Learning- and child-centred teaching methods

How to plan lessons that promote the development of life skills and competences
Content

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The Crucial role of motivation and emotion in classroom learning

Motivational beliefs:
- They are cognitions about self in a domain
- Students use them to give meaning to learning tasks and situations and to their social and educational context

Emotion
- Refers feelings, moods, affects and well-being
- Primary and secondary emotions
The Crucial role of motivation and emotion in classroom learning

- Motivational beliefs:
  I. Own capacity to do something (self-efficacy)
  II. Certain actions will lead to success and other to failure (outcome expectations)
  III. About the purpose of a learning activity (goal orientation)
  IV. About how interesting or boring activities are (value judgments)
  V. Perceived causes of success and failure (attribution)
The Crucial role of motivation and emotion in classroom learning

Emotions have two major functions (Frijda 1986)

- They give high priority warning signals that interrupt outgoing activities and inform us that we are facing a highly valuable or threatening situation
- They prepare us to react swiftly in response

**Primary**: Joy, sadness, anger, fear, surprise and disgust

**Secondary**: Envy, hope, sympathy, gratitude, regret, pride, disappointment, relief, hopelessness, shame, guilt, embarrassment and jealousy
The Crucial role of motivation and emotion in classroom learning

What we know about all this?

◆ Teachers need to be aware of their students’ motivational beliefs and be sensitive to their emotions - inform the design of the learning process

◆ Their own behavior and their teaching and evaluation practices trigger specific emotions and motivational beliefs in the students - turn affect the quality of the learning which take place
The Crucial role of motivation and emotion in classroom learning

Eight Key Principles

1. Students are more motivated when they feel competent to do what is expected of them

2. Students are more motivated to engage in learning when they perceive stable links between specific actions and achievement

3. Students are more motivated to engage in learning when they value the subject and have a clear sense of purpose
The Crucial role of motivation and emotion in classroom learning

Eight Key Principles

4. Students are more motivated to engage in learning when they experience positive emotions towards learning activities.

5. Students direct their attention away from learning when they experience negative emotions.

6. Students free up cognitive resources for learning when they are able to influence the intensity, duration and expression of their emotions.
The Crucial role of motivation and emotion in classroom learning

Eight Key Principles

7. Students are more persistent in learning when they can manage their resources and deal with obstacles efficiently.

8. Students are more motivated to engage in learning and use motivation regulation strategies when they perceive the environment as favourable for learning.
Learning from the developmental and biological perspective
Learning from the developmental and biological perspective

- How people use their brains to learn

  • It includes sensory areas. Receives information from the environment and transforms it into knowledge
  • It identifies and categorises what children see, hear, or read
Learning from the developmental and biological perspective

- How people use their brains to learn

- It includes the prefrontal cortex. It is used for planning and coordinating goal-oriented actions.
Learning from the developmental and biological perspective

- How people use their brains to learn

- Encompasses areas of the limbic system
- It is involved in emotional dimensions of learning such as interest, motivation and stress

Affective networks
Located at core of brain
Learning from the developmental and biological perspective

• What is the main message to us?
  • The brain is powerfully shaped by experience
  • A good education experience can dramatically improve children and adolescents’ brain development
Learning from the developmental and biological perspective

- Focus on the learning environment
- Recognise the importance of emotions
- Consider sensitive periods for language learning
- Inform reading and mathematics instruction with neuroscience findings
- Incorporate multiple means of representation, assessment and engagement
- Build strong learning communities
- Create culturally-sensitive learning environments
- Continually adapt learning environments to incorporate new knowledge
Co-operative learning: What makes group-work work

- Students work in small groups or teams to help one another learn academic material.
- It supplements teacher’s instruction by giving students an opportunity to discuss information or practise skills originally presented by the teacher.
- Structured Team Learning – method.
- Informal Group Learning -method.
Co-operative learning: What makes group-work work

◆ **Structured Team Learning** – method (STL)
  - Involves rewards to team based on the learning progress of their members
  - Characterised by individual accountability -> team success depends on individual learning, not group product
  - The important thing is not to do something together but to learn something as a team
  - Equal opportunities for success
Co-operative learning: What makes group-work work

♦ Structured Team Learning – method (STL)
  • Student Teams – Achievement Divisions (STAD) (1/2)
    - Students are assigned to four-member learning teams (mixed)
    - Teacher presents a lesson
    - The students work within their teams to make sure that all team members have mastered the lesson
Co-operative learning: What makes group-work work

- **Structured Team Learning** – method (STL)
  - **Student Teams – Achievement Divisions (STAD) (2/2)**
    - Finally, all students take individual quizzes on the material (helping one another is not allowed this time)
    - Students’ quiz are compared to their own past averages, and points are awarded based on the degree to which students can meet or exceed their own earlier performances
Co-operative learning: What makes group-work work

♦ Structured Team Learning – method (STL)
  • Teams-Games-Tournament (TGT)
    – Same start than in STAD
    – Quizzes are replaced with weekly tournaments
    – Tournament tables are formed by students with similar past record
    – Students compete with members of other teams to contribute points to their team score
    – Procedure changes table assignments to keep the competition fair -> low achievers and high achievers have equal opportunity for success
    – The winner at each table brings the same number points to his or her team
Co-operative learning: What makes group-work work

Structured Team Learning – method (STL)

- Team Assisted Individualisation (TAI) (1/2)
  - Mixed ability learning teams
  - Certificates for high performing teams
  - Combines co-operative learning with individualised instruction
  - Specifically designed to teach mathematics to students grades 3-6 or older students
  - Students enter individualised sequence according to placement test and then proceed at their own rates
  - In general, team members work on different units
Co-operative learning: What makes group-work work

**Structured Team Learning** – method (STL)

- **Team Assisted Individualisation (TAI) (2/2)**
  - Teammates check each others’ work against answer sheets and help one another with any problem
  - The final unit test is taken without teammate help and are scored by student monitors
  - Each week, teachers total the numbers of units completed by all team members and give rewards to teams that exceed a criterion score based on the number final test passed
  - Extra points are given for perfect papers and completed homework
Co-operative learning: What makes group-work work

- **Structured Team Learning** – method (STL)
  - Co-operative Integrated Reading and Composition (CIRC) (1/2)
    - Teachers use reading texts and reading groups.
    - All students are assigned to teams composed of two pairs from two different reading groups.
    - While teacher is working with one reading group, the paired students in the other groups are working on a series of engaging activities including reading in one another, making predictions about how narrative stories will come out, summarising stories to one another, writing responses to stories, and practising spelling, decoding and vocabulary.
Co-operative learning: What makes group-work work

- **Structured Team Learning** – method (STL)
  - Co-operative Integrated Reading and Composition (CIRC) (2/2)
    - Students work as a team to master “main idea” and other comprehension skills
    - During language arts periods, students engage in writing drafts, revising and editing one another’s work and finalising the team books
Co-operative learning: What makes group-work work

♦ Structured Team Learning – method (STL)
  • Peer-Assisted Learning Strategies (PALS)
    – Pairs of children take turns as teacher and learner
    – The children are taught simple strategies for helping each other, and are rewarded based on learning of both members of the pair
    – Used among the traditional teaching methods
Co-operative learning: What makes group-work work

- **Informal Group Learning** – method
  - Covers methods more focused on social dynamics, projects, and discussion than on mastery of well-specified content
Co-operative learning: What makes group-work work

♦ Informal Group Learning – method
  • Jigsaw
    – Students are assigned to six-member teams to work on academic material that has been broken down into sections
    – Each team member reads his/her section
    – Members of different teams who have studied the same section then meet in “expert groups” to discuss their sections
    – After, students return to their teams and take turns teaching their teammates about what they have learnt
Co-operative learning: What makes group-work work

**Informal Group Learning** – method

- **Learning together**
  - Students are working on assignment sheets in four- or five-member heterogeneous groups
  - The groups hand in a single sheet and receive praise and rewards based on the group product
  - This method emphasises team-building activities before students begin working together
  - Regular discussions within groups about how well they are collaborating
Co-operative learning: What makes group-work work

**Informal Group Learning** – method

- **Group Investigation**
  - Students work co-operatively in small groups with inquiry, group discussion and shared planning and project realisation
  - Students form their own two- to six-member groups
  - Groups choose sub-topics from a unit being studied by entire class
  - The groups further break their sub-topics into individual tasks and carry out the activities necessary to prepare group reports
  - Presentations or displays to communicate to the entire class
Co-operative learning: What makes group-work work

♦ Almost always method improves affective outcomes
♦ Students love to work in groups
♦ They feel more successful
♦ They like subjects taught co-operatively
♦ They will have more friends and they are more tolerant

♦ In general, two elements must be present if co-operative learning is to be effective: Group goals and individual accountability

(Slavin 1995)
Inquiry-based approaches to learning

Main ideas:

- Students apply classroom-gathered knowledge to real-world problems
- Important to define the learning tasks
- Needs well-designed assessments
Inquiry-based approaches to learning

Problem-based

Project-based

Design-based
Inquiry-based approaches to learning

Project-based learning (PBL) (1/2)

• Involves the completion of complex tasks that typically result in a realistic product, or presentation to an audience
• Central to the curriculum
• Organised around driving questions that lead students to encounters central concepts or principles of a discipline
Inquiry-based approaches to learning

• Project-based learning (PBL) (2/2)
  • Focused on a constructive investigation that involves inquiry and knowledge building
  • Student-driven, in that students are responsible for making choices and for designing and managing their work
  • Authentic, by posing problems that occur in the real world and that people care about
Inquiry-based approaches to learning

Problem-based learning (1/4)

- A close cousin to PBL, and are often configured as a specific type project that aims to teach problem definition and solution strategies.
- Students work in small groups to investigate meaningful problems, to identify what they need to learn in order to solve a problem, and to generate strategies for solution.
Inquiry-based approaches to learning

Problem-based learning (2/4)

- The problems are realistic and ill-structured (not perfectly formulated textbook problems)
- They should
  - resonate with students’ experiences
  - promote argumentation
  - provide opportunities for feedback
  - allow repeat exposure to concepts
Inquiry-based approaches to learning

Problem-based learning (3/4)

- A set of activities that involve
  - understanding the problem scenario
  - identifying relevant facts
  - generating hypothesis
  - collecting information
  - identifying knowledge deficiencies
  - learning from external resources
  - applying knowledge
  - evaluating progress

Work progress
Inquiry-based approaches to learning

Problem-based learning (4/4)

- **Teachers** typically play a coaching role
  - making thinking visible
  - guide group progress and participation
  - ask questions to solicit reflections
- **Teachers** also provide instruction in more traditional ways such as providing lectures and explanation which are crafted and timed to support inquiry
- **Students** take an active role in knowledge construction
Inquiry-based approaches to learning

◆ Learning through design (1/2)
  • Children are asked to design and create an artefact that requires the understanding and application of knowledge
  • Design activity supports revisions and iterative activity as projects require cycles of defining -> creating -> assessing -> redesigning
  • The complexity of the work dictates the need for collaboration and distributed expertise
Inquiry-based approaches to learning

♦ Learning through design (1/2)
  • A variety of valued cognitive tasks are employed such
    – setting constraints
    – generating ideas
    – prototyping
    – planning through “storyboarding” or other representational practices
Inquiry-based approaches to learning

Conclusions:

- **Small group** inquiry approaches can be extremely powerful for learning.
- To be effective, they need to be guided by
  - thoughtful curriculum with **clearly defined learning goals**
  - well designed **scaffolds**
  - ongoing **assessment**
  - rich informational **resources**
The community as a resource for learning

- Experiential learning that takes place in the community as an integral part of the curriculum
- They give opportunities for
  - authentic learning
  - real-time situations
  - engaging students actively
  - fostering co-operation and collaboration
  - meeting individual interests
  - empowering learners and extending horizon beyond comfort zones
The community as a resource for learning

- A good possibility to connect to co-operative learning
- Activities are not only engaged to study one subject
- Its emphasis on community service establishes an inherent civic dimension that promotes social responsibility and citizenship
- Stronger interest and engagement in school
Features of good learning materials

- Description of learning goals > teachers and students need to understand how various contents of the material are connected to goals
- Clear composition and language > connection to language policy
- Not too heavy content load
- Starting always with topics familiar to students from their own environments, life spheres and interests
- Using pictures, stories, games, rhymes and poems, concrete examples and learning tasks
- Besides textbooks, teachers could use small leaflets, newspapers, novels, games, artefacts etc.
Features of a good teacher’s guide book

- Description of a learning entity
  - what are the main goals connected to this learning entity?
  - how are these goals connected to the forming of different competences?
  - what are the main contents and what is the larger context behind these contents (background information)?

- Detailed advice on good teaching and working methods in reaching various goals, connected to various contents
- Detailed advice on different learning tasks which could be used during the lessons and as homework
- Detailed advice on how to take into account different learners
- Advice on how to assess students; optional tests
Group work session 4

• How to support teachers in developing their working methods?
  ◆ Textbooks
  ◆ Teacher’s guidebooks
  ◆ Teacher training
  ◆ Curriculum
  ◆ Others