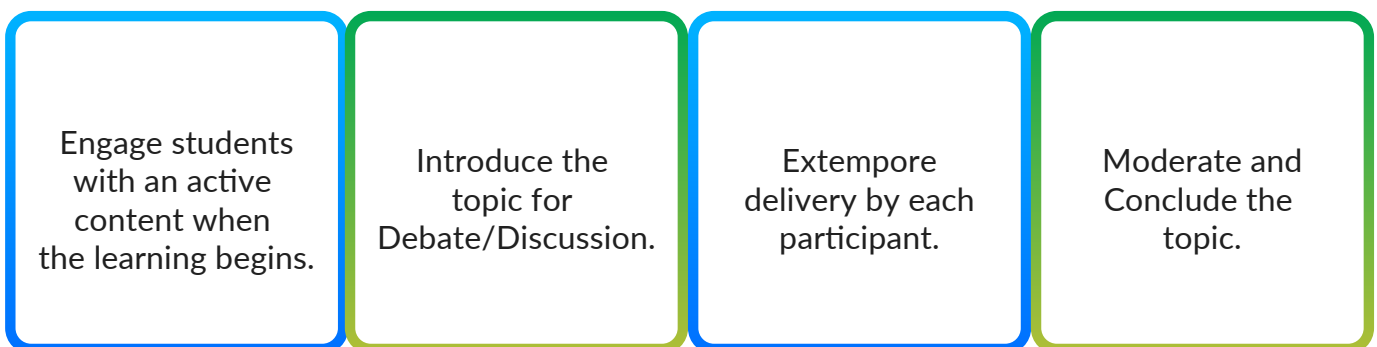
One of the applicable use cases is to “Learn & Simulate the concept of Brownian Motion”.



High-level Design for Simulations & Games

Collaboration: This method should be used when learners are required to express their knowledge through discussions, negotiations, debates or extempore. It requires active support of a moderator to provide help and moderation during the process.

An applicable use case is Model United Nations a competition that is organized to foster collaborative learning.



High level Design for Collaboration

Conclusion

The efficacy of a learning objective is dependent on the Instructional and Delivery Method. At times the learning objective fails to deliver the intended outcome not because of the learning content, but because of wrong choices of instructional and delivery methods. Hence, it's important to employ the use of a suitable instructional & delivery method for the effectiveness of a learning objective.

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