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Metrics in Group Work

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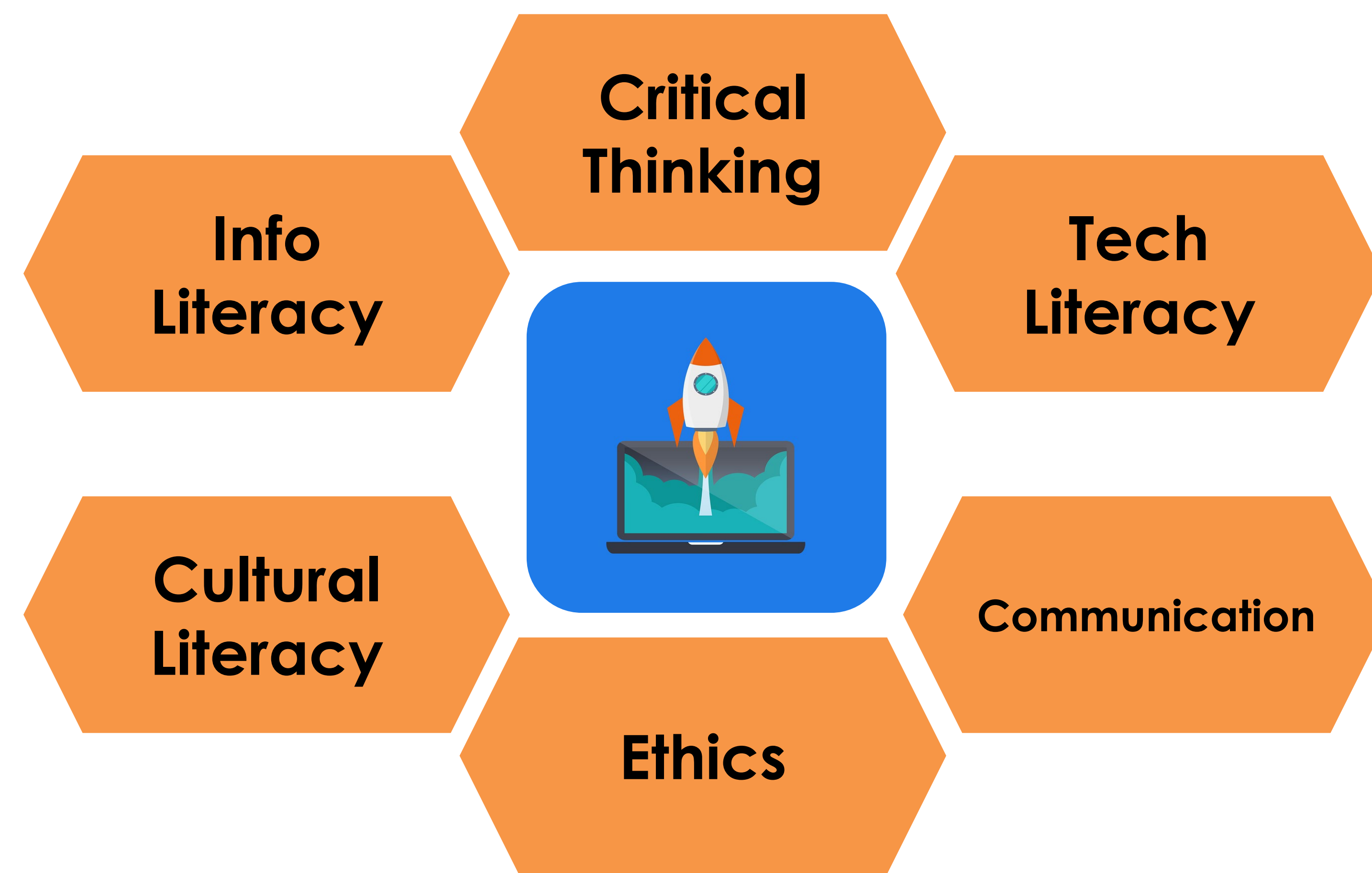
Teamwork! A Metric to Adjust Individual Scores on a Team Project

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Collaborative Learning, asynchronously online



What The Literature Says: Use of Teamwork

- Teamwork skills improve over time when taught & assessed
- Student Concerns:
 - "free-riders" / "social loafers"
 - team conflict
- What students fear is not usually the hurdle**
 - change in project/plan
 - managing other course deadlines
 - role allocation / leadership
- Most students report a positive experience
- Peer assessment improves cooperation, engagement in the course, and experiences

(1) Britton, E. et al. (2017) <https://doi.org/10.1080/02602938.2015.1116497>
 (2) Iacob, C. & Faily, S. (2019) <https://doi.org/10.1016/j.ijss.2019.110393>
 (3) Shishavan, H. & Jalili, M. (2020) <https://doi.org/10.1016/j.ijedro.2020.100019>

What the Literature Says: Evaluating Teamwork

- Formative and Summative
- Self & Peer Evaluation** of teamwork skills that instructor is less able to observe
 - Varied student attitudes
- Instructor Evaluation** of learning outcomes
- Student support for adjusting individual grades
 - Fair
 - Individualized
 - Accurate

(1) Fellenz, M. (2006) <https://doi.org/10.1177/1052562906286713>
 (2) Frederick, T. (2008) <https://doi.org/10.1177/1080569908325860>
 (3) Shishavan, H. & Jalili, M. (2020) <https://doi.org/10.1016/j.ijedro.2020.100019>
 (4) Simonson, S. (2019) https://scholarworks.boisestate.edu/kinesiology_facpubs/178/
 (5) Zhang, B. & Ohland, M. (2009) <https://doi.org/10.1080/08957340902984075>

The Metric

- Collect *graded* self- and team assessments. (Fillable form with team evaluation rubric – covers mostly collaborative learning skills, but also learning outcome mastery)
- Input individual team member rubric values into spreadsheet.
- Adjust individual grades accordingly, with feedback. Score modifier = Individual Average / Team Average

Anecdotal Observations:

- Rating consistency across team
- Tend to rate themselves lower

	Average	Score Modifier	Initial Grade	Adjusted Grade
Student A	20.80	1.0410	83	86.41
Student B	20.80	1.0410	83	86.41
Student C	20.80	1.0410	83	86.41
Student D	20.80	1.0410	83	86.41
Student E	16.70	0.8358	83	69.37
Team Average	19.98			

Student grades "bumped" because they picked up the slack

Student grade reduced because of team evaluation

Suggestions from Observations

- ✓ **Clear instructions and focus at start**, with emphasis on self, team, and peer evaluation as well as the need for leadership
- ✓ **Allow students to voice concerns. Address their concerns.**
- ✓ **Build team collaboration into the course**
- ✓ **Provide individualized feedback when applying metric**

Next Steps

- Inter-rater reliability
- Compare self- and team assessment of learning outcome mastery to instructor evaluation