

3-17-2017

Evaluating Tech Tools for Literacy: A Research-Based Checklist

Todd Cherner

Portland State University, chernert@pdx.edu

Peggy Hopper

Mississippi State University

Let us know how access to this document benefits you.

Follow this and additional works at: https://pdxscholar.library.pdx.edu/ci_fac

 Part of the [Curriculum and Instruction Commons](#), [Educational Methods Commons](#), and the [Instructional Media Design Commons](#)

Recommended Citation

Cherner, T., & Hopper, P. (2017, March). Evaluating tech tools for literacy: A research-based checklist. Concurrent session presented at the Computer-Using Educators conference in Palm, Springs, CA.

This Presentation is brought to you for free and open access. It has been accepted for inclusion in Curriculum and Instruction Faculty Publications and Presentations by an authorized administrator of PDXScholar. For more information, please contact pdxscholar@pdx.edu.

Evaluating Tech Tools for Literacy: A Research-Based Checklist

Todd Cherner, Ph.D.

Friday March 17, 2017 12:30pm - 1:30pm

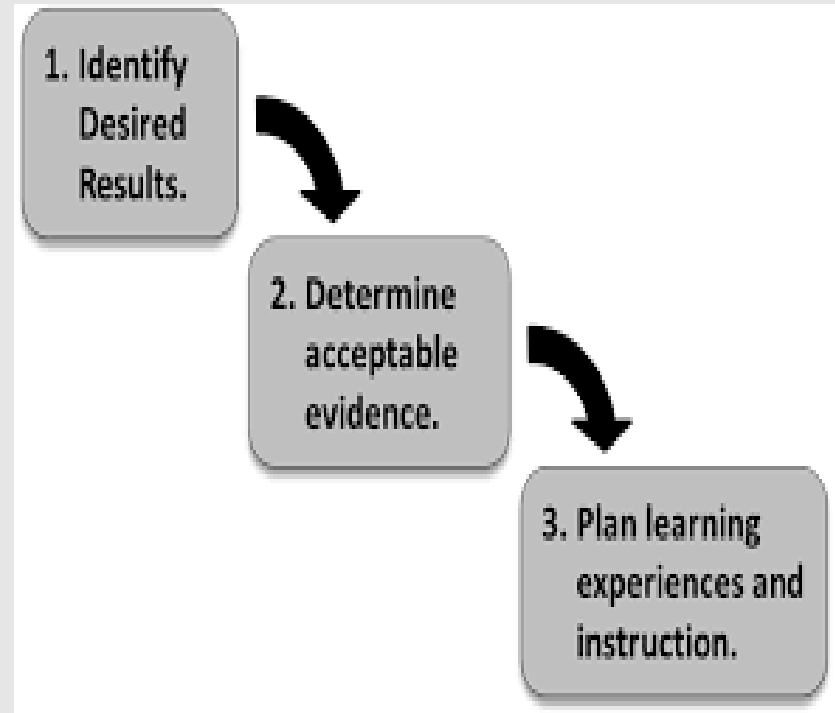
Royal I - III, Riviera Hotel

1600 North Indian Canyon Drive Palm Springs, CA 92262

Objectives for this Presentation:

By the end of this presentation, you will be able to:

- Conceptualize content-area literacy
- Apply research to create a checklist for content-area literacy
- Use checklist to evaluate edtech
- Applying content-area literacy strategies to edtech
- Resource for finding edtech and literacy-based ideas for using it



A Resource for Finding and Using EdTech



www.appedreview.com/app

Current Issues
in Emerging eLearning

CITE
JOURNAL
CONTEMPORARY ISSUES IN
TECHNOLOGY & TEACHER EDUCATION

Journal of Information
Technology Education:
Research

- Cherner, T., & Fegely, A. (2017). Educational app in the blended learning classroom: Bringing inquiry-based learning into the mix. *Current Issues in Emerging eLearning*, 4(1), p. 1-17. Retrieved from <http://scholarworks.umb.edu/ciee/vol4/iss1/1/>
- Cherner, T., Lee, C-Y., Fegely, A., & Santaniello, L. (2016). A detailed rubric for assessing the quality of teacher resource apps. *Journal of Information Technology Education: Innovations in Practice*, 15, 117-143. Retrieved June 27, 2016 from <http://www.jite.org/documents/Vol15/JITEv15IIPp117-143Cherner2544.pdf>
- Lee, C-Y. & Cherner, T. S. (2015). A comprehensive evaluation rubric for assessing instructional apps. *Journal of Information Technology Education: Research*, 14, 21-53. Retrieved January 22, 2015 from <http://www.jite.org/documents/Vol14/JITEV14ResearchP021-053Yuan0700.pdf>
- Cherner, T., Dix, J., Lee, C. (2014). Cleaning up that mess: A framework for classifying educational apps. *Contemporary Issues in Technology and Teacher Education*, 14(2). Retrieved January 22, 2015 from <http://www.citejournal.org/vol14/iss2/general/article1.cfm>.

Defining Literacy Types

Content-Area Literacy

“The ability to use reading and writing to acquire new knowledge in a specific subject area”

Disciplinary Literacy

“Learning not just content knowledge but also the ways of ‘knowing, doing, believing and communicating’ in this subject”



Warren, J. E. (2013). Rhetorical reading as a gateway to disciplinary literacy. *Journal of Adolescent & Adult Literacy*, 56(5), 391-399.

Nichols, K., Hanan, J., & Ranasinghe, M. (2013). Transforming the social practices of learning with representations: A study of disciplinary discourse. *Research in Science Education*, 43(1), 179-208.

Common Strategies for Content-Area Literacy



<http://www.readingrockets.org/strategies>

Vocabulary

	Before reading	During reading	After reading
List-Group-Label	●	○	○
Possible Sentences	●	○	○
Semantic Feature Analysis	●	●	●
Semantic Gradients	●	●	●
Word Hunts	○	●	○
Word Maps	●	●	●
Word Walls	●	●	●

Comprehension

	Before reading	During reading	After reading
Anticipation Guide	●	○	○
Concept Maps	○	●	○
Concept Sort	●	○	○
Directed Reading Thinking Activity (DRTA)	○	●	○
Exit Slips	○	○	●
First Lines	●	○	○
Inference	○	○	○
Inquiry Chart	○	●	○
Jigsaw	○	●	○
Listen-Read-Discuss (LRD)	●	●	○
Paragraph Shrinking	○	●	●
Partner Reading	○	●	○
Question the Author	○	●	○
Question-Answer Relationship (QAR)	○	○	●
Reading Guide	○	●	○
Reciprocal Teaching	○	●	○
Story Maps	○	●	●
Story Sequence	●	●	●
Summarizing	○	○	●
Think-alouds	●	●	○
Think-Pair-Share	●	○	○
Visual Imagery	●	●	●

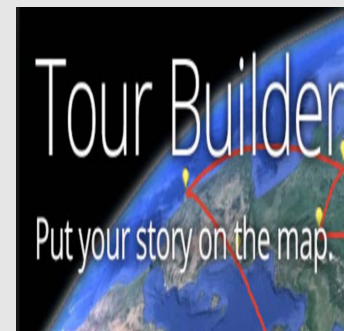
Let's Pause and Look at Some EdTech



www.tweentribune.com



<http://langscape.umd.edu/>



<https://tourbuilder.withgoogle.com/>



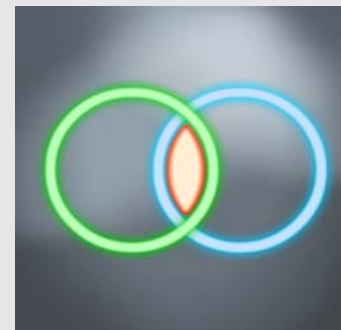
<http://htwins.net/scale2/>



<https://newsela.com>



www.smore.com

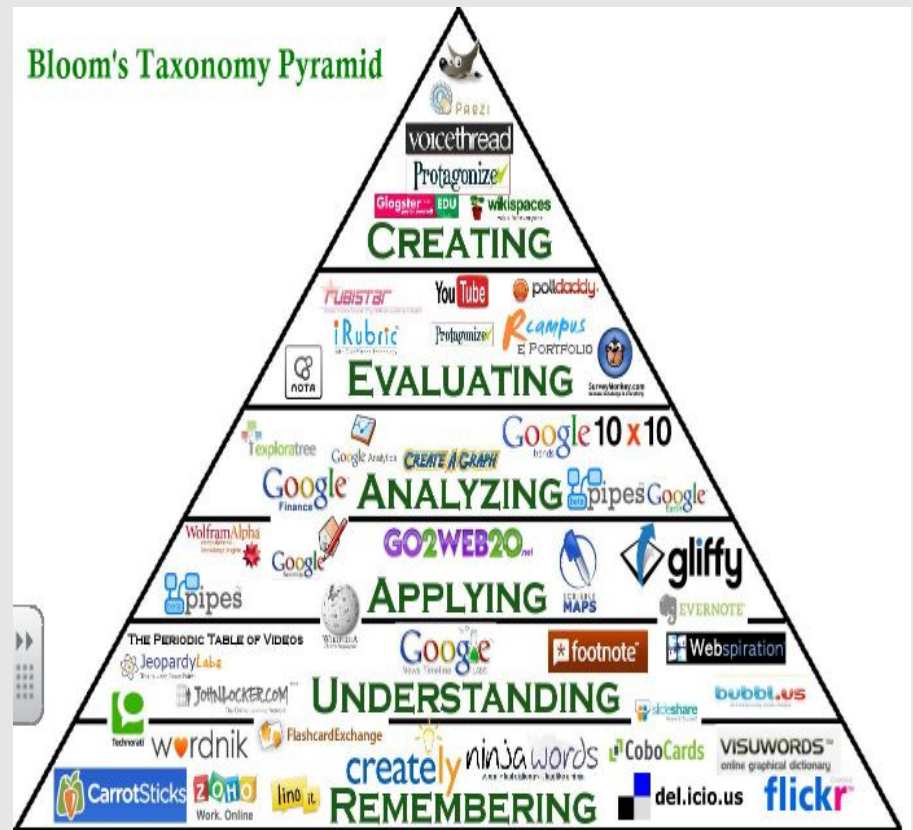
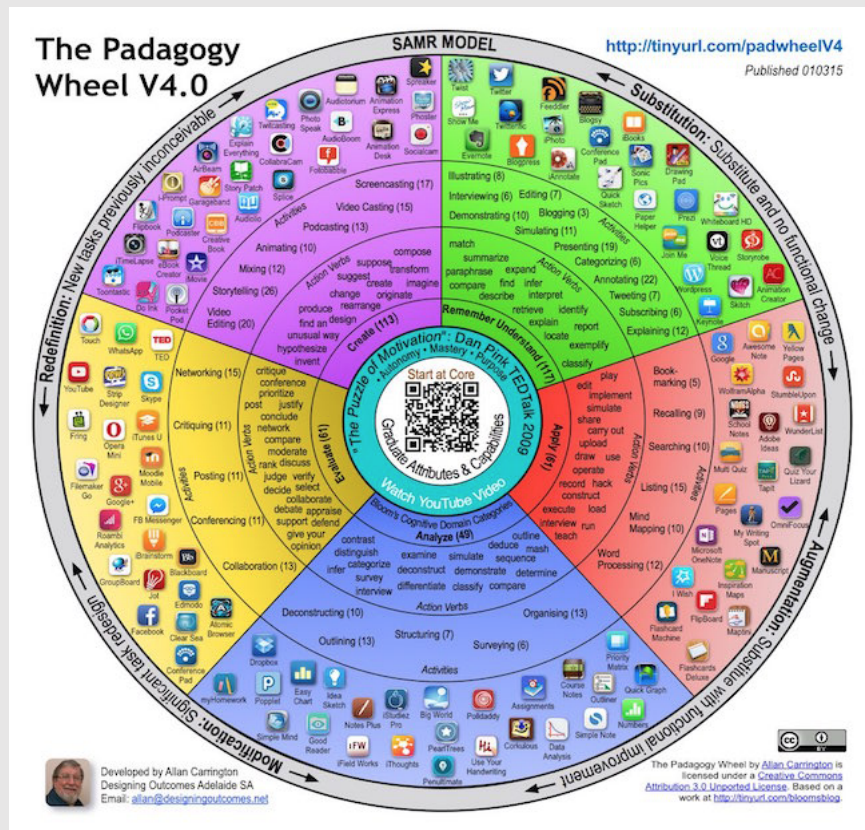


www.readwritethink.org/files/resources/interactives/venn_diagrams/



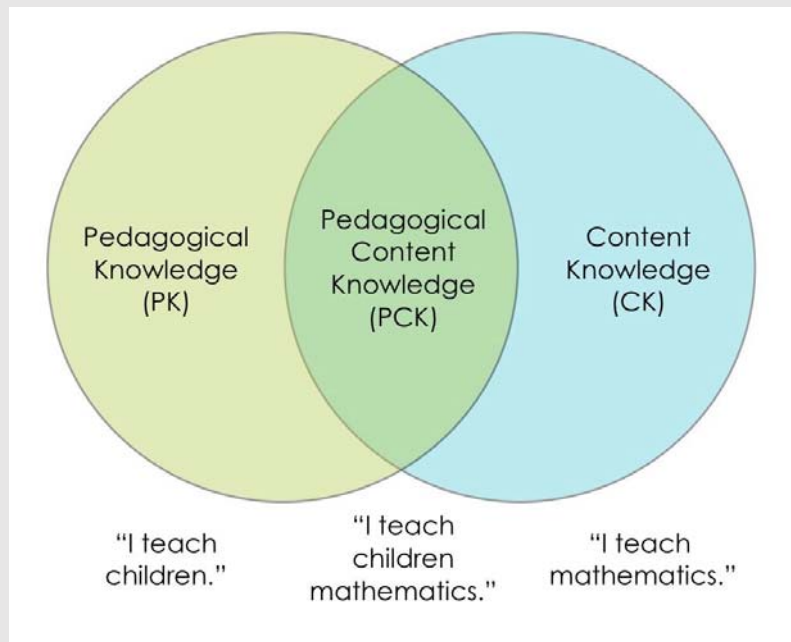
<https://studio.stupeflix.com/en/>

Incomplete Picture for Using EdTech



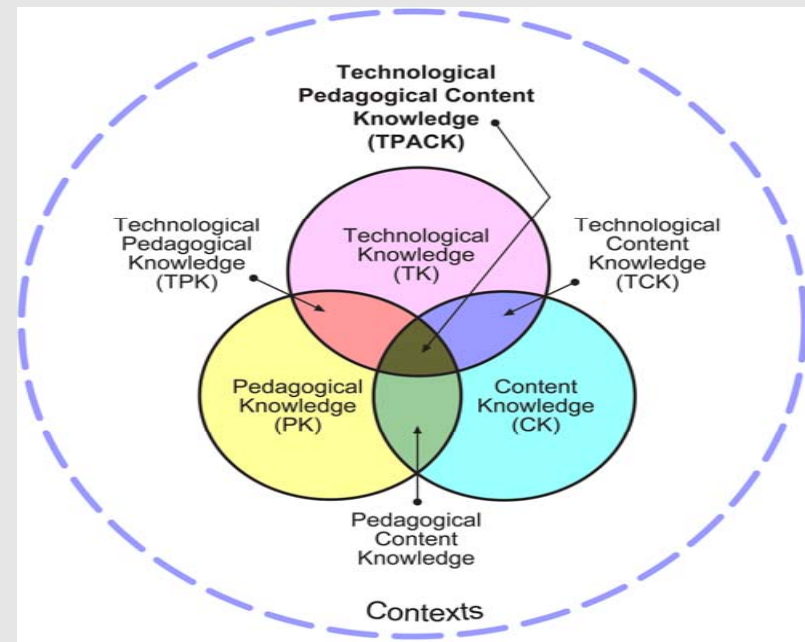
From PCK to TPACK

Pedagogical Content Knowledge



Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational researcher*, 15(2), 4-14.

Technological Pedagogical Content Knowledge



Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge. *Contemporary issues in technology and teacher education*, 9(1), 60-70.

Three Classifications for EdTech

Skill-based apps use recall, rote memorization, and “skill and drill” instructional strategies to build students’ literacy and numeracy skills.



Content-based apps give students access to vast amounts of information and data through searching or exploring pre-programmed content.



Function-based apps assist students in transforming learned information into usable forms to demonstrate understanding.



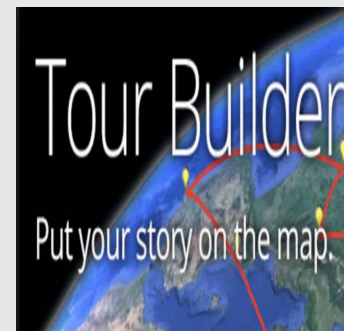
Let's Review and Classify this EdTech



www.tweentribune.com



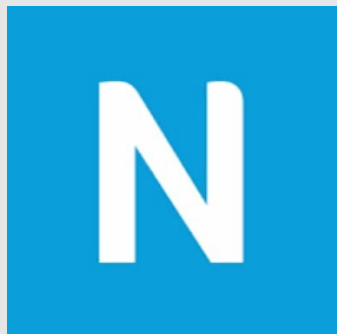
<http://langscape.umd.edu/>



<https://tourbuilder.withgoogle.com/>



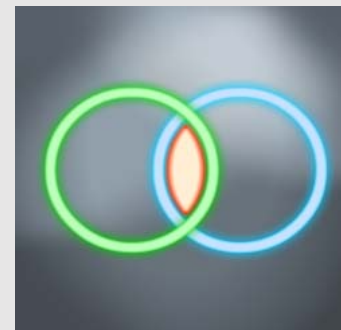
<http://htwins.net/scale2/>



<https://newsela.com>



www.smore.com



www.readwritethink.org/files/resources/interactives/venn_diagrams/



<https://studio.stupeflix.com/en/>

A Checklist for Assessing EdTech for Content-Area Literacy

Checklist Item	Summary Statements
Do the texts used in the edtech teach subject specific knowledge?	During the upper-elementary grades, students transition from learning to read to reading to learn. Texts used at this stage promote students learning subject specific knowledge through the act of reading and comprehension exercises.
Does the edtech use text that is appropriate for a specific course and/or group of students?	Because content-area literacy texts are designed to teach specific contexts (e.g., 10 th grade biology, 9 th grade world literature, etc.), it is important that a text is written for a specific target learner and subject area.
Does the information presented in the edtech take the form of lettered and non-lettered texts (e.g., graphs, images, numbers, etc.)?	A traditional understanding of content-area literacy limits texts to be lettered pieces of writing that communicate a message. However, seldom are content specific texts limited to lettered text. A more holistic approach to literacy recognizes that texts take both lettered and non-lettered forms. Students need to be able to comprehend these different types of messages if they are to read and learn from texts specific for different content areas.
Can general comprehension strategies be used to read, engage, and understand the text?	Though a text may be written for a specific subject area, the text can be analyzed using generic reading strategies (e.g., Frayer Boxes, graphic organizers, summarization exercises).

Activity: Mix & Match I



Mix Directions

MIX: Choose four pieces of edtech
Two that you know - Two of interest



<http://appedreview.com/app/>



www.common sense media.org/reviews

Match Directions

MATCH: Review the CAL strategies
Connect two strategies to each edtech

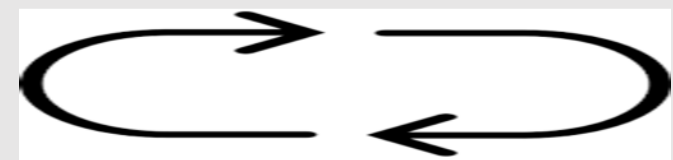
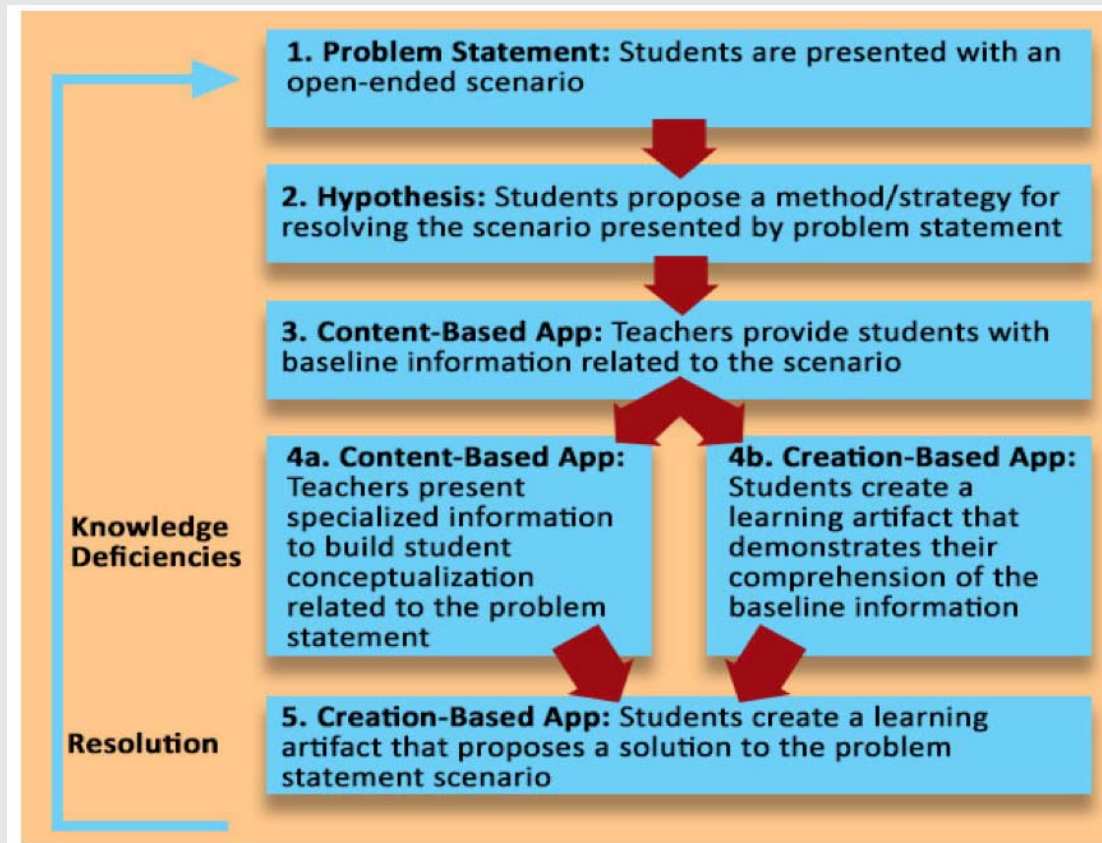
1. **Identifying Similarities and Differences**
2. **Summarizing and Note-taking**
3. **Reinforcing Effort and Providing Recognition**
4. **Homework and Practice**
5. **Nonlinguistic Representations**
6. **Cooperative Learning**
7. **Setting Objectives and Providing Feedback:**
8. **Generating and Testing Hypotheses**
9. **Cues, Questions, and Advanced Organizers**

<http://www.readingrockets.org/strategies>

Marzano, R. J. (2009). Setting the record straight on “high-yield” strategies. *Phi Delta Kappan*, 91(1), 30-37.

Remember to choose content & creation-based

Adding Digital Literacy into the Mix



Cherner, T., & Fegely, A. (in press). Educational app in the blended learning classroom: Bringing inquiry-based learning into the mix. *Current Issues in Emerging eLearning*, X(X), p xx-xx.

App Lesson : STEM– Periodic Element

Problem Statement: How are periodic elements used?

Hypothesis: The teacher will guide students through a K-W-L chart activity (Ogle, 1986) related to the periodic elements

Instructional Objective: Students will choose a periodic element and study it by constructing it at the atomic level, researching uses for the element and listing three facts about it, and then creating a detailed model of it.

Step 1:

Construct a
Periodic Element



[NOVA Elements](#)

Step 2:

Identify three facts
about the element



[All Search Engines in One HD](#)

Step 3:

Create a detailed model of the
element and explain its uses



[Brushes Redux](#)

App Lesson: Humanities – Short Stories

Problem Statement: What elements of a short story do you prefer?

Hypothesis: Students will compose a list of 3-5 elements they prefer stories to include (e.g., different types of conflict, the use of suspense, or a gripping opening scene). As part of their hypothesis, students must include a 1-2 sentence rationale that explains why they selected each element.

Instructional Objective: Students will select and analyze a short story by completing a storyboard graphic organizer and justifying if they did or did not enjoy the story.

Step 1:

Select a story



[301+ Short Stories](#)

Step 2:

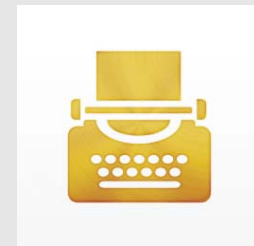
Storyboard the main events



[PureFlow](#)

Step 3:

Why they did or did not like the story



[Hanx Writer](#)

Question, Conclusion, and Contact Info



Todd Cherner

Assistant Professor

Graduate School of Education

Portland State University

tcherner@pdx.edu