Active and Collaborative Learning OR “Teaching With Your Mouth Shut”

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Objectives

- Define active and collaborative learning and review the theory and support for it
- Demonstrate and discuss workshop/tutorial methods that promote active and collaborative learning
- Address concerns and challenges
Definitions

- **Active learning**
  - Learner-centered teaching strategies
  - Students actively and cognitively ENGAGE with the material in some way. More than listening, active learning is DOING something with the content
  - Can involve activities, demonstrations, group work, assignments, application, discovery, practice, elaboration, etc...

- **Collaborative learning**
  - Learning with others (typically peers)
Key Components

- **McKeachie (2006):**
  - The best answer to the question “What is the most effective method of teaching?” is that it depends on the goal, the student, the content, and the teachers. The next best answer may be “students teaching other students” (p. 214)

- **Brookfield (1990):**
  - “...despite the fact that flexibility and risk taking are elements central to the process, it is a mistake to see discussions as wholly unplanned, spontaneous events. Good discussions do not just happen” (p. 90)

- Flexibility and preparation
The Why

- Research consistently shows that active/collaborative learning methods are superior to lecture-style methods
  - Deeper processing

- Peer teaching works – both the teacher and the learner benefit significantly
  - Learner has learned (duh)
  - Teacher develops deeper understanding
    - Explaining in your own words forces understanding and identification of weaknesses

- More active = more fun

- Increase engagement and retention
The Why

- Integrates both content and learning skills
- Involves each and every student (no social loafing!)
- Making material personally relevant increases motivation, attention, salience, and elaboration
- Especially in science/math courses, concrete/hands-on helps students who struggle with the abstract
- Creates autonomy and ownership of the learning process
- Group work is efficient, reduces extreme disparities in performance, benefits both strong and struggling students
The Why

- Benefits in numerous domains
  - 1) Academic: promotes higher-level thinking, greater recall and understanding, motivation, and develops oral communication skills
  - 2) Social: practice teamwork and leadership skills, develop interdependence, creates cooperative community environment
  - 3) Psychological: increases student self-esteem and satisfaction with learning experience, encourages students to seek help and accept tutoring from their peers
Example

Jigsaw: The how

1) Form temporary “expert” groups. Assign one segment of the material to each expert group (ensuring that all the material is covered)

2) Give students in these expert groups time to discuss the main points of their segment and to plan the presentations they will give in their later “jigsaw group”
3) Form jigsaw groups (each group has one member from each expert group). This ensures every group member has a different piece of the puzzle

4) Each student presents their segment to the rest of the group. The rest of the group can ask questions to clarify
The Jigsaw process:
1. The expert group:
2. The Jigsaw group:
Jigsaw: End result

- All the content is “covered” by the end of the activity

- The content is “used” as a learning process (students teaching other students)

- Alternative: half-jigsaw (expert groups present to whole class – skip the jigsaw group)
Half-jigsaw activity part 1: Expert groups

Instructions:
1. Leslie will assign groups
2. Please join your groups – rearrange tables if needed
Half-jigsaw part 1: Expert groups

3. Each group (a.k.a. your expert group) will be assigned **one** topic to address:

   a. Brainstorm 3-5 activities that would allow students to review material in an active way – explain why it incorporates active learning

   b. List some ways you can ensure that shy students are not put on the spot

   c. List some challenges to implementing active learning in workshops/tutorials (aside from accommodating shy students)
Activities

- The Matrix (with 75% less Keanu Reeves)
- Design your own research study
- Dating Game (with famous theorists)
- Statistics problems
- Key term bingo
- Crossword puzzles
- Predicting test questions
- Mock tests

Remember:
- Any handout can be made more interactive by doing it jigsaw-style
## Matrix Example

<table>
<thead>
<tr>
<th>Stage of Development</th>
<th>Developmental Task(s) (Erikson’s stages)</th>
<th>Physical Changes</th>
<th>Cognitive Changes</th>
<th>Social/Personality Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Childhood</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Strategies for Shy Students

- Always give them time before presenting
  - Discuss in groups beforehand to build confidence
  - TIPS – Think, Ink, Pair, Share

- Groupwork – one person presents
  - Assign different roles – secretary, presenter, textbook-looker-upper

- Be open – give students opportunities to identify any anxieties
  - Submit intro form at beginning of year

- Allow lots of opportunities to earn participation marks – not just by speaking
Other Challenges

- **Students finish tasks at different speeds**
  - Have back-up activity (e.g., crossword, predict test questions)
  - Take things up when 2/3 of class is done
- **It may feel faster to just give them the answers.**
  - Fight the urge to always rephrase.
- **Hard to predict how long things take – and it varies**
  - Need to be flexible
- **Student resistance – they want you to do it for them**
  - Prepare them for active/collaborative learning on the first day
  - Be consistent & be firm
  - Explain WHY you chose each activity and how it benefits them
  - Be enthusiastic – model what you want to see in them
Other Tips/Terms

- **Establishing positive environment**
  - Ground rules
  - Encourage mistakes as learning opportunity
  - Encourage guessing

- **Choosing activities**
  - Steal from others but always modify to your style, prof, and textbook edition
  - Put thought into WHY you do each activity
    - Focus on key content, hard content, and/or important study skills
    - Never use activity as a time-filler

- **Scaffolding** — students become more autonomous learners
  - E.g., key terms list

- **Solicit anonymous feedback** — and use it!
Conclusions

**What do students think about active and collaborative learning?**

- Student ratings overwhelmingly positive
  - Useful, helpful, and interesting
- Like a combination of lectures and discussion/activity
- Discussion: more for understanding and less for just getting down facts (that’s more in lectures)
- Discussions do not work in large lectures (chance to talk about other things; time filler for the teacher)
- Approx. half of students say they do not enjoy working with others