

Thinking outside the box: a tool to leverage student engagement & metacognition

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Course Background

I taught this new-to-me NRS 100 course in Fall 2020, Spring 2021 and Fall 2021

- **NRS 100** – Intro to Natural Resource Conservation
- Survey course; each week covers a topic (e.g. ecology, biodiversity, agriculture, water, climate change, renewable energy, human impacts)
- F20 = 143, S21 = 9, F21 = 60 students from CELS majors + students fulfilling A1 STEM GenEd requirement
- Taught in hybrid “flipped class” model; some mini-lectures, discussions (verbal & weekly written assignments)
- Use “Specifications Grading” – students complete course elements required for desired grade (higher grades = more requirements); everything graded as “Accept” or “Revise”. No exams.

The KWL Chart

Course Challenge: CELS majors come in with strong pre-existing knowledge & motivation; students fulfilling GenEd requirement have variable past experience, knowledge & motivations.

My course approach: Choose your own Adventure! Give students CHOICES & AGENCY to engage in learning meaningful to them!*

- Q: Learning will look different for every student... how document & challenge students to engage and reflect on learning?
- A: Semester-long KWL Chart with reflection questions – turned in W1, W5, W10, W15

Course Topic	(Already) KNOW	WANT to KNOW	LEARNED
[Topic 1]	<ul style="list-style-type: none">• [prior ...• ...• knowledge]	<ul style="list-style-type: none">• [Qs about ...• topic before ...• class/unit]	<ul style="list-style-type: none">• [Main take-aways or ...• answers to Qs]
[Topic 2]	<ul style="list-style-type: none">• [prior ...• ...• knowledge]	<ul style="list-style-type: none">• [Qs about ...• topic before ...• class/unit]	<ul style="list-style-type: none">• [Main take-aways or ...• answers to Qs]

Results

What do students think?

- 21% of students mentioned KWL (F20) as “most effective assignment”

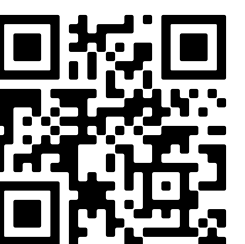
What do students say?

- “What I like the most about this course is that there are no major exams. It made me feel like there was no time limit to understand the material given” & “Despite the lack of tests, I feel I mastered the content, more so than if we did have exams”
- “The KWL chart was the most effective because it made me think about how what the course had taught me personally, and continually filling it out helped to show me how much I was learning.” & “I think the KWL (Know, Want to know, Learned) chart that had to be filled throughout the semester was most effective. It is essentially a layout of everything you've learned written in your own words - making it both accessible and knowledgeable.”

Bonus: These charts & reflections are rewarding to review and “grade”! 😊

Examples & Alternatives:

[KWL Chart + Reflection Qs](#)



Individual Development Plan:
[Course Goals & Reflection Qs](#)

THINK BIG  WE DOSM

*Partly inspired by:

- Verschelden, C. (2017). [Bandwidth Recovery](#)
- McGuire, S.Y. (2015). [Teach Students How to Learn](#)
- Denial, C. (2019). [A Pedagogy of Kindness](#) & Stephens, L.E. (2021). [More than Students ... A Pedagogy of Kindness](#)

