Transparent Assignments Promote Equitable Opportunities for Student Success

Mary-Ann Winkelmes

Transparent teaching/learning practices make learning processes explicit while offering opportunities to foster students’ metacognition, confidence, and their sense of belonging in college in an effort to promote student success equitably. A 2016 publication identifies transparent assignment design as a replicable teaching intervention that enhances students’ success equitably [Winkelmes et al, Peer Review]. We’ll review the findings as well as educational research behind the concept of transparent teaching/learning in this session. Then we'll apply that research to the design of class activities and course assignments. Participants will leave with a draft assignment or activity for one of their courses, and a concise set of strategies for designing transparent assignments that promote students’ learning.

<table>
<thead>
<tr>
<th>Research on Learning</th>
<th>Implications for Assignments</th>
<th>Possible Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elbow, Jaschik/Davidson, Mazur, Ambrose, Bergstahler Gregorc, Kolb</td>
<td>• Low stakes for greater creativity / risk</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• Varied / flexible formats are inclusive appeal equitably to student strengths</td>
<td></td>
</tr>
<tr>
<td>Bass, Bloom, Colomb, Felder, Perry</td>
<td>• Build critical thinking skills in intentional sequence</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• Target feedback to phase, don’t overwhelm</td>
<td></td>
</tr>
<tr>
<td>Doyle, Felder, Tanner, Winkelmes</td>
<td>• Specify relevant knowledge/skills, criteria</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>• Encourage self-monitoring</td>
<td></td>
</tr>
<tr>
<td>Fisk/Light, Tanner</td>
<td>• Provide annotated examples of successful work w/ criteria applied, before students begin work.</td>
<td>4</td>
</tr>
<tr>
<td>Aronson, Dweck, Fisk, Light, Schnabel, Spitzer, Steele, Treisman</td>
<td>• Structure and require peer instruction, feedback; positive attribution activities</td>
<td>5</td>
</tr>
<tr>
<td>Yeager/Walton, Vygosky</td>
<td></td>
<td></td>
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<tr>
<td>AACU Finley/McNair (HIP, Prob-Centered) Winkelmes et al., Yeager, Walton</td>
<td>• Explicate purpose, task, criteria before</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>• Provide a compass, set expectations;</td>
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<td></td>
<td>• Explicate applicability, relevance;</td>
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<tr>
<td></td>
<td>• Engage students in applying shared criteria to increase belonging.</td>
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</tr>
</tbody>
</table>

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mary-ann.winkelmes@unlv.edu
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Bibliography:


Elbow, Peter. “High Stakes and Low Stakes in Assigning and Responding to Writing.” New Directions for Teaching and Learning, no. 69, (Spring 1997).


Tanner, Kimberly B. “Promoting Student Metacognition.” CBE Life Sciences Education 11, 2 (June 4, 2012): 113-120.


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mary-ann.winkelmes@unlv.edu
1. Varied and/or flexible formats appeal equitably to students’ strengths

Music in Andrew Lloyd Webber’s
The Phantom of the Opera

Argument: Andrew Lloyd Webber’s orchestration relies on conventional Western styles of musical phrasing and instrumentation. It exploits the natural tendencies of music to correspond with the ebb and flow of emotions, and allows the music to reflect the mood and/or tone of a scene, thereby making the musical accessible to a large general audience.

1) Introduction
   a. The popularity of Phantom and its music
   b. Possible reasons: story, spectacle, characters
      Success mainly comes from orchestration

2) Critics of Andre Lloyd Webber’s music
   a. What reviewers criticize
   b. Why the are wrong

3) Why the music does deserve praise
   a. Tactics of Western music that Lloyd Webber uses
   b. Exploits the natural tendencies of musical phrasing
   c. Orchestrates the numbers with instruments commonly associated with different moods
   d. Relies on recurring themes, bringing back melodies associated in audience’s memories with certain character roles and types.
   e. In scenes with romantic implications, couples orchestration with rhythm of the lyrics to amplify sensual overtones and transmit amatory expectations.

[outline continues]

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Guide for Preparing Your Paper

What is your topic? What position will you take on that topic?

What are the major primary and secondary sources essential to this topic? List full citations
What main pieces of evidence will support your idea(s) about the topic?

What are possible counterarguments? What evidence might support these?
What are some possible ways to refute counterarguments? What evidence can be used?

What problems or questions do you have?
## 2. Build students’ critical thinking skills in an intentional sequence

<table>
<thead>
<tr>
<th>Competency</th>
<th>Students should be able to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthesis</td>
<td>Use old ideas to create new ideas, theories, concepts, and models.</td>
</tr>
<tr>
<td>Analysis</td>
<td>Relate knowledge from several areas to recognize similarities and differences.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Compare and discriminate between ideas.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Critique and consider the worth of arguments.</td>
</tr>
</tbody>
</table>

### Bloom’s Taxonomy of Educational Objectives

#### Assignments for a sample business course

This chart indicates how each required assignment for the course helps you practice the disciplinary skills needed for passing the course.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Use Information</th>
<th>Use Argumentation</th>
<th>Use Theory</th>
<th>Use Concepts</th>
<th>Understand Relationships</th>
<th>Apply Knowledge</th>
<th>Analyze Data</th>
<th>Synthesize Information</th>
<th>Evaluate and Critique</th>
<th>2. Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 8/31 NOON</td>
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<td>3. 9/11</td>
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<td>5. 9/25</td>
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<td>6. 10/9</td>
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<td>8. 11/6</td>
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<td>9. 11/13</td>
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<td>10. 12/4</td>
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<td>11. 12/10</td>
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</table>

*from American Association of Colleges and Schools of Business “Assurance of Learning Standards,” in Eligibility Procedures and Accreditation Standards…

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3. Specify criteria and encourage students’ self-monitoring

VI. Calculation of Results

This section should follow all the procedures in the experiment and include calculations, and graph the results. The data should be plotted on the graph given in the manual. The data should be recorded in the notebook, and the graph may be included in the report. The data should be recorded in the notebook, and the graph may be included in the report.

VII. Questions

This section should follow all the procedures in the experiment and include calculations. The data should be plotted on the graph given in the manual. The data should be recorded in the notebook, and the graph may be included in the report.

VIII. Conclusion

This section should follow all the procedures in the experiment and include calculations. The data should be plotted on the graph given in the manual. The data should be recorded in the notebook, and the graph may be included in the report.

IX. Discussion

This section should follow all the procedures in the experiment and include calculations. The data should be plotted on the graph given in the manual. The data should be recorded in the notebook, and the graph may be included in the report.

X. Conclusion

This section should follow all the procedures in the experiment and include calculations. The data should be plotted on the graph given in the manual. The data should be recorded in the notebook, and the graph may be included in the report.
4. Provide annotated example of successful work, before students begin working

Carol Augspurger, School of Integrative Biology, University of Illinois at Urbana-Champaign

**INTRODUCTION (4-5 paragraphs)**

Both extrinsic and intrinsic factors affect the relative population size of species of small mammals in local habitats. Extrinsic factors may include the amount of food availability (Bell 1989), presence of competing species (Holt et al. 1995), and the presence of predators (Batzli and Lin 2001). Intrinsic factors may relate to their diet and food preferences (Heskie 2004), competitive ability (Holt et al. 1995), and body shape (Hoffmeister 1989) that affects their speed and agility in escaping predators. Differences in these factors are expected to result in varying population sizes of species of small mammals among local habitats. Understanding the factors that affect a species’ population size is important because it allows us to predict how changes in the environment will affect its population dynamics and the community structure.

Augspurger et al. (2007) found that the relative population sizes of small mammals differed in successional old fields of contrasting age. Specifically, their four years of live trapping showed that voles have a large population in a field abandoned one year ago, while shrews have a larger population size in a field

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**Sample Glossary Entry:**

**apse:**

1. **STEP 1:** Locate a term in the glossary that lacks an illustration.
2. **STEP 2:** Insert an image that illustrates the term.
3. **STEP 3:** Insert a label for your image.

**Insert image here**

**Insert label here:**

*Artist’s or architect’s name, title of work, materials used in the work, original location of the work, current location of the work, URL, date accessed [your first and last name]*

**EXAMPLE:**

Plan of a cathedral.

Peer Response Sheet

1. What single feature of the paper stands out to you as a reader?
2. What do you think is the writer's main point?
3. Was there anything in the paper that seemed confusing to you? (If so, explain briefly).
4. Underline the thesis statement. Is it clearly stated? If not, what seems confusing?
5. Is there any place where the writer needs to support an idea with more concrete detail or explanation?
6. How well does the writer make transitions between major ideas or sections of the paper? How could this be improved?
7. Is there any place where you think the writer could be clearer or more concise?
8. What percent of the first page of this paper is devoted to the following topic:
   a. Definition of the word(s) "equation"?  b. Clarify what is meant by "equivalent equations.
9. In your own words, write a sentence or two paraphrasing the point of the paper, answering the question, "in what way(s) is this interesting, surprising, intriguing, etc.?

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Criteria for Success:

Task:

Knowledge:

Skills:

Purpose:

Due Date:

6. Explicate purpose, task(s), and criteria for students’ work in advance.

* This image is a template for an assignment. The text within the template needs to be filled in by the instructor or student according to the specific purpose, task(s), and criteria for the work to be done.
**EXAMPLES: Less Transparent**

7. Submit the typed transcript and reflection paper to your instructor.

   a. Who you selected and why?
   b. What major/career decision?
   c. What this assignment helped you learn about yourself?
   d. Who you learned from them that is most interesting?

6. Write a 400-500 word reflection paper in which you address the following items:

5. Prepare a typed transcript of the questions and answers using the audio/video recording.

4. Conduct a 20-30 minute face-to-face interview to gather knowledge of a particular academic discipline/career field.

3. Prepare 8-10 questions to ask the professional about their knowledge that will help you make an informed decision about the major/career you are considering. You will want to audio/video record the interview with the individual's permission.

2. Secure an interview with the professional for a date and time that is convenient for both of you.

1. Select a professional in your prospective academic discipline and/or career field that is considered an expert in an area in which you are interested.

**MATH 131**

For the given function

\( f(x) = x^2 - 3x \)

Find and simplify the first derivative.

Identify any critical points.

Find and simplify the 2nd derivative.

Identify any inflection points.

Indicate where the function is increasing/decreasing, concave up/down. Make a sign diagram.

Make a rough sketch of the shape of the graph, and label the critical points and inflection points.
Criteria for success:
You will have increased your understanding of how to identify the essential parts of a scientific poster and how to evaluate its use of evidence.

1. Your research should be as complete as possible. After completing the assignment, you will have increased your understanding of how to identify the essential parts of a scientific poster and how to evaluate its use of evidence.

2. Describe how the pieces of evidence are presented (e.g., numbers, graphs, tables, figures).

3. Describe how the pieces of evidence are presented (e.g., numbers, graphs, tables, figures).

4. Explain the ethical conclusion. Explain why or why not.

5. Explain the ethical conclusion. Explain why or why not.

6. Examine the context of the poster. Do the pieces of evidence support their conclusion? Explain why or why not.

7. Examine the context of the poster. Do the pieces of evidence support their conclusion? Explain why or why not.

8. What are the pieces of evidence in support of the idea that the authors are from a population (POP), scientific peer-reviewed (SPR), or non-scientific peer-reviewed (NSPR)? Do you think there is enough scientific evidence from peer-reviewed articles?

9. What are the pieces of evidence in support of the idea that the authors are from a population (POP), scientific peer-reviewed (SPR), or non-scientific peer-reviewed (NSPR)? Do you think there is enough scientific evidence from peer-reviewed articles?

10. Examine the context of the poster. Do the pieces of evidence support their conclusion? Explain why or why not.

11. Examine the context of the poster. Do the pieces of evidence support their conclusion? Explain why or why not.
### Sequencing Worksheet for Assignments and In-class Activities

<table>
<thead>
<tr>
<th>Purpose: Content Knowledge (5 years out)</th>
<th>Purpose: Skills (Bloom, DQP, GenEd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop/create an example case for a Renaissance artwork</td>
<td>Understand tools, methods, frameworks</td>
</tr>
<tr>
<td>Evaluate an example case</td>
<td>In-class analysis of primary-secondary sources; separate, compare, summarize</td>
</tr>
<tr>
<td>Apply tools, terms, methods to analyze a case</td>
<td>Take-home paper: formal analysis of artwork; identity, describe structures, explain terms, methods, measures, frameworks</td>
</tr>
</tbody>
</table>

#### Tasks: Activity for Assignment Cues

- Presentations and feedback; briefly, examples, checklist, rubric
- Take-home paper: likely original contact; use artifacts, primary sources to construct the story
- Take-home assignment: annotated bibliography explaining how each source helps you, choose, cite, decide, describe
- Take-home paper: annotated bibliography explaining how each source helps you, choose, cite, decide, describe
- Take-home paper: annotated bibliography explaining how each source helps you, choose, cite, decide, describe

#### Criteria

- Peers and teacher high
- Peers and teacher low
- Peers and peer feedback suggests revisions low
- Peers and peer feedback suggests revisions medium
- Teacher high
- Teacher low

#### Feedback

- In-class annotation of skills in use: review of skills/knowledge goals; feedback targeted to phase
- Peer feedback targeted to phase: feedback in a sequence: review of skills/knowledge goals; build skills in a sequence
- In-class annotation of skills in use: feedback in a sequence: review of skills/knowledge goals; build skills in a sequence
- Peer feedback targeted to phase: feedback in a sequence: review of skills/knowledge goals; build skills in a sequence
- Peer feedback targeted to phase: feedback in a sequence: review of skills/knowledge goals; build skills in a sequence

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mary-ann.winkelmes@unlv.edu

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Recent Findings: Transparency in Learning and Teaching in Higher Education

A 2015 study (Winkelmes, et al., Peer Review, Winter 2016) identified transparent teaching about problem-centered learning as an easily replicable teaching method that produces learning benefits already linked with students’ success. This simple, replicable teaching intervention demonstrably enhanced the success of first-generation, low-income and underrepresented college students in multiple ways at statistically significant levels, with a medium-to-large sized magnitude of effect. The results offer implications for how faculty and educational developers can help their institutions to right the inequities in college students’ educational experiences across the country by contributing to efforts to increase underserved students’ success, especially in their first year of college (when the greatest numbers drop out).

In 2014-2015 a group of 7 Minority Serving Institutions launched a pilot project that included 1180 students and 35 faculty. Tia McNair and Ashley Finley at the Association of American Colleges & Universities (AAC&U) led the project in partnership with Mary-Ann Winkelmes at the University of Nevada, Las Vegas’ Transparency in Learning and Teaching in Higher Education Project (TILT Higher Ed), with funding from TG Philanthropy. The main research goal was to study how faculty transparency about the design and problem-centered nature of student assignments would affect students’ learning experiences and the quality of students’ work. Faculty received training on how to make two take-home assignments in a course more transparent (accessible) and problem-centered (relevant) for students, and each instructor taught a control group and an intervention group of the same course in the same term. Results were measured via online surveys about students’ learning experiences before and after each course, and direct assessment of students’ work. Students who received more transparency reported gains in three areas that are important predictors of students’ success: academic confidence, sense of belonging, and mastery of the skills that employers value most when hiring. While the benefits for all students in the aggregate who received more transparency were statistically significant, the benefits for first-generation, low-income and underrepresented students were greater, with a medium-to-large sized magnitude of effect. Important studies have already connected academic confidence and sense of belonging with students’ greater persistence and higher grades (Walton and Cohen 2011, Aronson et al 2002, Paunesku et al 2015), and recent national surveys identify the skills that employers value most when hiring new employees (Hart 2015 and 2013).

TILT Higher Ed and the AAC&U continue to promote transparency and problem-centered learning. TILT Higher Ed participants include more than 25,000 students in hundreds of courses at 40 higher education institutions in the U.S. and five other countries.

End of Term: Skills, Confidence, and Belonging - Less vs. More Transparent Courses

<table>
<thead>
<tr>
<th>First Generation College Students, End of Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Transparency</td>
</tr>
<tr>
<td>Less Transparent: mean perceived transparency 0.80</td>
</tr>
<tr>
<td>More Transparent: mean 3.3/4</td>
</tr>
<tr>
<td>Employer-valued Skills*</td>
</tr>
<tr>
<td>Less Transparent: mean 0.58</td>
</tr>
<tr>
<td>More Transparent: mean 4.0/5</td>
</tr>
<tr>
<td>Academic Confidence</td>
</tr>
<tr>
<td>Less Transparent: mean 0.50</td>
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<tr>
<td>More Transparent: mean 4.0/5</td>
</tr>
<tr>
<td>Sense of Belonging</td>
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<tr>
<td>Less Transparent: mean 0.64</td>
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<tr>
<td>More Transparent: mean 4.0/5</td>
</tr>
</tbody>
</table>


**Effect sizes of 0.25 standard deviations or larger are “substantively important,” (US Dept of Ed, What Works Clearinghouse Procedures and Standards Handbook version 3.0, Web. March, 2014, p. 23.)

Publications and information about the Transparency in Learning and Teaching Project are at: www.unlv.edu/provost/teachingandlearning

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mary-ann.winkelmes@unlv.edu

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