Integrating Open Educational Resources (OER) to Support Student Success

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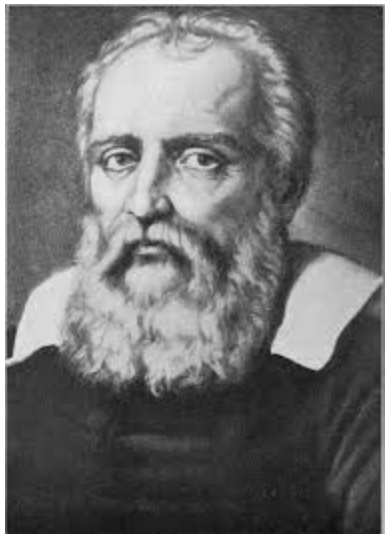
Galileo said it best.

We cannot teach
people anything.

We can only help
them discover it
within themselves.

Galileo Galilei



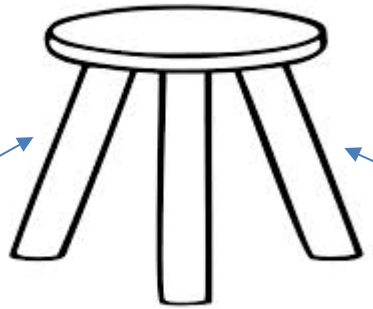
What is OER?

Open educational resources (OER) are free and openly licensed educational materials that can be used for teaching, learning, research, and other purposes.

The William and Flora Hewlett Foundation

The 3 Legs of the Stool

Increase
Student Engagement
during
In-Class Activities
with
Pre-class On-line
Preparation



Free, On-line Practice Quizzes
Build Mastery of
Course Basic Knowledge
Needed for
More Complex Concepts

Free, On-line Text
Creates
a Single, Interactive Platform for
All On-line Course Resources

My Journey into OER

- What do I teach?
- What is the AHLC (Allied Health Learning Community)?
- What is a Flipped Format?
- What are the Benefits of an OER Text?
- How can building Basic Course Knowledge support student success?
- How can you use OER in your course?

Chem 309 integrates General, Organic & Biochemistry

atoms & compounds

larger organic compounds

biomolecules (proteins, carbs & fats) structure & reactivity

Course content spans 2 ½ years of college chemistry in 16 weeks to prepare Allied Health students for their biology courses.

The AHLC

Allied Health Learning Community

A High School to Allied Health Vocational Program Pathway

- 18-20 years old
- ›50% Latino/Hispanic
- Embedded Counselor Cohort

FEBRUARY 14, 2017

Sacramento college combats racial and economic disparities through health care career pathways

Program boosted diversity and success rate of allied health care training programs

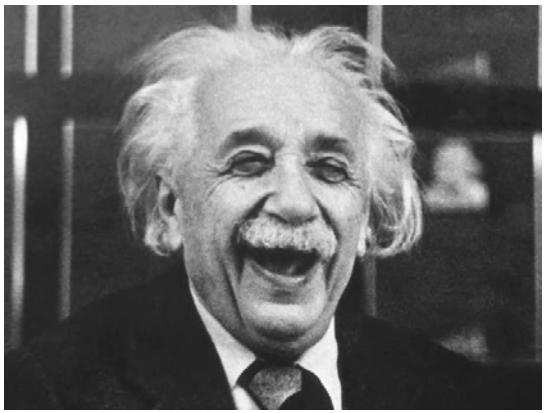
The 1st AHLC Cohort

Student Performance	AHLC	Open Access
Retention	80	90
Success	20	80

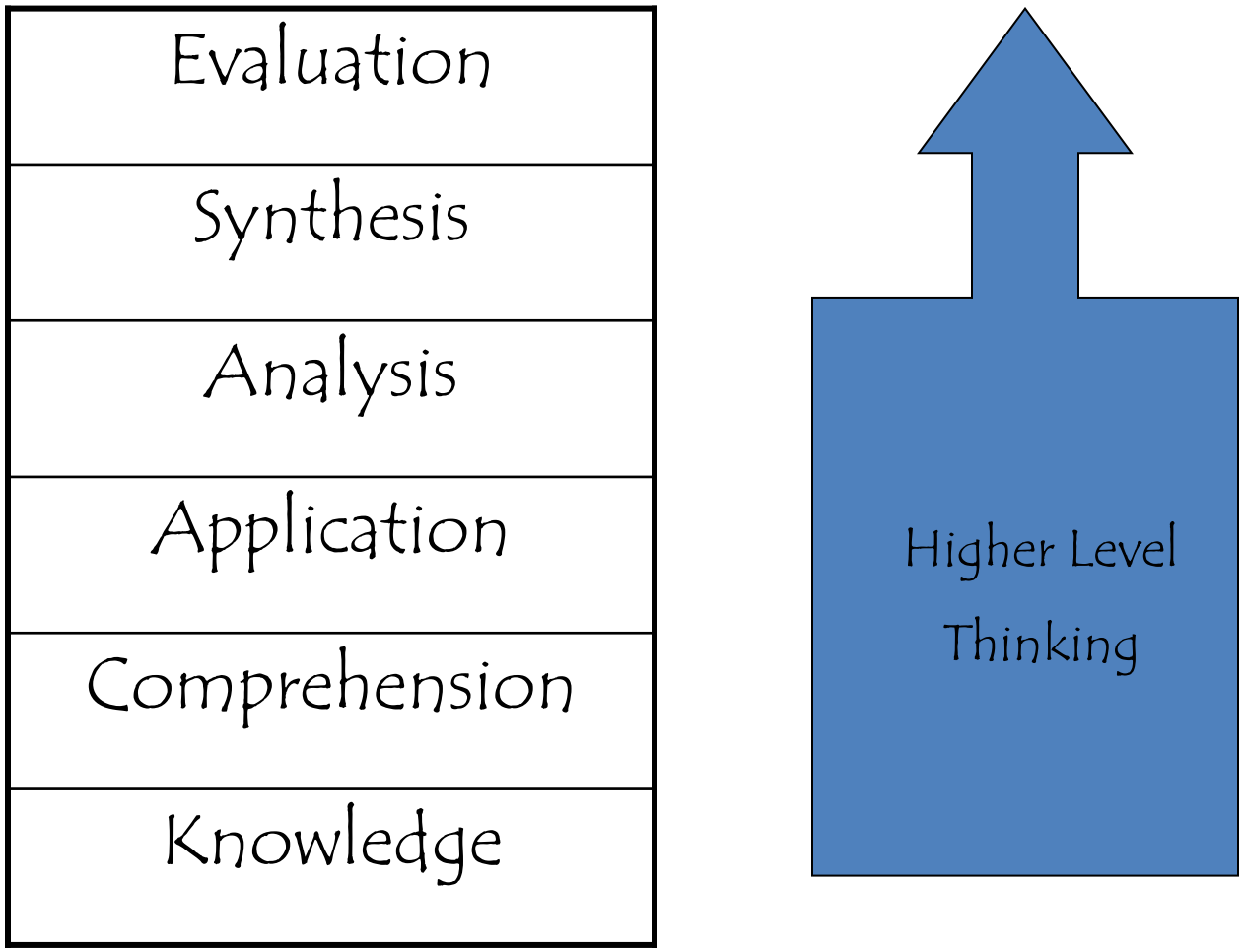
17 AHLC students re-take Chem 309 the following semester.

Insanity is doing the
same thing over again &
expecting a different result.

Albert Einstein



Cognitive Domains & The Flipped Format



The Flipped Format

Before class: Watch selected videos and ACTIVELY take notes

During class: Bring video lecture notes and a "Can Do" attitude
Work in groups on In-class Homework (INCH) packets.

After class: Review notes and INCHs within 24 hours
Work more homework problems
Watch videos for next class session while actively taking notes

The AHLC – 4 Years Later

Student Performance	AHLC Trad Lecture Format	AHLC Flipped Format
Retention	80	80
Success	20	50

1st Cohort

Cohorts 2, 3 & 4

2½ x increase in student success

What do other students say about the Flipped Format?

Fall 2016 Student Survey Results

Agreed	Comment
80 %	Thought topics were easier to understand
92 %	Enjoyed the convenience of deciding when to listen to the lectures
92%	Appreciated the in-class assistance from the professor
94 %	Liked that the lectures could be repeated

Dr. Marisa Alviar-Agnew
SCC, Chemistry Department

Disjointed Learning Resources & Traditional Text Book Limitations

The Dawning of the Evolution of the Text Book

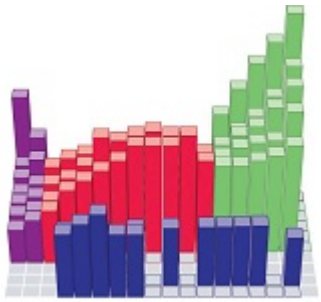
The Many Benefits of an OER Text

- FREE ≈ $17,000/semester in text book savings (2 x 48 students)
- Creates a single platform to access ALL on-line course resources
- Can be customized to your course and pedagogical approach
- Can create interactive learning experiences
- Provides insights into the study habits of students
- Support equity and social justice
- Can be linked to create interdisciplinary texts

A Single Platform for ALL Course Materials

Integrated General, Organic, & Biochemistry Text

- complete text
  with end-of-chapter homework questions & solutions
- AGENDA with links to on-line learning resources



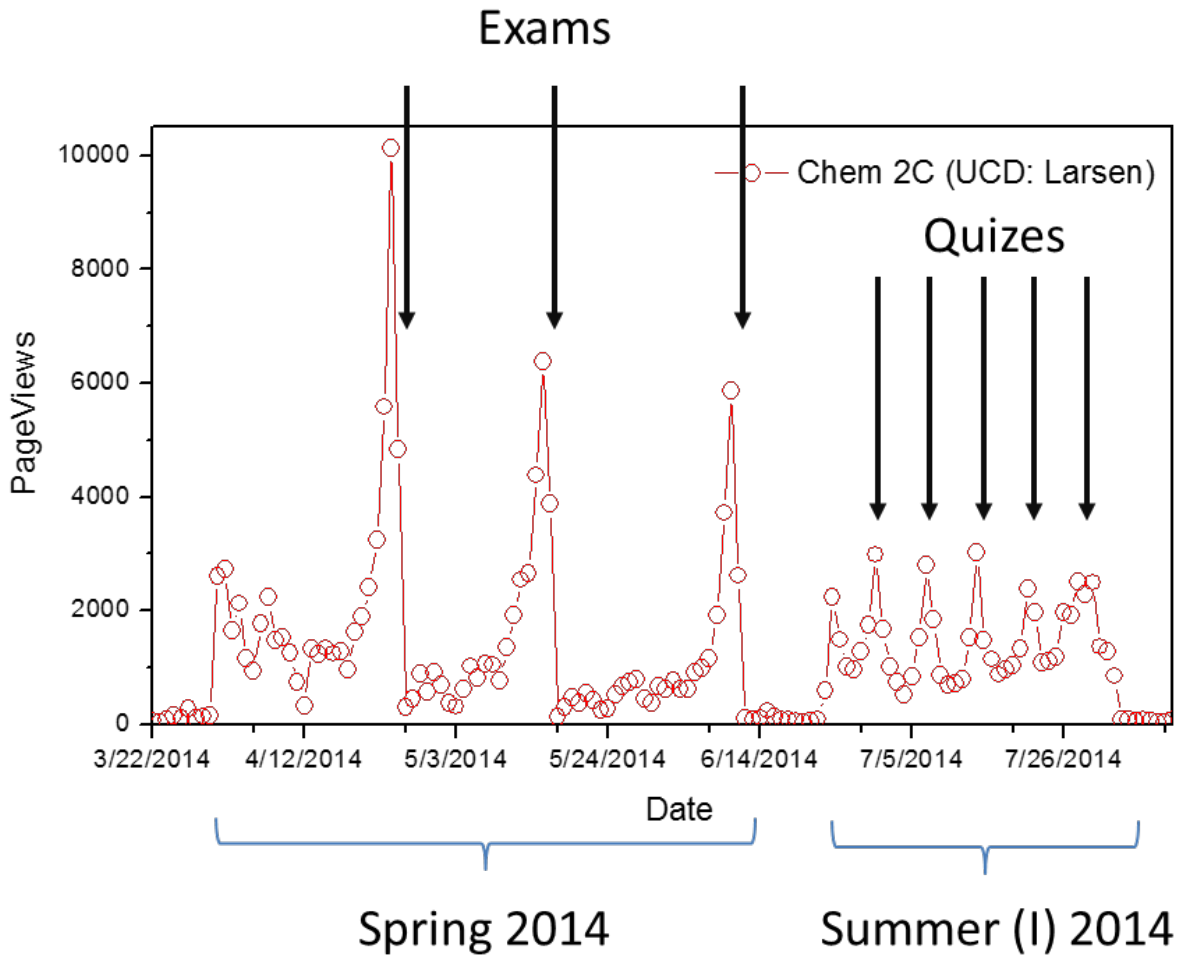
Interactive Animations
&
Instructional Videos

pH & Acid-Base Chemistry

Metabolic Cycle Animations

- Citric Acid Cycle
- Electron Transport Chain
- Translation (Protein Synthesis)

Insights into the Study Habits of Students Traditional Format Course



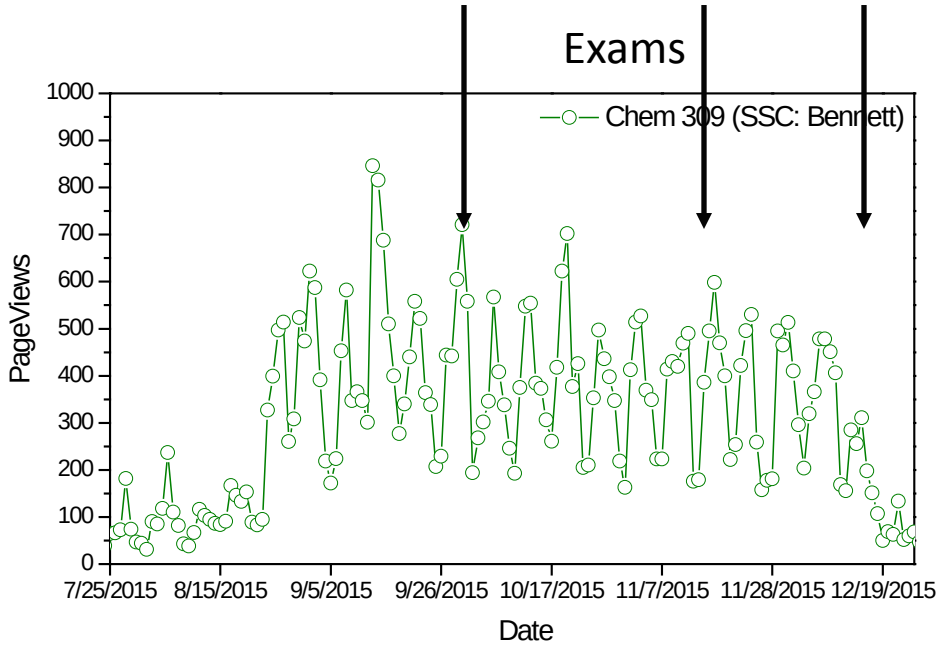
Clear Evidence of Cramming

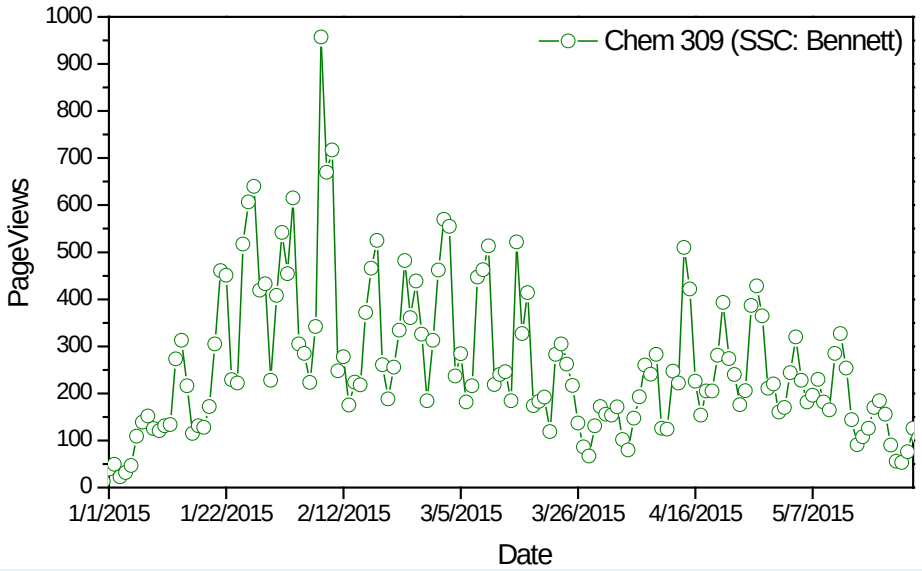
Insights into the Study Habits of Students Flipped Format Course

"Cramming is not observed
in a Flipped Class
at Sacramento City College."

Prof. Delmar Larsen, UC Davis

Delmar Larsen





Student Performance & Text Book Format

Fall 14 through Fall 16

Number of Students who	Libre Text	Traditional Text
Started	325 (91%)	33 (9%)
Completed	250 (77%)	25 (76%)
Succeeded	195 (60%)	18 (55%)

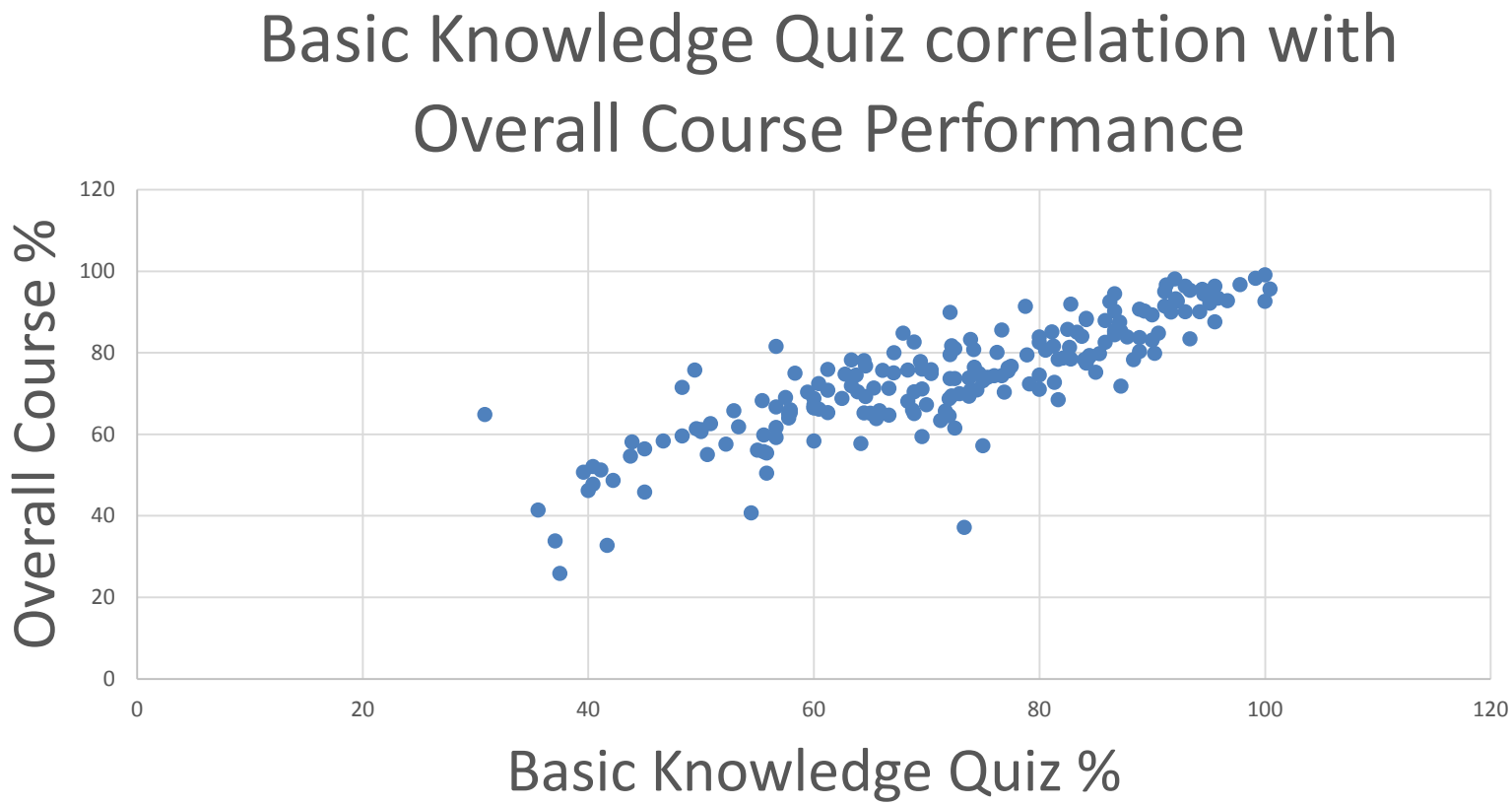
Students show comparable performance with both text formats.

An Additional Benefit of the Flipped Format

We get to observe

- how students approach course materials
- what the students know
- what the student do NOT know
- study habits of successful students

Course Basic Knowledge & Student Success



Basic Knowledge Practice On-line Quizzes

- Students take practice, on-line quizzes covering course basic knowledge.
- Self-assess their knowledge and understanding
- Internalization of basic knowledge improves the ability to understand and apply more complex course concepts
- Quizzes are graded immediately & can be reset as many times as requested by the students
- Format compatible with cell phones & tablets

It takes a Village!

None of the resources shared today would have been possible without the help of many people.

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Sabbatical Committee
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Questions &/or Comments?