DISRUPTIVE INNOVATION
Applications to Education
Miriam Gettinger

Overview and examples A-Z

‘Bounce Forward, Not Back’ applied to Covid 19
Not a novel concept
Examples in history and technology
A-Z: Case studies and their educational parallels

DESIGN THINKING
APPLICATIONS TO THE CLASSROOM
The Phases of Design Thinking Applied to All Areas of Instruction

PROBLEM SOLVE: Invert the Triangle

HOOKS!
- The Put Your Whole Self Hook
- The Costume Hook/Props Hook
- The All the World’s a Stage Hook
- The Mine Hook
- The Student Directed Hook
- The Real Life Application Hook/The Opportunistic Hook
- The Inspiration Hook
- The Mystery Hook/1 The Backwards Hook
- The Interior Design Hook
- The Mozart Hook
- The Picasso Hook
- The Chef Hook
- The Safari Hook
### Learning Targets Drive Instruction

Students can master any target which is clearly marked and is stationary!

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were able to describe what they were learning:</td>
<td>32 / 262 12%</td>
</tr>
<tr>
<td>Described more of the activity or what they were doing (or gave a compliance based response):</td>
<td>202 / 262 77%</td>
</tr>
<tr>
<td>Were not able to respond at all to the question:</td>
<td>28 / 262 11%</td>
</tr>
<tr>
<td>Totals</td>
<td>262 100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were able to fully describe how they would show mastery of target:</td>
<td>26 / 262 10%</td>
</tr>
<tr>
<td>Were able to describe mastery assessment in general terms only:</td>
<td>198 / 262 76%</td>
</tr>
<tr>
<td>Were not able to respond at all to the question:</td>
<td>38 / 262 14%</td>
</tr>
<tr>
<td>Totals</td>
<td>262 100%</td>
</tr>
</tbody>
</table>
UNDERSTANDING BY DESIGN...SDRAWKCAB

STAGE ONE: IDENTIFY DESIRED RESULTS
STAGE TWO: DETERMINE EVIDENCE
STAGE THREE: PLAN LEARNING EXPERIENCES AND INSTRUCTION

AVOID THE TWO CARDINAL SINS OF TEACHING/“COTTON CANDY” ACTIVITIES AND COVERAGE OF CONTENT THROUGH STANDARDS OR TEXT BASED CURRICULUM

Essential Questions

The Mental Velcro of Unit of Study - Students Focus on Information which Sticks to the EQ
Can be topical or overarching
Focuses instruction, organizes student learning
Makes connections cross curricularly
Pushes students to higher levels of thinking
## Essential Questions

The **Mental Velcro** of Unit of Study: Students Focus on Information which Sticks to the **EQ**

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**Bigadim in the Torah**

**Knowledge of Bigadim: Facts, Vocabulary**
- Translation and context of relevant parashah, perakim, terminology, and key phrases such as Rashi’s inductive analysis of a holistic “text and point” (derashot ‘unikhelet ve’torah), study of the verse, and the relationship between numbers.
- The ratio between numbers is how the numbers compare to each other.
- A whole can be divided into various parts.
- Be able to do:
  - Record the comparison between two quantities in a standard way.
  - Recognize and solve problems involving the relationship between numbers.
  - Convert between fractions, percentages, and ratios.
- Represent the relationships between a whole and the parts within a whole in a variety of ways.

**Understanding of Bigadim: Concepts, Mussar, Calculus**
- How does Biblical clothing symbolize personality? How do “clothes make the man?”
- How does the divine clothing of Adam and Chava portend for the future role of clothing for mankind?
- How is clothing used to portray sibling tension in Biblical family dynamics?
- Why are the Bigdei kehuna/priestly vestments so significant as to have two parshiot devoted to their detail?

**Doing Process Skills: Transferable Cross Curricular Skills**
- Independent preparation of new pesukim and commentaries.
- Written and oral communication skills in the development of a culminating project of Biblical fashion show.
- Critical thinking skills and compare-contrast skills.
- Evaluation, technology, and creative thinking skills.
Formative Assessment

“Teaching without Formative Assessment is like painting with your eyes closed.” (Craig Barton)

Formative Assessment Is...

A process of accumulating information about a student’s progress to help make instructional decisions that will improve his/her understandings and achievement levels.

- Depicts student’s life as a learner
- used to make instructional adjustments
- alerts the teacher about student misconceptions
- “early warning signal”
- allows students to build on previous experiences
- provides regular feedback
- provides evidence of progress
- a aligns with instructional/curricular outcomes

TOTAL PARTICIPATION TECHNIQUES/Ongoing Assessment

WHITEBOARDS (can use laminated light colored construction paper, socks)
PAIR/SOAK
ROW PAPER PASS
RANDOM QUESTIONING
PAINT CHIP CARDS
QUICK DRAW/WHITE
BOARD SPLASH/WALKTHROUGHS (students note patterns)
CUT/PASTE (Prefix, Suffix)
Exit Tickets Redefined

Stoplight
Anonymous
Rotation
1,2,3
6 words
One Pager—combines visual with verbal

Summative Assessment Is...

A means to determine a student's mastery and understanding of information, skills, concepts, or processes.

- Should reflect formative assessments that precede it
- Should match material taught
- May determine student's exit achievement
- May be tied to a final decision, grade or report
- Should align with instructional/curricular outcomes
- May be a form of alternative assessment

QUALITY SUMMATIVE ASSESSMENTS

- Mirror learning goals/KUD’S and does not measure creativity, artistic product unless part of rubric.
- Priorities within the KUD’S are clear to students
- Format of assessment is aligned with instructional mode and cognitive level/multiple choice type for knowledge and performance task for deeper evidence based thinking or skill combination
- Assessment does not require specialized knowledge or resources beyond the the learning goal. IEP students are the exception to these guidelines
Differentiated Assessment

Managing differentiated assessment Consider the following tips to help you make meaningful, manageable decisions about how to differentiate assessment. Be realistic. Assessing differentiated content, process or product places demands on you as the teacher. In general, content differentiation tends to put the highest demand on teachers’ understanding of the subject matter. Process differentiation tends to put the highest demand on teachers’ classroom management skills. Product differentiation tends to put the most demand on teachers’ planning skills because they will need to have choices laid out, materials available and general rubrics ready.

How To Manage Differentiated Assessment

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3 P

Performance-achievement

Process-habits of mind, work effort

Progress-growth of learning KU-D over time/learning trajectory/heavy ended on later grades

Never average the three/report each separately
Book Recommendations

The Power of Our Words - Paula Denton
Yardsticks-Chip Wood
Learning and Managing the Differentiated Classroom - Carol Ann Tomlinson
Productive Group Work - Frey and Fisher
Disruptive Innovation and Disrupting Class - Clayton Christensen