Methods for Assessing Group Work

Introduction

Students should be made aware of assessment before starting the project

- assessment method
- criteria (product and/or process)

Product vs. Process

- assessing the product - measuring the quantity and quality of individual work in a group project
- assessing the process - evaluating individual teamwork skills and interaction

Assessment by instructor vs. by group members

- by instructor - instructor assigns all marks
- by group members - group members evaluate their contributions to the group and assign marks

Product assessment by instructor

Equally shared mark

- All group members receive same grade

Advantages	Disadvantages
• Easiest to implement - does not require any additional work aside from marking the projects • Appropriate if group work mark is a minor part of total mark for the course • Group responsibilities are enforced - group succeeds or fails together	• Individual contributions are not reflected in the distribution of marks • Poor students may benefit from the work of hard-working students • Good students may be dragged down by poor students • Does not motivate students

Exam questions

- Questions should be *specifically* about the project, and answerable only by students who have been thoroughly involved in the project

Advantages	Disadvantages
• May increase interest in the project - students may be more motivated to learn about the work of their fellow group members	• Students may ignore group in order to study for the exam on their own • May mean additional work for instructor when preparing the exam questions • May not be effective - students may be able to answer the questions by simply proofreading the project

Splitting tasks

- Project must be divisible into multiple tasks of the same complexity
- Each student is responsible for one task
- Final mark is part group mark (e.g., 50%) and part individual task mark (e.g., 50%)

Advantages	Disadvantages
• objective way of determining individual participation • individual component grade may provide additional motivation	• it can be difficult to divide a project into parts of equal size, difficulty or ease of marking • once students are responsible for separate parts they may stop cooperating • dependencies between tasks may slow the progress of some students

Direct evaluation

- Instructor judges individual merits
  - oral interviews
  - periodic reports
  - meeting minutes
  - observation

Advantages	Disadvantages
oral interviews are a good way of getting information on individual participation	very time consuming
enables instructor to give each student more specific feedback	information obtained is often subjective and/or may be inaccurate class size may make it infeasible

Product assessment by peer evaluation

Issues with peer evaluation:

- Should we use self-assessment?
- Should instructor adjust marks?
- Should it be done individually or collectively by consensus?

Distribution of a pool of marks (see Appendix for example)

- Award the group a mark equal to *(group mark)* X *(no. of group members)*
- Let group divide marks among themselves

Advantages	Disadvantages
• Easy to implement • peer assessment may motivate students to contribute more to the group	• open to subjective evaluations by students (e.g., giving friends high marks as opposed to those who contributed the most) • opens the doors to personal conflicts between group members • may foster competition • may be difficult for students to evaluate each other without objective criteria

Individual weighting factor (see Appendix for example)
- Points awarded for a list of tasks
- Individual mark = *(group mark)* X *(peer assessment factor)*

Advantages	Disadvantages
• provides students with objective criteria by which to judge individual contributions	• time consuming for instructor • rating scale may be misinterpreted • tasks all have the same weight

Process assessment

List of skills to assess, such as:
- adoption of complementary team roles
- cooperative behaviour
- time and task management
- creative problem solving
- use of a range of working methods
- negotiation

Process assessment by instructor

Direct evaluation of team behaviour using teamwork logs - sample questions:
- what steps have you taken to organize your teamwork?
- what steps have you taken to monitor the effectiveness of your team?
- what steps have you taken to improve the effectiveness of your team?
- what problems have you encountered in working as a team and how did you tackle them?
- if you were to embark on a second, similar task as a team, what would be different about the way you go about working, and why?

Advantages	Disadvantages
makes students reflect on their operation as a team	reviewing logs can be very time-consuming
logs provide plenty of information that can be used as a basis for assessment	students may need training in order to be aware of what goes on in the teams

Process assessment by peer evaluation

Individual assessment (see Appendix for example)

- how members view each member of the team
- use lists of key group work traits
- average of individual marks must be the same as the group mark

Advantages	Disadvantages
gives a personalized view of each member's contributions	time consuming and complex; instructor must check results
list of traits provides students with objective criteria	list of traits may not give a true measure of the group work process
	students may misinterpret traits

References

Gibbs, G. *Learning in Teams: a Tutor Guide*. Oxford, 1995.

Lejk, M. *et al*. A Survey of Methods of Deriving Individual Grades from Group Assessments. In *Assessment & Evaluation in Higher Education*. Vol. 21, No. 3, 1996.

Appendix with numerical examples

Example for distribution of a pool of marks

- Group project mark: 70
- No. of group members: 4
- Instructor awards 280 points to group
- Advises students that difference between marks must not be greater than 20
- Group members divide marks by consensus as follows:

Student	*A*	*B*	*C*	*D*	*Total*
Mark	*80*	*60*	*75*	*65*	= *280*

Example for individual weighting factor

List of tasks	Group members' names		
	Ann	Bob	Chris
(a) Literature search	3	4	1
(b) Analysing the literature	4	5	1
(c) Writing a report	1	2	4
(d) Group presentation	3	1	1
Individual Totals	11	12	7

Rating scale
1 - Did not contribute in this way
2 - Willing but not very successful
3 - Average
4 - Above Average
5 - Outstanding

Peer assessment factor = (individual total) / (average total)
Average of individual totals = 10
If project mark = 60
Individual marks:

Ann = 60 * (11/10) = 66
Bob = 60 * (12/10) = 72
Chris = 60 * (7/10) = 42

Example for Individual assessment

3 group members (Ann, Bob, Chris), no self-assessment

Student name: Ann
Evaluated by: Bob (marks selected are underlined and in boldface in this example)

Aspect of team functioning	well below average	below average	average	above average	well above average
1. Forming good team cohesion	-2	-1	0	**1**	2
2. Leadership, managing meetings	-2	-1	0	1	**2**
3. Planning and allocating tasks	-2	-1	**0**	1	2
4. Generating ideas and solutions	-2	**-1**	0	1	2
5. Tackling team social problems	-2	-1	0	**1**	2
6. Organising individuals to do jobs	-2	-1	**0**	1	2
7. Helping team members to finish jobs	-2	-1	**0**	1	2
8. Willingly taking on unpopular jobs	-2	-1	**0**	1	2

Instructor's mark for team project 60%
Sum of evaluation marks +3
Individual mark for Ann given by Bob 63%
Note: Bob's evaluation of Chris must add up to -3

Student name: Ann
Evaluated by: Chris

Aspect of team functioning	well below average	below average	average	above average	well above average
1. Forming good team cohesion	-2	-1	0	**1**	2
2. Leadership, managing meetings	-2	-1	0	**1**	2
3. Planning and allocating tasks	-2	-1	**0**	1	2
4. Generating ideas and solutions	-2	**-1**	0	1	2
5. Tackling team social problems	-2	-1	0	**1**	2
6. Organising individuals to do jobs	-2	-1	**0**	1	2
7. Helping team members to finish jobs	-2	-1	**0**	1	2
8. Willingly taking on unpopular jobs	-2	**-1**	0	1	2

Instructor's mark for team project 60%
Sum of evaluation marks +1
Individual mark for Ann given by Chris 61%
Note: Chris' evaluation of Bob must add up to -1

Ann's final mark: (63 + 61) / 2 = 62%