

All for One and One for All: Improving Student Learning with Group Tests

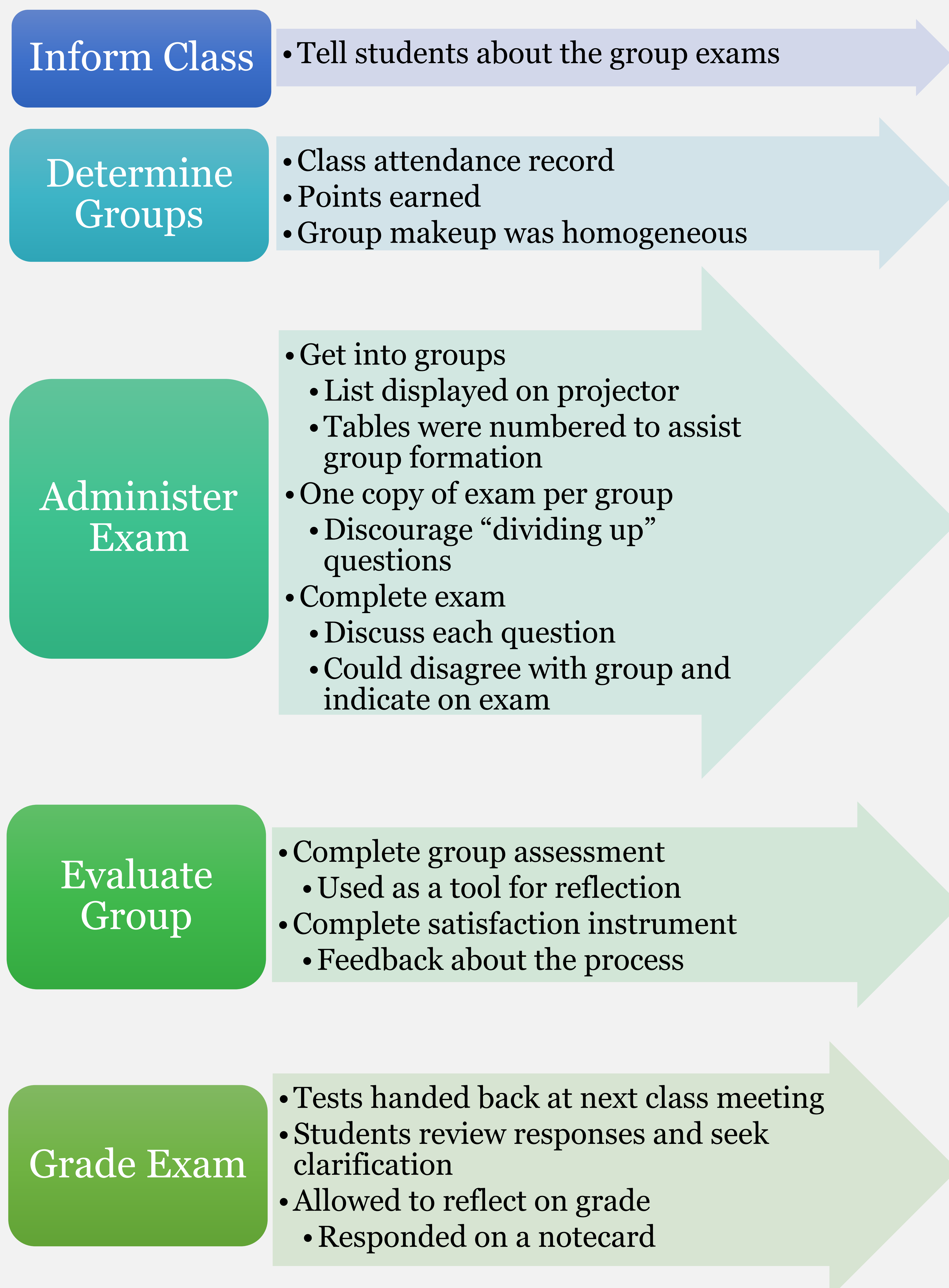
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Introduction/Need for Innovation

- Group testing enables students to take tests with peers and allows students to discuss questions and their reasoning for an answer, resulting in immediate feedback and filling in knowledge gaps (Cortright, Collins, Rodenbaugh, & DiCarlo, 2008).
- Hanshaw (2012) concluded there are more positive than negative outcomes to be gained from cooperative testing.
 - an increase in memory and learning, decrease in test anxiety, enhanced listening skills, and enrichment of social interactions.
- Furthermore, students express their levels of test anxiety and sense of competition for a grade reduce significantly (Hancock, 2007).
- The use of group tests enables students to work collaboratively to assess their own learning by dedicating more time to discussing course content.

How it Works/Methods/Steps



Results to Date/Implications

- Group tests were implemented in Introduction to Ag Information Science at MSU in the Fall 2015 semester.
- 40 students, three different majors, freshmen to seniors
- Each test had 11 groups with 3 or 4 students in each group.
- The class average for test one was 76% and 90% for test two.
 - This was an increase from the previous fall when the class average for test one was 70% and 81% for test two.
- After each test, students completed a satisfaction instrument (Table 1).

Table 1
Student satisfaction with the group test process

Item	Test 1 (N = 40)		Test 2 (n = 37*)	
	Mean	SD	Mean	SD
Enhanced Learning	4.20	.75	4.20	.65
Understand difficult concepts	4.15	.88	4.16	.79
Enjoyable	4.30	.72	4.38	.63
Nice change of pace	4.60	.73	4.65	.58
Distracting	1.75	.70	1.59	.63
Confusing	1.95	.74	1.70,	.73

Note: 1 = strongly disagree, 5 = strongly agree
***three students did not take the second test**

Costs/Resources Needed

- No cost to administer group tests.
- The groups need to be determined prior to the test date.
- Adequate classroom space to allow each group to discuss without the other groups hearing is beneficial.

Future Plans/Advice to Others

- Instructors should consider the objectives of the course and if group tests are appropriate.
 - If there is a strong need to evaluate each student individually, the group test may not be the best tool.
- The structure of the group test can be done in a variety of ways.
 - Students could have the same groups for each test, test could be completed outside of class, grading could reflect individual input.
- Instructor needs to decide how to handle students who do not want to complete the test in a group.
- The test should be written in a manner to encourage discussion (both in question difficulty and length).

References

- Cortright, R. N., Collins, H. L., Rodenbaugh, D. W., & DiCarlo, S. E. (2003). Student retention of course content is improved by collaborative-group testing. *Advances in Physiology Education*, 27(3), 102-108. doi: 10.1152/advan.00041.2002.
- Hancock, D. R. (2007). Exploring the effects of group testing on graduate students' motivation and achievement. *Assessment & Evaluation in Higher Education*, 32(2), 215-227. doi: 10.1080/02602930601051176.
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