WSV9

Creating an optimal learning experience for students in group work

Project planning

• Q2	Literature study	20 hours
• Q3	Literature study	60 hours
• **Q1**	**Interviews**	**40 hours**
• Q2	Documentation	40 hours

Activities

- Results so far
  - Conversations with students about group work, grading and freeriding
  - Conversations with teachers about group work, grading and freeriding
  - Scopus search for literature
  - Literature selection and reading
  - Summary of evidence based best practices
  - Interviews with teachers and students
- To do
  - Development of practical approaches to organizing an optimal learning experience for students in group work
  - Presentation of effective group work teaching strategies

Reasons for group work in education

- It is an effective way to **engage** students
- It provides opportunities to increase the **complexity** and **challenges** of tasks
- It gives students the experience of **collaborative** working
- It limits students' opportunities to **copy-paste** each others' work
- It reduces **grading loads** of teachers

Reasons to differentiate individual grades

- Giving a single grade to all team members is perceived as **unfair** by students
- **Individuals** gain qualifications and graduate, not groups
- Differentiation stimulates extrinsic **motivation** of team members
- Decrease in **individual effort** when working in groups without any mechanism to identify the contribution of individuals
- Differentiation stimulates team members to **reflect** on their individual contribution during the work process
- Differentiation may prevent team members from taking the backseat and **freeriding** – especially in less defined group work
- Differentiation makes ambitious students who aim for cum laude less **dependent** on underperforming or less ambitious peers

Reasons to not differentiate individual grades

- In **real-life** businesses it's about the team achievement, not about fair distribution of tasks
- Individual contributions are **difficult to qualify or quantify**
- Seemingly small contributions can have big positive **impact**
- Difficult to distinguish marks for individuals within a group who have made **different kinds of contributions**
- Leaders in groups often get most credits, but in teams **not everyone can take the lead**
- In collaborative group work, team process and output should be valued – it should not be a **competition** between individual accomplishments

Composing groups is key

- **High ability students** gain higher grades when teaming with similar students; the reverse is the case for low ability students
- **Low ability students** will suffer in subsequent group work when working in streamed low ability groups
- The fairest option is to compose **mixed ability groups** while recognizing high ability students who contribute more in individual grades – this way high performers are not suffering from low performers
- **Culturally heterogeneous groups** can have benefits over homogeneous groups (increased numbers of ideas, creativity and flexibility) provided students have the skills and time to manage the group process
- **Ideal group size** is 4-6; creating bigger groups slows down progress due to the greater difficulties of reaching decisions, allocating tasks, monitoring progress, and integrating individual components

Proven practices for fair group work assessment

- In a study unit, **allocate a significant part of marks** for an individual **to an assignment or test other than the group project** so that imperfect differentiation within the group has less negative effects
- Rely on **formative assessment** of group work, **summative individual assessment** of about the preceding group project (e.g. exam or report - asking about methodological issues encountered or changing a key variable in the problem scenario the groups tackled and asking how this change would have affected the group's conclusions)
- Grading **component tasks**: each individual in a group can be allocated responsibility for a component and receives 50% of their marks for the quality of their own component and 50% for the entire group product

Proven practices for fair group work assessment

- Moderating the group grade for each individual based on **knowledge about individual achievements** (e.g. observations during group discussions, project logs, group portfolio)
- **Let students moderate** the group mark given by the teacher based on their knowledge about individual contributions, keeping in mind that:
  - Students are often **anxious about fairness** of peer assessment
  - **Secret peer assessment** produces a greater spread of marks and more distinction between individuals
  - Peer assessment of different dimensions is less reliable than peer assessment involving a **single overall judgement** underpinned by a set of criteria
  - Higher ability students **under-estimate** the worth of their own work compared with the judgement of a teacher while lower ability students tend to **over-estimate** the value of their contributions (Dunning-Kruger effect)

The previously mentioned practices are considered fairer when:

- The project / group assignment is **designed** in such a way that it allows each group member make a unique contribution
- The **grading criteria** (both team-level and individual-level) are known and clear from the start
- The team is **trained** to learn in a collaborative fashion:
  - How to manage **expectations** in a team
  - How to distribute team **roles**
  - How to organize productive team **progress meetings**
  - How to manage **interdependencies** in group work
  - How to create a psychologically safe **climate** in which perceived failure is embraced
- A **mentor** regularly meets the team to discuss work progress as well as the team process and dynamics

Effective ways to prevent freeriding

- Enhancing **team morale**; team building activities create trust and relationships
- Provide tools to the team that facilitate systematic and regular **monitoring** of the team process and team dynamics
- Train team members to **discuss the issue** with the (perceived) free rider; team members shoul learn how to actively deal with conflict
- As a teacher, **meet the whole team** including the (perceived) free rider as early as possible in the process, **treat the issue as a team issue**, and make agreements about change

Interview results

- There are several indications that many teams are not collaborating well. Data from Buddycheck collected in 2020 indicate that more than 25% of all students participating in the project is dissatisfied with team collaboration.
- During 14 conversations with project teams and a meeting with a focus group including 10 students, most students share that there are issues with involving all team members.
- Also in teams that manage to meet deadlines, few students oversee the whole project and most of them solely concentrate on their individual tasks.

Interview results

- Students express dissatisfaction with online group work and mention the following issues: free-riding, exclusion of team members, difficulties selecting time slots for discussion, long waiting for results before being able to proceed with tasks, lack of time and effort to improve quality of contributions, difficulties with keeping an overview and managing interdependencies.
- Teachers also experience an increase of issues in teamwork since groups have relied more on online collaboration.
- Teachers highlight that group reports in most cases are a sequence of individual achievements rather than a consistent product presented by a team.